ENVIRONMENTAL OIL SPILL SENSITIVITY ATLAS FOR SOUTHEAST GREENLAND (56°-71° N)

Scientific Report from DCE – Danish Centre for Environment and Energy

No. 492 2022

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Data sheet

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Abstract: This oil spill sensitivity atlas covers the shoreline and the offshore areas of Southeast Greenland between 56° N and 71° N. The coastal zone is divided into 406 shoreline segments and the offshore zone into 17 areas. A sensitivity index value is calculated for each segment/area, and each segment/area is subsequently classified into four degrees of oil spill sensitivity. Besides this general ranking, a number of smaller areas are selected as priority areas as they are of particular significance, they are especially vulnerable to oil spills, and they have a size potentially making oil spill response possible. The shoreline sensitivity ranking is shown on 80 maps (in scale 1:250,000), which also show the different elements contributing most to the sensitivity and the selected areas. Coast types, logistics and proposed response methods are shown on another 80 maps. The sensitivities of the offshore areas are depicted on eight maps, two for each season. Based on all the information, appropriate oil spill response methods have been assessed for the coastal areas.

Keywords: Southeast Greenland, oil spill sensitivity mapping, shoreline oil spill sensitivity, offshore oil spill sensitivity, coastal zone environmental mapping, meteorology, oceanography, ice conditions, coastal morphology, human use, archaeology, local knowledge, important areas for biodiversity, marine mammals, seabirds, fish, logistics, oil spill response

Layout: Tinna Christensen, Aarhus University

Front page: Map of the area covered by the atlas

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Content

Preface

This atlas, and a similar atlas covering Northeast Greenland, was produced as a part of the *Strategic Environmental Study Program for Northeast Greenland,* and forms a continuation of the five atlases covering the entire West Greenland region between 58º N and 77º N (produced in 2000, 2004, 2011, 2012 and 2016).

The aim of the *Strategic Environmental Study Program for Northeast Greenland* was to provide the necessary environmental information for planning and regulating oil exploration activities and oil spill response in the western Greenland Sea. The program included projects on marine ecology, biodiversity as well as toxicology, degradation of oil and contaminants, an oil spill sensitivity atlas and an updated strategic environmental impact assessment of oil and gas activities in the Greenland Sea (Boertmann et al. 2020). In 2013/14, five licence blocks were granted off Northeast Greenland, and the licence obligations included support to environmental background studies. This support funded (via the Government of Greenland) the projects in the *Strategic Environmental Study Program for Northeast Greenland*, including this atlas. The five licence blocks in the Greenland Sea has since been given up, and in June 2021, the Greenland government announced a stop for new oil and gas exploration licenses. The oil spill sensitivity atlas will remain relevant in relation to accidental oil spills from shipping activities, including transport of oil.

The present atlas was produced using the best available information. However, this information was by no means complete and as new data become available, the atlas should be updated. The atlas was produced in a dynamic GIS (Geographical Information System), where new map sheets can be produced relatively easily, when new data become available. The atlas, with all its integrated information and suggestions, is intended to be a valuable tool for Greenlandic authorities, ship operators, oil spill responders etc.

The Government of Greenland (Ministry for Industry, Energy, Research and Labour – MIERL, and the Environmental Agency for Mineral Resource Activities – EAMRA) financed the preparation of the atlas. The atlas was produced by DCE – Danish Centre for Environment and Energy, Aarhus University, and the Greenland Institute of Natural Resources (GINR), with contributions from the Greenland National Museum and Archive and SL Ross Environmental Research Ltd.

The study team

DCE - Danish Centre for Environment and Energy (Aarhus University, Department of Ecoscience, Section for Arctic Environment) and Greenland Institute of Natural Resources (GINR) headed and performed the main part of the study.

DCE and GINR prepared the coastal morphology interpretation, provided and processed the biological information in the atlas and prepared the shoreline and offshore sensitivity maps.

GINR contributed with information regarding living resources, especially fish and marine mammals, as well as additional information on logistics.

SL Ross Environmental Research Ltd. developed the sections on countermeasures and access accompanying the Physical Environment and Logistics maps.

The Greenland National Museum and Archives (GNMA) compiled and reviewed the archaeological information.

To provide data on human use, DCE carried out a study, where 20 hunters from the atlas area mapped their hunting activities in the landscape for a full year via hand-held GPS devices. This study was part of the sensitivity atlas project, but was published as a separate report (in Danish: Flora et al. 2019; In Greenlandic: Flora et al. 2020).

The software used for calculating the shoreline and offshore sensitivity scores was originally developed for the first Greenlandic sensitivity atlas (Mosbech et al. 2000) in co-operation with AXYS Environmental Consulting Ltd.

1 Summary

1.1 Environmental Oil Spill Sensitivity Atlas for Southeast Greenland (56°-71° N)

The work on this atlas was initiated, when oil exploration was ongoing in the sea off Northeast Greenland, and as a part of the preparations for exploratory drilling. Although covering an area far from the granted licence blocks in the Greenland Sea, the atlas was prepared because simulations showed that spilled oil may travel very far from the blocks and potentially contaminate coasts and waters of Southeast Greenland. The exploration blocks have in the meantime been handed back and no activities are expected in the future as the Greenland government announced a stop for oil and gas exploration in June 2021. However, the oil spill sensitivity atlas will remain relevant in relation to accidental oil spills from shipping activities, including transport of oil.

The objective of the project was to provide an overview of resources vulnerable to oil spills, for example biological elements (fish, birds, marine mammals etc.), and a tool which can contribute to oil spill response. The atlas covers the coastal region and offshore areas between 56° N and 71° N in East Greenland, including the waters within the Greenland EEZ bordering Icelandic and Norwegian waters. In the south, the atlas form af continuation of the "Environmental Oil Spill Sensitivity Atlas for the South Greenland Coastal Zone" issued in 2004.

The following elements are included in the atlas:
- coastal morphology,
- oceanography and sea ice,
- biological elements (fish, birds, marine mammals),
- human use, i.e. fishing, hunting, tourism,
- nature conservation areas,
- cultural heritage sites,
- logistics and oil spill response methods.

The coastline is divided into segments of approx. 50 km length, which have all been ranked into one of four classes of oil spill sensitivity – extreme, high, moderate or low. The ranking is based on the calculation of a sensitivity index value, which for each segment includes occurrences of the above-mentioned environmental and cultural elements. The method used for calculating the sensitivity index is developed from a Canadian system, which was used in Lancaster Sound (Dickins et al. 1990). The individual occurrences along a segment enter the index calculation with a general sensitivity value (for the element type), and a value expressing how abundant/important the particular occurrence is. Species occurrences (biological elements) and human use are given most weight in the index calculation and thus have most influence on the final sensitivity ranks of the shoreline segments. The offshore region of the atlas is divided into 17 smaller areas, for which a similar sensitivity index calculation, and ranking has been performed, however the results here are presented on a seasonal basis.

As a part of the project, a classification of the coastline morphology has been conducted based on satellite images and geological maps. Combined with a calculation of shoreline exposure to waves and ice, this was used to establish an index of oil residency on the coast, e.g. oil will reside longer in a protected, fine sediment bay than on a rocky coast directly exposed to heavy wave ac-

tion. This index was also included in the calculation of shoreline sensitivities. In the offshore sensitivity analysis, the oil residency index was based on the degree of ice cover in the different areas during the different seasons of the year.

Besides the general classification of coastal and offshore oil spill sensitivity, the maps of the atlas also show smaller so-called ‘selected areas’. They are of particular significance in a nature conservation context, they are especially vulnerable to oil spills, and/or are of a size where an effective oil spill response can be performed effectively..

A community-based study was carried out as data source to the present atlas (Flora et al. 2019; 2020). The purpose was a.o. to gain knowledge about important hunting and wildlife concentration areas. Twenty hunters from Ittoqqortoormiit and the Tasiilaq area mapped their hunting activities and wildlife observations for a full year, using handheld GPS’es with an app called Piniariarneq (hunting trip). The results were used to identify areas of human use and their importance.

Based on all the information, appropriate methods to respond to oil spills (i.e. mechanical collection, dispersion and in situ burning) in the different coastal and offshore areas are proposed.

Chapter 4 contains a general introdution to the atlas concept and the applied methodology. Chapter 5 is a user guide to the main component of the atlas, the maps in Chapter 7 and 8. Before these maps, Chapter 6 provides summary information on physical oceanography, sea ice conditions, ecology, human use and cultural heritage sites in the atlas area.

Chapter 7 contains maps (in scale 1:5.5 mill) of the oil spill sensitivity of the offshore parts of the atlas area, including icons for elements (fish, birds, marine mammals, human use) that contribute most the sensitivity of the different offshore areas during the different seasons of the year. The maps are accompanied by a detailed description of the species and human use occurences in the different areas.

Chapter 8 contains detailed coastal information presented in 1:250,000 scale maps. In total, 80 maps show shoreline sensitivities and symbols for the actual elements occurring along the coast (hunting and fishery areas, fish, birds, marine mammals and archaeological sites). The maps also show the so-called selected areas. Each map is accompanied with a description of the biological resources and the human use of the area. Chapter 8 also contains 80 maps showing coastal morphology and logistics elements, and each of these map sheets is accompanied with a description of access and proposed oil spill response methods.

2 Eqikkaaneq

2.1 Tunup kujataani sinerissami sumiiffiit uuliaarluernermut immikkut misikkarissut nunap assiliorneqarnerat (56°-71° N)

Kitaani sumiiffiit imaani uuliaarluernermut misikkarissut 2000-miilli nunap assiliorneqalersimapput. Nunap assingi taakku imaani uuliaqarneranik misissueqqissaarnermut atatillugu suliaapput taavalu – nunap assingini tallimani – sumiiffiit avannarpasissuseq 58° aamma 77° akornginiittut tamakkerneqarsimallutik. Sinerissat kiisalu avataa aningaasarsiornikkut oqartussaaffik killeqarfik tikillugu assiliorneqartarput. 2013/14-imi Tunup avannaani sumiiffiit tallimat uuliaqarneranik misissueqqissaarfissatut qalluiffissatullu toqqarneqarput, tamatumunngalu atatillugu Tunu tamakkerlugu siuliinut assingusumik assiliorfigineqarnissaa isumaqatigiissutigineqarluni.

Misissuinissamut akuersissummik tunineqassagaani piumasaqaatit ilagaat suliffeqarfiit sumiiffinni pineqartuni avatangiisinut tunngasunik suliaqarnermut aningaasalersueqataassasut, aningaasallu taakku Naalakkersuisunit aqunneqassasut. Aningaasat ilaatigut ukiuni 2016-2019-imi misissuinerit qassiit *Strategic Environmental Study Program for Northeast Greenland* -imik taagukkat aningaasalersorneqarnerinut atorneqarput, tamatumuunakkut ilisimasat sumiiffinni taakkunani uuliamut tunngasunik suliaqartoqartillugu avatangiisinut malittarisassiornermi atugassat pitsanngorsarniarneqassapput.

Nunap assingini taakku atorlugit siunertaq tassaavoq pisuussutit avatangiisillu sukutsitaat assigiinngitsut uuliaarluernermut misikkarissut ataatsimut paasisimasaqarfigilissallugit. Ilaatigut tassaapput uumassusillit (aalisakkat, timmissat, il.il.) kiisalu suut aalisarnikkut piniarnikkullu soqutiginaatillit. Ilisimasanik tamakkuninnga nalunaarsuinikkut ingerlatseqatigiiffiit oqartussallu siumut naliliiffigisinnaanngussavaat sumiiffiit misikkarissut sumiinnersut taamalu uuliaarluertoqarnerani suliassat pilersaarusiorsinnaanngussallugit tulleriiaarsinnaanngussallugillu.

Nunap assingisa ilaartorneqarnerat kingulleq atorlugu Tunu tamakkerneqarportaaq, tassa Nunap Isuaniit (62° N) Tunup avannaarsuani kimmut uiariarfik (81,5° N). Nunap assingi ilassutaasut marluinngorlugit avitaapput: Nunap assinga manna Nunap Isuaniit Scoresby Sund (71° N) kiisalu Scoresby Sundimiit Tunup avannaarsuani kimmut uiariarfik (81,5° N). Nunap assingi marluk ataatsikkoorlugit suliarineqarput, taamaammallu paasissutissat katersinerit periaatsillu assigiillutik.

Suliaq makkuninnga imaqarpoq:

- sinerissat qanoq ittuunerinik nassuiaatit
- immap, sikup silallu pissusii
- pisuussutit uumassusillit (timmissat, aalisakkat il.il.)
- aalisarneq piniarnerlu,
- takornariartitsineq,
- sumiiffiit immikkut illersugaasut (soorlu timmiaqarfiit),
- qanganitsat,
- attaveqaatit kiisalu uuliaarluernermik akiueriaatsit.

Sineriak sumiiffinnut 50 km missaannik isorartussusilikkaanut agguataarlugu misikkarissusia sisamanut agguarneqarpoq – assut, annertuumik, akunnattumik kiisalu annikitsumik. Uuttuusiaq atorlugu immikkoortiterisoqarpoq, tassanilu avatangiisinut inuiaqatigiinnullu tunngasut immikkuualuttut uuttuutaapput (timmissat assigiinngitsut miluumasullu imarmiut attarmoortukkuutaat, piniarfiit, aalisarfiit, qanganitsat il.il.). Naatsorsueriaaseq taanna Canadamiut periaasiannik aallaaveqarpoq, ilaatigullu Canadap issittortaata avannamut kangiani Lancaster Soundimi atorneqarluni (Dickins et al. 1990). Naatsorsuinermi immikkoortut ataasiakkaat ilaatigut uuliamik misikkarissutsimut nalilersuuserneqarput ilaatigullu immikkoortut tamarmik qanoq amerlatigisukkuutaarneri/pingaaruteqartigineri nalilersuuserneqarlutik. Immikkoortut uumassusiliusut uuliaarluernermut misikkarissusiat uuttortarneqartarpoq uumasut taakku uuliaarluernermit tikinneqarnissaata qanoq ilimanaateqartiginera naapertorlugu, kiisalu uumasut taakku uuliamut qanoq misikkaritsiginerat naapertorlugu. Uumassusillit taakkulu iluaqutigineqarnerat immikkoortukkuutaat ataatsimut misikkarissusiannik uuttortaanermi annerpaamik oqimaalutaatigineqartarput.

Sinerissap tamarmi misikkarissusianik ataatsimut nalilersuinerup saniatigut nunap assinginissaaq sumiiffiit qassiit immikkut toqqartugaapput. Sumiiffiit taakku toqqarneqartarput uuliaarluernermut misikkarilluinnarnertik pillugu kiisalu uuliaarluernerup pitsaasumik akiorneqarnissaannut naleqquttumik angissuseqarnertik pillugu.

Suliamut ilanngullugu qaammataasamit assilisat, nunallu sananeqaataanik assiliat atorlugit sinerissap pissusia (ilusia sananeqaataalu, soorlu qaarsuusut sioraasulluunniit) nalunaarsugaavoq. Ilisimasat taakku kiisalu malinnit sikumillu qanoq pineqartigisarnerat naapertorlugu uuttuusiortoqarpoq uuliaarluertoqassagaluarpat nammineerluni isumaminnik qanoq salitsigisinnaanerannut uuttuutaasumik. Assersuutigalugu sineriak qaarsuusoq assut mallersartoq pilertornerusumik ”saligaallissaaq” sissamut kangerliumanermit illersugaasumut sanilliulluni.

Suliamut atatillugu piniartut piniariartarfii nalunaarsorneqarput. Nalunaarsuineq Ittoqqortoormiini piniartunit qulinit kiisalu Tasiilami piniartunit GPS-it tigummiartakkat qarasaasiakkut atortumik Piniariarneqmik taasamik atortulikkat atorlugit. Qarasaasiakkuat atortoq atorlugu piniartut piniariarnertik aallaqqaataanit naggataanut nalunaarsorsinnaavaat, soorlu aqqutigisat, suut angallatiginersut, pisat, uumasut takusat ilanngullugit nalunaarsorlugit, kiisalu assit, videofilmit allattukkallu sumi pisimaneri nalunaarsukkat ilanngullugit atorneqarsinnaallutik. Paasissutissat taakku sumiffiit suut piniarnermut, aalisarnermullu inuillu suliaannut allanut atorneqarnerinik nalunaarsuinermi atorneqarput. (sukumiinerusumik takuuk Flora et al (2019, kalaallisuuanilu 2020).

Paasissutissat katersorneqartut tunngavigalugit sumiiffinni assigiinngitsuni uuliaarluernermik akiuinermi periaatsinik naleqquttunik naliliisoqartarpoq.

Ataatsimut paasissutissanik kiisalu avataata assiliorneqarnerinik nunap assingi imaqarput (kapitali 7), annermik uuttuut 1:2,5 mio atorlugu assiliugaasunik, kiisalu sinerissamut qanittut sukumiisunik paasissutissiorneqarlutik 1: 250.000 atorlugu uuttuusigaasunik. Kapitali 6 nunap assingisa kapitali 7 aamma 8-imi ittut qanoq atornissaannut ataatsimut ilitsersuutitaqarpoq.

Kapitali 7 nunap assitaqarpoq avataata misikkarissusianik takutitsisunik nalilersuinermi suut atugaanerinik ilisarnaasigaasunik (aalisakkat, timmissat kiisalu miluumasut imarmiut). Tamatuma saniatigut pisuussutit uumassusillit kiisalu taakku atugaanerat, soorlu qilalukkat qernertat, eqqarsaatigalugit sumiiffiit pingaarutillit qassiinik nunap assiliortoqarpoq.

Kapitali 8 80-inik nunap assitaqarpoq 1: 250.000-inik uuttuutitalinnik, sinerissap misikkarissusianik nalilersuinermi atugaasunik (aalisarfiit piniarfiit, aalisakkat, timmissat miluumasullu imarmiut kiisalu qanganitsat) ilisarnaasersukkamik. Nunap assingissaaq sumiiffinnik immikkut toqqakkanik imaqarput. Nunap assingi tamarmik sumiiffiup qanoq atugaaneranik uumassusillillu suut tamaaniinnerinik nassuiaasersugaasarput.

Tamatuma saniatigut kapitalik 8 allanik 80-inik nunap assitaqarpoq sinerissat qanoq ittuussusiinik angallannikkullu qanoq atugassaqarfiunerinik nalunaarsimasunik, kiisalu sumiiffinni tamani uuliaarluernerup qanoq akiornissaanut siunnersuusiorfiusimasunik.

Suliaq Namminersorlutik Oqartussanit taamani Suliffissuaqarnermut, Nukissiornermut, Ilisimatusarnermut Suliffeqarnermullu Naalakkersuisoqarfiusumik kiisalu Aatsitassalerinermi Avatangiisinik Aqutsisoqarfimmit aningaasalersugaavoq. Suliamik ingerlatsisuupput Aarhus Universititimi Nukissiutinut Avatangiisinullu Misissuisoqarfik (DCE) kiisalu Pinngortitaleriffik, Nunatta Katersugaasivianit Toqqorsivianillu canadamiullu siunnersoteqarfiannit S.L. Ross Environmental Research Ltd-imit ikiorneqartut.

3 Sammenfatning

3.1 Atlas over oliespildsfølsomme kyst- og havområder i Sydøstgrønland (56°-71° N)

Der er siden 2000 udarbejdet kort over områder, som er følsomme overfor marine oliespild i Vestgrønland. Disse kort er udviklet i forbindelse med efterforskningen af olie i havområderne, og de dækker – i fem atlas – hele regionen fra 58° N til 77° N. Både kystzonen og offshore-områderne ud til EEZ-grænsen er behandlet.

I 2013/14 tildeltes i alt fem tilladelser til at efterforske og udvinde olie ud for Nordøstgrønland, og i forbindelse hermed aftaltes det at udarbejde tilsvarende kort for hele Østgrønland. Blandt betingelserne for tildeling af tilladelserne var, at firmaerne skulle bidrage økonomisk til miljøarbejde i området, og disse midler forvaltedes af Naalakkersuisut. Midlerne blev blandt andet brugt til at finansiere en række undersøgelser i årene 2016-2019, betegnet som *Strategic Environmental Study Program for Northeast Greenland*, med henblik på at forbedre den viden, der skal indgå i miljøregulering af olieaktiviteter i området. Udarbejdelsen af nærværende atlas indgik i dette arbejde.

Hensigten med atlasset er at få et samlet overblik over de ressourcer og miljøelementer, der er følsomme over for oliespild. Det drejer sig bl.a. om de biologiske forekomster (fisk, fugle m.v.) og om fiskeri- og fangstinteresser. Med en kortlægning af denne viden får såvel selskaber som myndigheder mulighed for på forhånd at vurdere, hvor de særligt følsomme områder findes med henblik på planlægning og prioritering af en indsats i tilfælde af et oliespild.

Med Naalakkersuisuts belslutning i juni 2021 om at stoppe for olie- og gasefterforskning i Grønland, bortfalder risikoen for oilespild fra disse aktiviteter, men anden sejlads, herunder transport af olie, vil stadig udgøre en risiko.

Med denne sidste udvidelse kommer atlasserien til også at dække hele østkysten af Grønland, fra Kap Farvel til Nordøstrundingen, samt de tilstødende åbne havområder. Den østlige udvidelse er delt op i to atlas: nærværende dækker fra Kap Farvel til og med Scoresby Sund (56º – 71° N); et andet atlas dækker fra Scoresby Sund til Nordøstrundingen (71º N – 81,5° N) (Clausen et al. in prep). De to atlas er produceret sideløbende, og dataindsamling samt metoder er derfor ens.

I atlasset indgår følgende elementer:

- kystmorfologi,
- oceanografi og havis,
- biologiske ressourcer (fugle, fisk, havpattedyr osv.),
- human udnyttelse (bosættelse, fiskeri, jagt, turisme osv.),
- beskyttede områder (f.eks. Ramsar-områder),
- fortidsminder,
- logistiske forhold og metoder til at bekæmpe oliespild.

Kysten er inddelt i segmenter (områder) af ca. 50 km's længde, der er blevet klassificeret i fire grader af oliespildsfølsomhed – ekstrem, høj, moderat og lav. Klassifikationen er sket på baggrund af en indeksberegning, hvor ovennævnte miljø- og samfundselementer indgår. Denne beregning tager udgangspunkt i et Canadisk system, der bl.a. er brugt i Lancaster Sound i det nordøstlige, arktiske Canada (Dickins et al. 1990). De enkelte elementer indgår i beregningen, dels med en værdi for følsomhed overfor oliespild generelt, dels med en værdi for, hvor talrig/vigtig forekomsten er langs hvert kystsegment. De biologiske elementer og den humane udnyttelse af områderne indgår med den største vægt i indeksberegningen. Offshore-området er delt op i 18 mindre områder, i hvilke følsomheden over oliespild er udregnet og klassificeret på samme måde som kysten, men her vist for de fire årstider, hver for sig.

Som en del af projektet er der ud fra satellitfotografier, samt geologiske kort, foretaget en kortlægning af kysternes morfologi (deres opbygning og materialesammensætning, f.eks. om de består af klippeflader eller sand). Ud fra denne, og beregninger af hvor udsatte kysterne er over for påvirkning fra bølger og is, er der opstillet et mål (indeks) for deres selvrensende evne efter en eventuel olieforurening. For eksempel vil en klippekyst, der er meget udsat for bølgeslag, hurtigere blive "vasket ren" for olie end en sandstrand i en beskyttet lagune. Dette indeks indgår også i beregningen af kystsegmenternes oliespildsfølsomhed. I offshoreanalysen er koncentrationen af havis blevet brugt til at opstille et tilsvarende mål for områdernes evne til at "holde" på olien.

Ved siden af den generelle klassificering af kystens og offshoreområdernes oliespildsfølsomhed er der på kortene udpeget en række mindre områder (*selected areas*). Disse områder er udvalgt, fordi de er særligt værdifulde, særligt følsomme over for oliespild samt fordi de har en størrelse, der generelt gør det praktisk muligt at gennemføre en effektiv oliespildsbekæmpelse. I en oliespildssituation bør de så vidt muligt prioriteres højt.

I forbindelse med atlas-projektet blev der foretaget en kortlægning af lokale fangeres brug af området. Kortlægningen er udført af 10 fangere fra Ittoqqortoormiit og 10 fangere fra Tasiilaq-området ved hjælp af håndholdte GPS'er med en specialdesignet app kaldet Piniariarneq (Fangsttur). App'en gør det muligt for fangere at dokumentere deres fangstture fra begyndelse til afslutning på en måde, som både inkluderer information om rute, transportmiddel, fangede og observerede dyr, men også geotaggede fotos, videofilm og noter. Disse data blev brugt til at kortlægge hvilke områder, der er brugt til fangst, fiskeri og andre humane aktiviteter (se nærmere i Flora et al. (2019, og 2020 grønlandsk udgave)).

På baggrund af det samlede materiale er der foretaget en vurdering af egnede metoder til bekæmpelse af oliespild i de forskellige kystområder.

Kapitel 4 indeholder en generel introduktion til atlas-konceptet og den anvendte metode. Kapitel 5 er en brugervejledning til hovedbestanddelen af atlasset, nemlig kortene i kapitel 7 og 8. Før disse kort kommer i kapitel 6 en overordnet beskrivelse af atlas-området, herunder dets oceanografi, havisforhold, kystmorfologi, biologi, humane udnyttelse og arkæologi.

Kapitel 7 indeholder kort i målestoksforholdet 1:5.5 mill, der viser offshoreområdernes oliespildsfølsomhed og symboler for de elementer (fisk, fugle, havpattedyr, mennesker), der bidrager mest til følsomheden i de enkelt områder på de forskellige tidspunkter af året. Kortene er ledsaget af en detaljeret beskrivelse af forekomsterne i de forskellige områder.

Kapitel 8 indeholder 80 kortblade i målestoksforholdet 1:250.000 med angivelse af kysternes oliespildsfølsomhed og symboler for de forekomster, der bidrager mest til følsomheden. Kortene viser også de særligt udvalgte områder (*selected areas*). Til hvert kortblad er der udarbejdet en beskrivelse med oplysninger om områdets humane udnyttelse og biologiske forekomster. Derudover indeholder kapitel 8 andre 80 kortblade med angivelse af kysttyper og logistiske forhold, så som ankerpladser, landingspladser, mulige steder for udlægning af flydespæringer mm. Disse kort er ledsaget af en beskrivelse af adgangsforhold og egnede metoder til bekæmpelse af oliespild inden for hvert kortblad.

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4 Introduction

4.1 Objectives

This Environmental Oil Spill Sensitivity Atlas has been prepared to provide oil spill response planners and responders with tools to identify resources at risk, establish protection priorities and identify appropriate response and clean-up strategies in marine areas of Southeast Greenland.

The atlas is designed for planning and implementing year-round oil spill countermeasures in both coastal and offshore areas in Southeast Greenland between 56° N and 71° N latitude. An important component of the atlas is a sensitivity ranking system, which is used to calculate an index value describing the relative sensitivity of coastal and offshore areas. The sensitivity index value is calculated based on information on resource use (human use), occurrence of important species and ecosystem components and the physical environment. The sensitivity ranking system is based on a Canadian system used in Lancaster Sound (Dickins et al. 1990) and modified to meet the specific requirements of the Greenland study area (see Chapter 4.3).

As a supplement to the Canadian ranking system, a number of smaller areas have been selected for priority in case of an oil spill (see Chapter 4.4.).

Southeast Greenland between 56º and 71º N is part of the municipality Kommuneqarfik Sermersooq. The land area of the atlas region is very sparsely populated with only two towns, Ittoqqortoormiit and Tasiilaq and with five smaller permanently inhabited settlements near Tasiilaq. In total, ca. 3200 people live in these two areas (Table 7). Hunting, fishing and tourism are the main ways of income in the region.

In an ecological sense, a number of seabird and marine mammal species have importnant habitats in the region. It is therefore essential that all possible measures are taken to minimise the environmental risk of oil spills in the area. The objective of this atlas is to contribute to that effort.

This atlas is an extension of a series of similar atlasses prepared for West Greenland. Together with an atlas covering Northeast Greenland, developed alongside this atlas, the entire coastline of Greenland, with the exception of the nothernmost part, is now mapped.

4.2 Contents and organisation

The study area covers the southern part of the East Greenland coast, between 56° N and 71° N, including offshore areas as far east as the EEZ borders to the waters of Iceland and Norway (Svalbard).

This atlas is produced as a report (a pdf-document), which can be downloaded from the DCE website. On request to DCE, all data are also available in GIS format, which makes it possible to e.g. produce seamless maps at various scales.

The information in the atlas is organised by map scale, moving from offshore sensitivity (Chapter 7) in a scale of approx. 1:5.5 million, to shoreline sensitivity and operational information (Chapter 8) in a scale of 1: 250,000.

Chapter 5 contains a user guide to the maps, which supplements the map legends.

Chapter 6 provides summary information on physical oceanography, sea ice conditions, ecology, shoreline morphology, human use and cultural heritage sites in the atlas area. It also provides an overview of extremely and highly sensitive coastlines and the areas selected for priority.

Chapter 7 covers the offshore parts of the atlas and contains offshore oil spill sensitivity maps for winter, spring, summer and autumn.

Chapter 8 contains the coastline operational maps, which include shoreline sensitivity maps with:
- shoreline sensitivity rankings,
- shoreline species,
- resource use (human use),
- archaeological sites,
- selected areas,
- special status areas (protected areas)

and physical environment and logistics maps with:
- shoreline geomorphology,
- anchoring sites,
- landing sites for planes/helicopters,
- oil containment (booming) sites
- descriptions of potential countermeasures.

Detailed documentation of the input data and the parameters used in the oil spill sensitivity calculations are given in Appendix C.

4.3 Sensitivity index system

An environmental sensitivity ranking system is used in the atlas to determine and illustrate the relative sensitivity of shoreline and offshore areas to the effects of oil spills. This pre-spill ranking allows spill responders and on-scene planners to do a quick evaluation of which areas and environmental components that are most susceptible to an oil spill, and thus provides the information needed to decide on protection priorities during a spill event.

Through a sensitivity calculation, each shoreline and offshore area receives a single numeric value, a sensitivity index, which represents the relative sensitivity of that area to a marine oil spill. This sensitivity index is subsequently ranked as extreme, high, moderate or low and illustrated on the maps by the use of colour codes.

The sensitivity index calculation is based on a scheme developed for Canadian atlases (e.g. Lancaster Sound, Dickens et al. 1990) and further developed with some modifications to account for the different biological and physical features of Southeast Greenland. It incorporates the biophysical and human use elements of the region that are important from an oil spill perspective. These elements are grouped within six categories, which can all contribute to the sensitivity index of shoreline and offshore areas: (1) biological resources (species occurrences), (2) oil residency, (3) human use (hunting, fishery, tourism), (4) communities (towns and settlements), (5) archaeology and (6) special status areas (protected areas). Oil residency considers how long time stranded oil will persist on the various coastal types (depending on e.g. substrate and exposure) and in the different offshore areas (here depending on sea ice).

Each of the six categories are assigned a weighting factor (shared weighting factor for all human categories (3-5)), which is based on our assessment of their relative importance within the region. Further, each shoreline segment or offshore area is assigned a value (a score) for each category, based on the relative abundance/importance of the occurrence of the category. For each shoreline segment/offshore area, these assigned values are then multiplied by the weighting factors to produce a single numeric value, the priority index (PI), for each of the six categories. It is the sum of the priority indices that determines the sensitivity index of a specific shoreline or offshore area.

$$S = \text{sum of } PI$$

and

$$PI = AV * WF$$

where:

AV = assigned value of the category or species group (see below)

WF = weighting factor of the category

PI = priority index

S = sensitivity index (relative oil spill sensitivity of a shoreline/offshore area)

This description is somewhat simplified with regard to the biological resources category and the special status areas category. In contrast to the other four categories, which can only contribute to the sensitivity index of a shoreline or offshore area with one assigned value each, the biological resources category and the special status areas category can both contribute with several assigned values. Thus, if a shoreline or offshore area intersects two different protected areas, both of these areas contribute with an assigned value. Likewise, the biological resources category can contribute with an assigned value for each of the species/species groups listed in Table 1. These species/species groups have been selected based on their sensitivity to oil spills, their ecological importance and their importance to the local human population in the atlas area.

Further, the assigned values of species/species groups within the biological resources category are not merely attributed scores ranging between 0 and 5 as for most of the other categories, but calculated based on the following formula:

$$AV = (RS \times RA \times TM \times ORI)/C$$

where:

AV = assigned value of species/species group

RS = relative oil spill sensitivity of the species/species group

RA = relative abundance of the species/species group

TM = temporal modifier (fraction of year present)

ORI = oil residency index

C = biological resource constant

The relative oil spill sensitivity (RS) of the species/species group is based on available information regarding their vulnerability, recovery potential and the potential for lethal and sublethal effects, which are summarised in Table 1. For the included species/species groups, RS ranges from 9 to 25. The relative abundance (RA, scale 0 - 5) and timing of occurrence (TM, scale 0 - 1) are extracted from available knowledge and encoded for each shoreline and offshore area (see Appendix C, 12.4 for details).

The biological resource constant (C) is merely a value, which is used to scale down the result of the formula and bring the assigned values of the species/species groups in line with the assigned values from the other categories so that the importance of the categories are reasonably balanced. The size of C is determined by post-analysis of the different categories' contributions to the sensitivity index values of shoreline and offshore area. In the current atlas C=35, which results in biological resources contributing with c. 31% to the shoreline sensitivities (see Appendix C, 12.2).

The oil residency index (ORI) enters the formula for calculation of assigned values of biological resources, but it also contributes to the sensitivity index of shoreline and offshore areas as an independent category. The ORI provides a relative estimate of the potential residence time of oil stranded within the shore zone under normal conditions. The index is only an approximation, because many aspects of a spill are unknown until the time of the incident (e.g.

Table 1. The relative sensitivity (RS) and characteristics of the included species or species groups in relation to oil spills. Note that there is not a complete correspondence between the species groups used in the shoreline and the offshore sensitivity calculation. For a detailed description of the species groups see Appendix C, 12.4.

SHORELINE					
Species/species group	**Vulnerability**	**Mortality potential**	**Sublethal potential**	**Recovery period**	**Relative sensitivity**
Fish and shellfish					
Arctic char	Moderate	Low/Short	Moderate	Moderate	14
Capelin	Very high/ No recovery	High/Long	High/Long	Moderate	21
Seabirds					
Alcids breeding	Very high/ No recovery	Very high/ No recovery	Very high/ No recovery	Very high/ No recovery	25
Alcids nonbreeding	High/Long	High/Long	Very high/ No recovery	Very high/ No recovery	21
Cormorant breeding	High/Long	High/Long	High/Long	Moderate	19
Gulls breeding	Moderate	High/Long	Very high/ No recovery	Low/Short	17
Ivory gull breeding	High/Long	High/Long	Very high/ No recovery	Very high/ No recovery	22
Little auk breeding	Very high/ No recovery	Very high/ No recovery	Very high/ No recovery	Very high/ No recovery	25
Seaducks breeding	Very high/ No recovery	High/Long	Very high/ No recovery	High/Long	23
Seaducks moulting	Very high/ No recovery	High/Long	Very high/ No recovery	High/Long	23
Seaducks nonbreeding	Very high/ No recovery	High/Long	Very high/ No recovery	High/Long	23
Tubenoses breeding	Moderate	High/Long	High/Long	High/Long	18
Marine mammals					
Harbour seal	Moderate	Moderate	High/Long	Very high/ No recovery	18

OFFSHORE					
Species/species group	**Vulnerability**	**Mortality potential**	**Sublethal potential**	**Recovery period**	**Relative sensitivity**
Fish and shellfish					
Bottom fish	Low/Short	Low/Short	Moderate	Moderate	12
Pelagic fish	Low/Short	Low/Short	Moderate	Moderate	12
Seabirds					
Alcids	Very high/ No recovery	Very high/ No recovery	Very high/ No recovery	Very high/ No recovery	25
Ivory gull	High/Long	High/Long	Very high/ No recovery	Very high/ No recovery	22
Non-alcid pursuit divers	High/Long	High/Long	High/Long	High/Long	20
Seaducks	Very high/ No recovery	High/Long	Very high/ No recovery	High/Long	23
Surface feeding seabirds	High/Long	High/Long	High/Long	High/Long	20
Marine mammals					
Baleen whales	Low/Short	Very low/Very short	Very low/ Very short	Moderate	9
Narwhal	Low/Short	Low/Short	Low/Short	Very high/ No recovery	13
Other toothed whales	Low/Short	Low/Short	Low/Short	High/Long	12
Polar bear	Moderate	High/Long	High/Long	Very high/ No recovery	19
Seals	Low/Short	Low/Short	High/Long	Moderate	13
Seals, whelping/ moulting	Very high/ No recovery	Very high/ No recovery	High/Long	Moderate	22
Walrus	Moderate	Moderate	Low/Short	Very high/ No recovery	16
Other groups					
Ice fauna	High/Long	High/Long	High/Long	High/Long	20

volume, oil type, degree of weathering). The oil residency is ranked from 1 to 5, mainly based on the shoreline exposure and substrate. Table 2 shows the basic relation. A few minor modifications to the classification of the ORI value are made to account for slope (where steep shorelines are less vulnerable) and for a few geomorphological coast types considered to have longer residency times (archipelagos, pocket beaches, barrier beaches and deltas). Offshore ORI is determined by duration and degree of ice cover (see Appendix C, 12.3 for details).

Table 2. Basic oil residency index (ORI) ranking based on a combination of shoreline substrate and exposure class.

Substrate/ Exposure class	Protected	Semi-protected	Semi-exposed	Exposed
Coarse sediment	4	3	1	1
Fine sediment	4	3	1	1
Ice	1	1	1	1
Not classified	4	3	2	1
Rock	4	3	1	1
Rock and coarse sediment	5	4	2	1
Rock and fine sediment	5	4	2	1

Shoreline and offshore areas were assigned human use values (scale 0 – 5) based on their relative importance for hunting, fishery and tourism (Flora et al. 2019; 2020). Within the communities category, the assigned values (scale 0-10) were based on the proximity of the shorelines to permanently settled places, towns and settlements. This category was not included in the sensitivity index calculation for offshore areas. Shorelines were assigned weights for the archaeology category (scale 0 – 5) based on the occurrence of prehistoric and historic sites at risk of being impacted by oil, or oil recovery operations, in case of a spill. Again, this category was not included in the sensitivity index calculation for offshore areas. Finally, both shoreline and offshore areas were assigned values for the special status areas category, if they overlapped protected areas like Ramsar sites, bird protection areas or national parks. See Appendix C, 12.3 for a detailed description of how the assigned values of the different categories were determined for the shoreline and offshore areas, including a description of the data on which they are based.

Following the calculation of a sensitivity index value for each shoreline and offshore area, these values were ranked into the final sensitivity classes extreme, high, moderate or low. The ranking of an individual shoreline or offshore area was based on the size of its sensitivity value relative to the sensitivity values of other shoreline or offshore areas within a radius of c. 250 km. Thus, the ranking highligts local, rather than global, differences in sensitivity. See Appendix C, 12.6, for a detailed description of the ranking procedure.

4.4 Selected areas

A total of 12 areas along the coast and within fjords have been selected for high priority in an oil spill situation. These areas are identified by a hatched polygon labelled with a number with the prefix 'S_E' (E indicate that it is part of the East Greenland atlas series). The basis for their selection is that they are, relative to the shoreline in general: i) of high value either environmentally or for human use; ii) sensitive to oil spills; and iii) of a size and form that may allow effective protection in an oil spill situation with a manageable amount of manpower and equipment. The selection of these areas is based on the principles from a Norwegian system (Anker-Nilssen 1994), which gives priority to oil spill sensitive areas for oil spill contingency planning, based on expert judgment. The Selected area attribute were not included in the sensitivity index calculation, but after the sensitivity calculation and ranking, all shoreline segments, which intersect a Selected area, were by default attributed the sensitivity class "Extreme". See extra details in Appendix C, 12.7.

4.5 Countermeasure overview

Oil spill countermeasure considerations are described for each of the 80 operational shoreline maps in Chapter 8. The following is an overview of their basis and content.

The low level of industrial and marine activity in the waters off East Greenland has until now meant a limited risk of marine oil spills. The main sources of pontential spills are related to fuel supply to the communities and to fuel carried by fishing vessels and other ships. Global warming, and the resulting decline in seaice concentration, facilitates the possibilities for more intensive marine traffic in the area, increasing the risk for oil spill accidents.

If a significant spill occurs, there will be severe limits to the response, particularly during the critical initial stages of the incident. The remoteness of the region, the presence of sea ice (for most of the year) and icebergs, the distance to existing response bases, and, most importantly, the low level of marine activity practically eliminates the possibility of an effective initial marine-based response, unless dedicated response plans and equipment are available as is the case for offshore exploration drilling. The main countermeasure activities that could be carried out are described in general terms below, with specific local notes where applicable on each of the operational maps. These countermeasures could include surveillance and tracking, *in situ* burning of spills in ice, dispersant-use in offshore areas, and the protection and clean-up of important coastal entities, such as the "selected areas", site specific resources (such as seabird breeding colonies) and extremely sensitive shorelines (see Chapter 4.4). An Environment and Oil Spill Response-analysis (EOS) should be carried out to support the choice of countermeasures (Link).

Surveillance and tracking activities will be critical in determining the location and extent of spilled oil. This will be particularly important in establishing clean-up priorities and adjusting strategies when a long-term and geographically widespread response is required. Aircraft-based remote sensing and surveillance overflights could be mounted from the airports at Narsarsuaq (just outside the atlas area), Kulusuk, Constable Pynt or Mestersvig. A program/model to track oiled ice would be required for spills that occur among pack ice or for open water spills that reach the pack ice edge or persist through freeze-up in protected inshore waters.

Conventional containment and recovery techniques will be severely limited by the lack of vessels with which to deploy and operate equipment unless vessels and equipment are available on standby in the area as part of a response plan for specific activities such as offshore drilling. Spills that are not contained within the first few days will likely be too thin and widespread to allow effective recovery.

In situ burning may be applicable as an initial response measure for spills in ice conditions. Pack ice concentration of 6 tenths or greater will limit the spread of an oil spill and may allow the opportunity for burning until some time after an incident. For inshore areas and fjords that freeze over winter, oil that persists through the freezing season may be available for burning the following melt season, when released into leads and melt pools. This would require a tracking and monitoring program through the winter to delineate oiled areas and to prepare for the likely release period.

Dispersing an oil spill by applying dispersants is another effective way of removing oil from the surface in the early phases of an oil spill. This method, and the chemicals used, should only be applied after an Environment and Oil Spill Response-analysis (EOS) (Link) and require approval from the Greenland authorities.The method is not allowed in shallow areas (see below), but should be considered in offshore areas to prevent or reduce surface oil from contaminating more sensitive inshore areas. Dispersants should receive particular consideration in situations, where containment and recovery countermeasures may not be fully effective due to the size of the spill, the logistical support for a large-scale clean-up is limited, the prevailing weather and sea conditions are adverse, or a combination of the three. There are some rules of thump: #1 If the depth is > 50 m and distance to land is > 10 km dispersants can be used. #2 If depth > 50 m and distance to land < 10 km, dispersant application can be considered, and even if these criteria are not met, specific conditions may still justify the use of dispersants (occurrence of seabirds, wind/currents direction). #3 If none of the above criteria are met, use of dispersant should not be considered.

Shoreline protection countermeasures will also be limited by a lack of logistical support. In case of an oil spill threat, countermeasure priority should be given to the selected areas, the site-specific resources and the extremely sensitive shorelines, considering the time of the year (e.g. no birds are present at breeding colonies in the winter). Particular priority should be given to the selected areas, which are vulnerable to oiling. These can generally be protected with a relatively modest effort and could, in some cases, be difficult to clean if heavily oiled.

In many cases, deflection rather than containment booming will be preferable, because the tidal currents exceed 1 knot. While deflection booming may not offer complete protection of the "selected area", it will be valuable in limiting the extent and degree of contamination and lead to faster and more complete post-spill recovery. Deflection booming strategies will require monitoring and perhaps repositioning periodically to account for changes in current strength and direction.

A more significant limitation for shoreline protection countermeasures will be that dictated by local currents and topography. Detailed current information is not available for the area; the few data available indicate that tidal currents are strong in most areas – as high as 4 knots. This coupled with steep, rocky shorelines and bottom contours may preclude effective booming. As noted above for areas that can be boomed, the most effective strategy may be to use deflection booming to limit the extent of shoreline oiling, which will potentially speed up recovery.

It should be noted that there are many areas, including some of the selected areas, for which effective containment operations are not likely to be possible. In such areas, use of dispersants and/or in situ burning should be considered and countermeasures offshore may present the most realistic option for effective protection.

Much of the coastline in the region covered by this atlas consists of a high-relief rocky shoreline that is moderately or highly exposed to prevailing weather and sea conditions as well as some ice action. In many areas, fjords, bays and other inshore areas may also be somewhat protected from extensive contamination by the flushing action of tidal currents and by the natural outflow from streams and rivers. As a result, much of the shoreline may not require a widespread active cleaning effort unless it is heavily contaminated. Where active shoreline clean-up is required, priorities for restoration can be established based on both the environmental sensitivity and oil persistence factors. Preference should be given to *in situ* cleaning techniques such as in-place washing of rocky shores, use of shoreline cleaning agents, *in situ* burning and bio-remediation. Use of these techniques will minimise the amount of oily material collected and subsequent hauling requirements. Disposal site selection was beyond the scope of this atlas project and will require extensive study involving technical, logistical, environmental, and political factors. An alternative to land disposal within the region would be the trans-shipment of collected oily materials from temporary stockpiles to disposal sites and/or incineration elsewhere. Note that many archaeological remains are found very close to the coast and that they can be sensitive to cleaning techniques and other land-based activities.

Marine access for shoreline clean-up may be limited in some areas by shoaling and off lying rocks and islets. In some areas, locally forming ice and the encroachment of seasonal pack ice may also limit access. The steep shorelines in many areas will rule out the use of remote staging areas and may necessitate ship- or barge-based clean-up operations.

No potential *safe havens* has been proposed. These are sites where unloading and/or stabilisation operations could be carried out on a stricken vessel with limited risk of fouling extensive and sensitive shorelines. There are a number of locations that could be considered for use as *safe havens*, but the available information is insufficient (usually limited or no soundings) to fully recommend them. In these instances, reconnaissance at the time of the spill would be required to determine their acceptability as *safe havens*. These locations are identified in the text as potential safe havens but not shown on the map sheets.

5 Users guide

The region covered by this atlas is the southern part of East Greenland. It covers the area between 56º N and 71º N and is included in Kommuneqarfik Sermersooq. The offshore waters to the Icelandic and Nowegian (Svalbard) borders are also included. The entire region is generally referred to as 'the study region/area', 'the region covered by this atlas' or 'the sensitivity mapping region'.

Offshore sensitivity information is given in Chapter 7. This information covering the entire study area is presented on one-page maps with an approximate scale of 1: 5.5 million.

Detailed shoreline information is given in Chapter 8 on maps with a smaller scale. The entire study area is covered by a total of 80 separate maps with a scale of 1: 250,000 (A4 size). The name of each map reflects the northern latitude (degrees N) of the area covered, and the position of the area from west to east. For example, the western-most map (map number 1) that covers the area at 70° N, is named Map 7001, and the next to the east is named Map 7002E. Note that there are two rows for each latitudinal degree. Thus, the map to the north of Map 7001E is at 75.5° N and is named Map 7051E.

In Chapter 8 there are two series of shoreline maps: Sensitivity Maps and Physical Environment and Logistics Maps. The sensitivity maps are on the left-hand side, and physical environment and logistics maps are on the right. Descriptive text appears on the pages between these maps.

5.1 Shoreline and Offshore Sensitivity Maps

5.1.1 Sensitivity index and icons (animal and other symbols)

The shoreline zone in the study area has been divided into 407 shoreline areas or segments, each approximately of 50 km (+/- 10 km) length, including islands and archipelagos. The 50 km length threshold of segments has been chosen since this value is used in the West Greenland atlas series, and thus gives comparable methodology between the altases. However, in some instances the lengths of segments can be shorter or longer to preserve a cohesive uniformity of a segment. This typically occurs in places where the combined shoreline length of an island, or a cohesive anrchipelago group, is between 40 and 60 km.

The 407 shoreline segments are covered on 80 map-pages, and are numbered consecutively from south to north. The numbers are given on the maps with the nearest latitudinal degree south of it as prefix, along with an E indicating the segment is part of the East Greenland Atlas series, e.g. 65E_182 for shoreline segment no 182.

The offshore parts of the study area has been divided into 17 offshore areas. The boundaries of the offshore areas are based on bathymetry, sea ice cover and biodiversity, so the areas are relatively homogenous in relation to these three features.

An oil spill sensitivity index value has been calculated for each of the 407 shoreline and 17 offshore areas based on:

i. abundance and sensitivity of selected species (or species groups),
ii. human use (mainly fishing, hunting and tourism),
iii. potential oil residency (Oil Residency Index); on the shoreline based mainly on wave exposure, substrate, yearly ice cover and slope of coast; in offshore areas based on sea ice cover,
iv. presence of inhabited places (e.g. towns, settlements),
v. presence of archaeological sites (for shorelines),
vi. presence of special status areas (protected areas).

The sensitivity index value for each of the 407 shoreline areas and 17 offshore areas is given on the opposite page to the corresponding map. All areas are ranked as extreme, high, moderate or low sensitivity areas, and a corresponding colour code has been used. Detailed index values for each shoreline and offshore area are given in Appendix A and Appendix B, respectively.

The importance of human use and the abundance of the selected species (or species groups) in each of the 407 shoreline and 17 offshore areas have been rated on a scale from 0 to 5 (see map legend or Chapter 4.3 for a list of the species/species groups included). If human use or abundance of a particular species along a shoreline is rated ≥ 2, it is indicated on the shoreline sensitivity map with a black icon (and a letter code) next to the shoreline area number. On the offshore maps, icons are only shown for species occurences and human uses rated ≥ 3 to avoid cluttering of the maps. Please note that similar icons in the offshore and the shoreline sensitivity maps may cover different species/species groups (see Chapter 4.3, Appendix C and the map legends in Chapters 7 and 8).

Blue icons (animal symbols) indicate site-specific species occurences, fx. seabird breeding colonies, or outside this atlas terrestrial haul-outs for walrus.

In the description associated with a shoreline sensitivity map, all site-specific species occurences shown on the map are mentioned, as are non-site-specific occurences and human uses rated ≥ 2. For a full list of what contributes to the sensitivity of an individual shoreline segment, refer to Appendix A. In the description associated with an offshore sensitivity map, all species occurences and human uses are mentioned, regardless of rating. For full details on what contributes to the sensitivity of an individual offshore area during a particular season, refer to Appendix B.

5.1.2 Selected areas

To supplement the rather general mapping of shoreline sensitivity using the 50 km long shoreline segments, a number of relatively small sensitive localities have been selected (see also Chapter 4.4).

A total of 12 areas along the coast and within fjords have been selected as priority areas in the case of an oil spill situation. These areas are identified by a hatched signature and a number with the prefix 'S_E' (for selected area East Greenland). The basis for their selection is that, compared to the coastline in general, they are:

i. of high value either environmentally or for human resource use,
ii. sensitive to oil spills, and
iii. of a size and form that may allow effective protection in an oil spill situation with a manageable amount of manpower and equipment.

See Appendix C, 12.7 for a brief description of the individual areas.

5.1.3 Season information

The offshore oil spill sensitivity is presented on seasonal maps reflecting the changes in sensitivity during winter (January–March), spring (April–May), summer (June–August) and autumn (September–December).

Seasonal occurrence of species and human resource use rated ≥ 2 are presented via a temporal occurrence graph accompanying each shoreline sensitivity map.

5.2 Physical environment and logistics maps

5.2.1 Coast type descriptions

The shores in the study area are divided into eleven different shore types on the physical environment and logistics maps in Chapter 8. Shore type definitions are given in Table 3 and example photos of shore types in Figures 1-16. See Appendix C, 12.6 for details on the shoreline classification.

5.2.2 Access

For each operational map, access information is provided to cover the following topics:

Marine access: Navigational information, prevailing currents, tides, local ice conditions, shoal hazards, identified anchorages and beach landing sites.

Marine information is taken from the nautical charts for the area, from the East Greenland Pilot (https://eng.gst.dk/media/2919625/greenland-pilot-sailing_directions-for-east-greenland_1st-edition_updated-to-skr-32-2019.pdf), the Greenland Harbour Pilot (https://www.gronlandskehavnelods.dk/?&lang=ENG), and from the corresponding descriptions in the Arctic Pilot, Volume III, published by the British Admiralty. See Appendix E for details.

Air access: Size, surface and seasonality of airports/strips and heliports/pads within the area. Details can be found at https://aim.naviair.dk/en/.

Additionally, Air Greenland has provided a list of known airstrips and skiways of varying size and quality. These are shown on the maps, but should be surveyed before use during oil spill incidents. See Appendix F for details.

Table 3. Shore types in East Greenland between 60° N and 81.5° N.

	Shore type	Characteristics
Shores consisting of solid rock	Rocky coast	– Coast developed in bedrock of varying morphology, elevation and gradient. – Narrow beach with coarse sediment consisting of boulders, cobbles and pebbles might occur. – The occurrence of abraded inter–tidal platforms is indicated by the gradient.
	Archipelago	– Several smaller islands, normally developed in solid rock. – Rocky coasts and pocket beaches might occur, but have only been classified individually if the perimeter of the island exceeds 6 kilometres.
	Glacier coast	– Occurrence of a glacier in the intertidal zone.
Shores consisting of sediments of glacial, alluvial or colluvial origin	Moraine	– Shore developed in unconsolidated glacial sediments. – Narrow beach with coarse sediment consisting of boulders, cobbles and pebbles might occur. – The occurrence of abraded intertidal platforms are indicated by the gradient.
	Alluvial fan	– Shore developed in alluvial fan. – Narrow beach with sediment consisting of boulders, cobbles, pebbles, gravel and sand might occur. – The occurrence of intertidal platforms is indicated by the gradient.
	Talus	– Shore developed in talus (colluvial fan) of varying gradient. – Narrow beach with coarse sediment consisting of boulders, cobbles and pebbles might occur.
Shores consisting of in marine sediments	Beach	– Long, linear depositional beaches of well–sorted sand, gravel, pebbles, cobbles or boulders. – Beach ridge plains often occur landwards the beach.
	Barrier beach	– Coastal environment consisting of coastal barriers and lagoons with beaches, dunes, salt marsh and tidal flats. – Spits often occur near tidal inlets. – Washover fans might occur on barriers. – Beaches consisting of well–sorted sand, gravel, pebbles or cobbles.
	Salt marsh and/or tidal flat	– Wide salt marshes with or without salt marsh cliff and/or wide intertidal flats. – Consisting of relatively fine sediments (mud, sand, silt and clay).
Shores consisting of deltaic sediments	Delta	– Low gradient intertidal platform developed by fluvial sediments in front of a river valley. – Braided river channels often occur within the inter–tidal zone. – Sediment normally fine-grained ranging from clay to fine sand.
Others	Not classified	– The shore has not been classified due to lack of air photo information (cloud cover, shadow, etc.)

Examples of shorelines in Southeast Greenland (Figure 1-16)

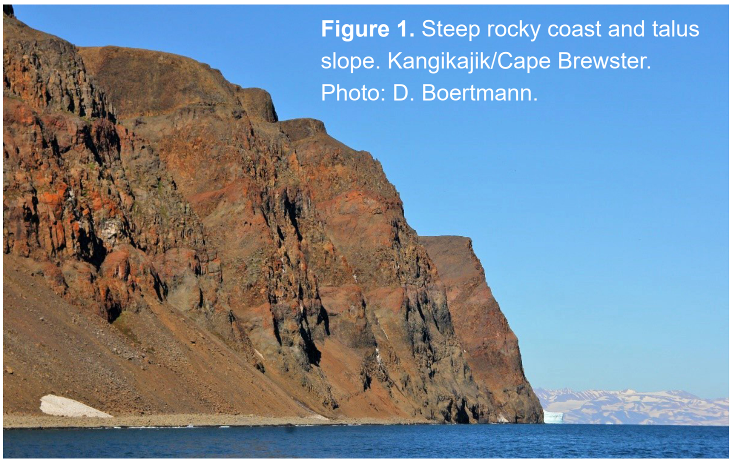


Figure 1. Steep rocky coast and talus slope. Kangikajik/Cape Brewster. Photo: D. Boertmann.

Figure 2. Talus slope reaching the water. I.A.D. Jensen Fjord. Photo: D. Boertmann.

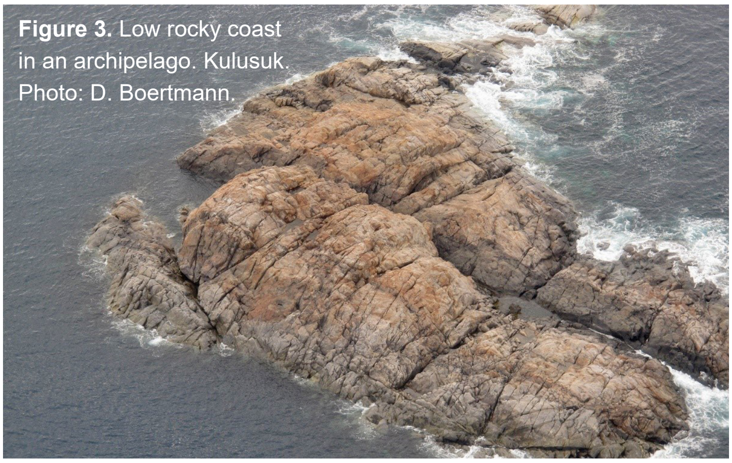


Figure 3. Low rocky coast in an archipelago. Kulusuk. Photo: D. Boertmann.

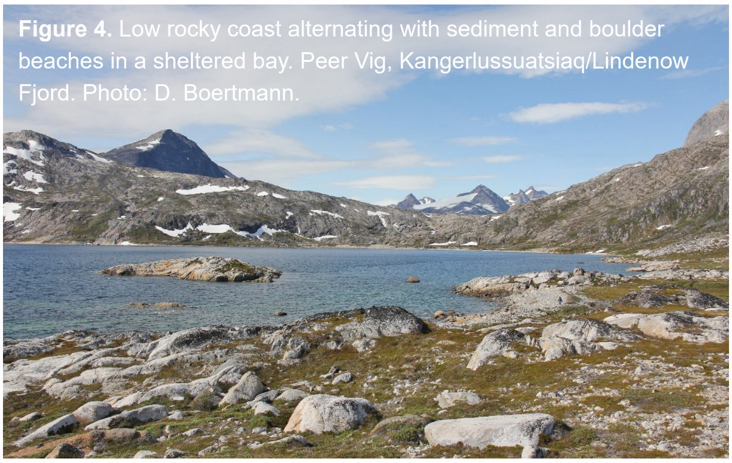


Figure 4. Low rocky coast alternating with sediment and boulder beaches in a sheltered bay. Peer Vig, Kangerlussuatsiaq/Lindenow Fjord. Photo: D. Boertmann.

Figure 5. Archipelago with rocky coasts. Qeertaartivit. Photo: D. Boertmann.

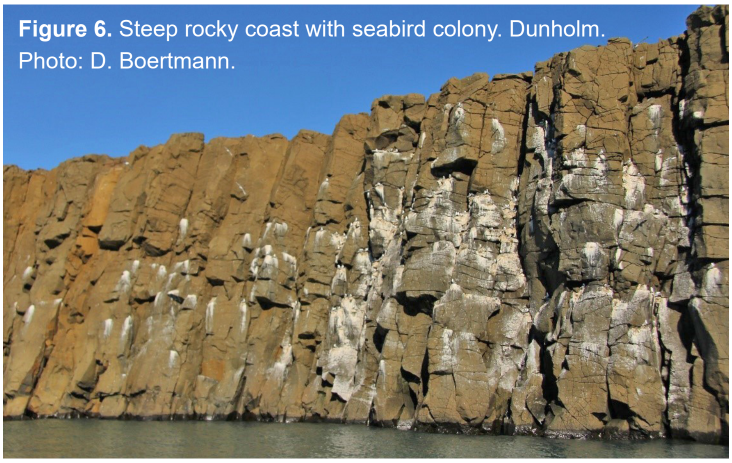


Figure 6. Steep rocky coast with seabird colony. Dunholm. Photo: D. Boertmann.

Figure 7. Beach made up from coarse gravel. Blosseville Coast. Photo: D. Boertmann.

Figure 8. Low gravel coast with drift wood. Henry Land. Photo: D. Boertmann.

Figure 9. Beach ridge made up from boulders and lowest also areas with sand. Moræneø. Photo: D. Boertmann.

Figure 10. Low prortected sediment coast near Ikateq. Photo: D. Boertmann.

Figure 11. Low coast with barriers and spits. In the background also salt marshes. Jameson Land. Photo: D. Boertmann.

Figure 12. Low coast with salt marsh. Timiarmiit. Photo: D. Boertmann.

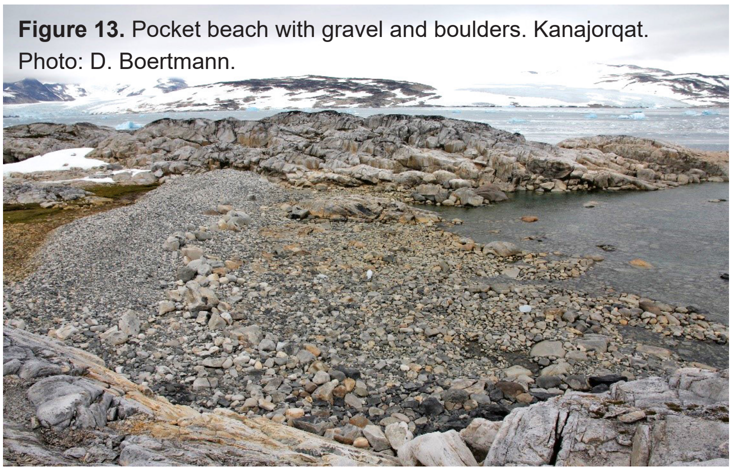


Figure 13. Pocket beach with gravel and boulders. Kanajorqat. Photo: D. Boertmann.

Figure 14. Glacier coast. Colberger Heide. Photo: D. Boertmann.

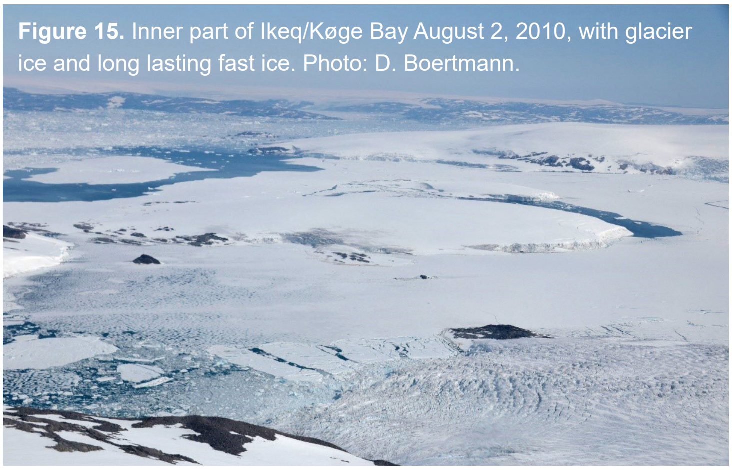


Figure 15. Inner part of Ikeq/Køge Bay August 2, 2010, with glacier ice and long lasting fast ice. Photo: D. Boertmann.

Figure 16. Nuugaalik/Dødemands¬pynten. An abandoned settlement and a historic site close to the coast. Photo: D. Boertmann.

5.2.3 Potential safe havens

A *safe haven* is a site where unloading and/or stabilisation operations can be carried out on a stricken vessel with limited impact on the environment. Small bays and inlets which can be exclusion boomed and which are situated in areas with low sensitive coasts qualify for such areas. No *safe haven*s are indicated on the map sheets, due lack of navigation information. However, in the text accompanying the physical environment and logistics maps, we have mentioned a number of sites which possibly might be used as *safe havens* after a reconnaissance or by involving local knowledge. It will be more feasible, at the time of an incident, to investigate the use of such a nearby potential *safe haven*, rather than searching for *safe havens* within the entire region. If only those areas that unreservedly can be recommended for use as a *safe haven* were to be identified, the list would be short.

5.2.4 Countermeasures

Countermeasure information is given for each map. Potential sites for booming and inshore containment lengths are indicated on the maps.

5.2.5 Topographic maps and nautical charts

The study region is mainly covered by 22 topographic maps at a scale of 1:250.000. The maps are named, from south to north: 60 Ø.1, 61 Ø.1, 62 Ø.1, 63 Ø.1, 63 Ø.2, 64 Ø.1, 65 Ø.1, 65 Ø.2, 65 Ø.3, 66 Ø.1, 66 Ø.2, 66 Ø.3, 67 Ø.1, 67 Ø.2, 68 Ø.2, 68 Ø.3, 68 Ø.4, 70 Ø.1, 70 Ø.2, 70 Ø.3, 71 Ø.2 and 71 Ø.3. However, one map sheet from the section between 68° N and 69° N, and all map sheets from the section between 69° N and 70° N have never been printed and only exist digitally. The topographic maps can be downloaded for free at Kortforyningen (Link). The website is currently only available in Danish.

The region is also covered by nautical charts: The entire atlas area is covered by nautical chart No. 2000 in 1: 2.500.000. The southern part of the atlas is covered on No. 1001 in 1:500.000. Charts No. 2100, 2200, 2300, 2500 and 2600 cover large parts of the coast in 1:400.000. Prins Christians Sund and Taasiilaq are covered in 1:40.000 in charts 2130 and 2310 respectively. The nautical charts are available from Rosendahls–Schultz Distribution: (http://www.kobsokort.dk/).

6 Summary information

6.1 Study area information

6.1.1 The offshore area

The offshore area covered in this atlas comprises of the Greenland Sea to the north, the Denmark Strait (the narrow part between Iceland and Greenland) and the Irminger Sea to the south. The waters are dominated by the cold East Greenland Current, conveying polar water from the Arctic Ocean, and the Irminger Current (a branch of the North Atlantic Current) with warmer Atlantic waters. The East Greenland Current flows close to the coast and transports vast quantities of drift ice from the Polar Basin south along the East Greenland coast. The polynya (a more or less ice free area even in winter) in and off the mouth of Scoresby Sound in the northern part of the area constitutes a very important ecological feature (Figure 17). The shelf is wide (>300 km) in the northern part and narrows down to ca. 50 km in the southern part.

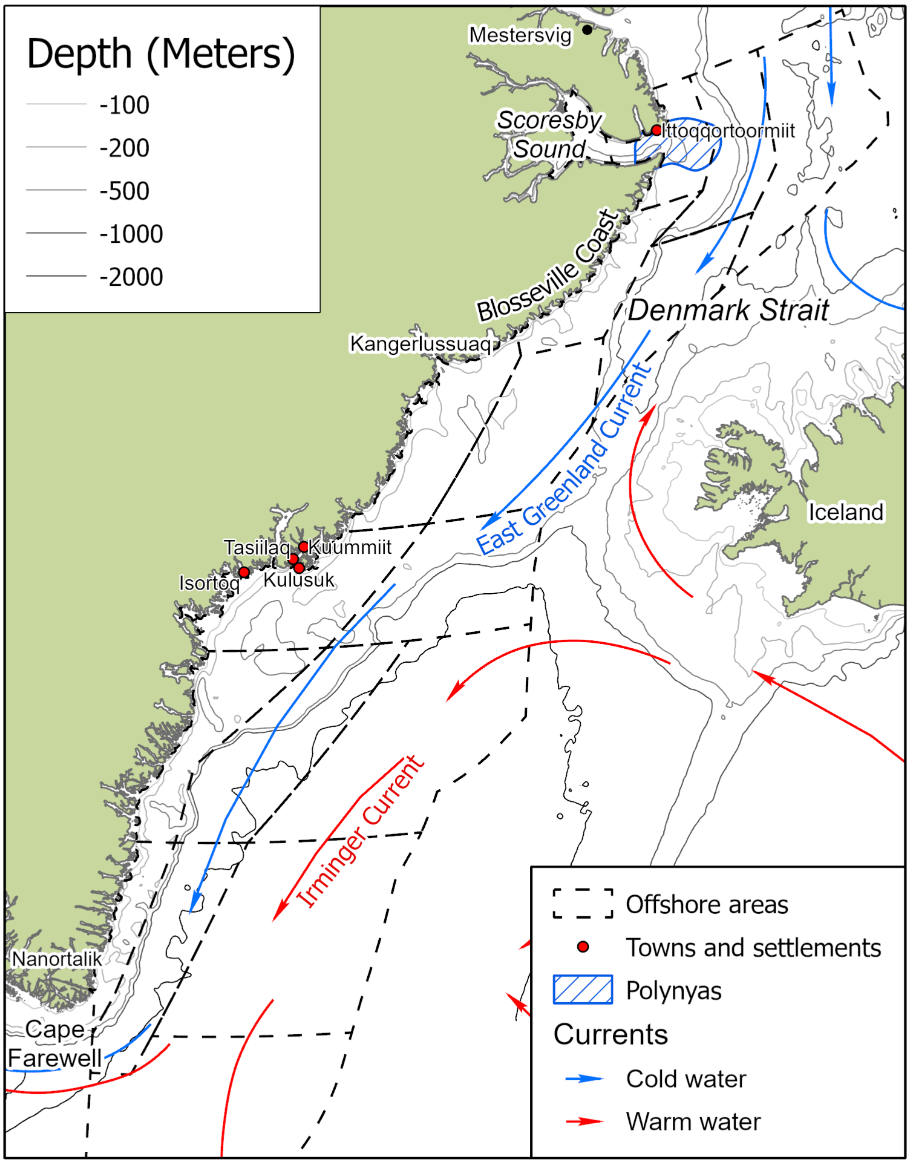
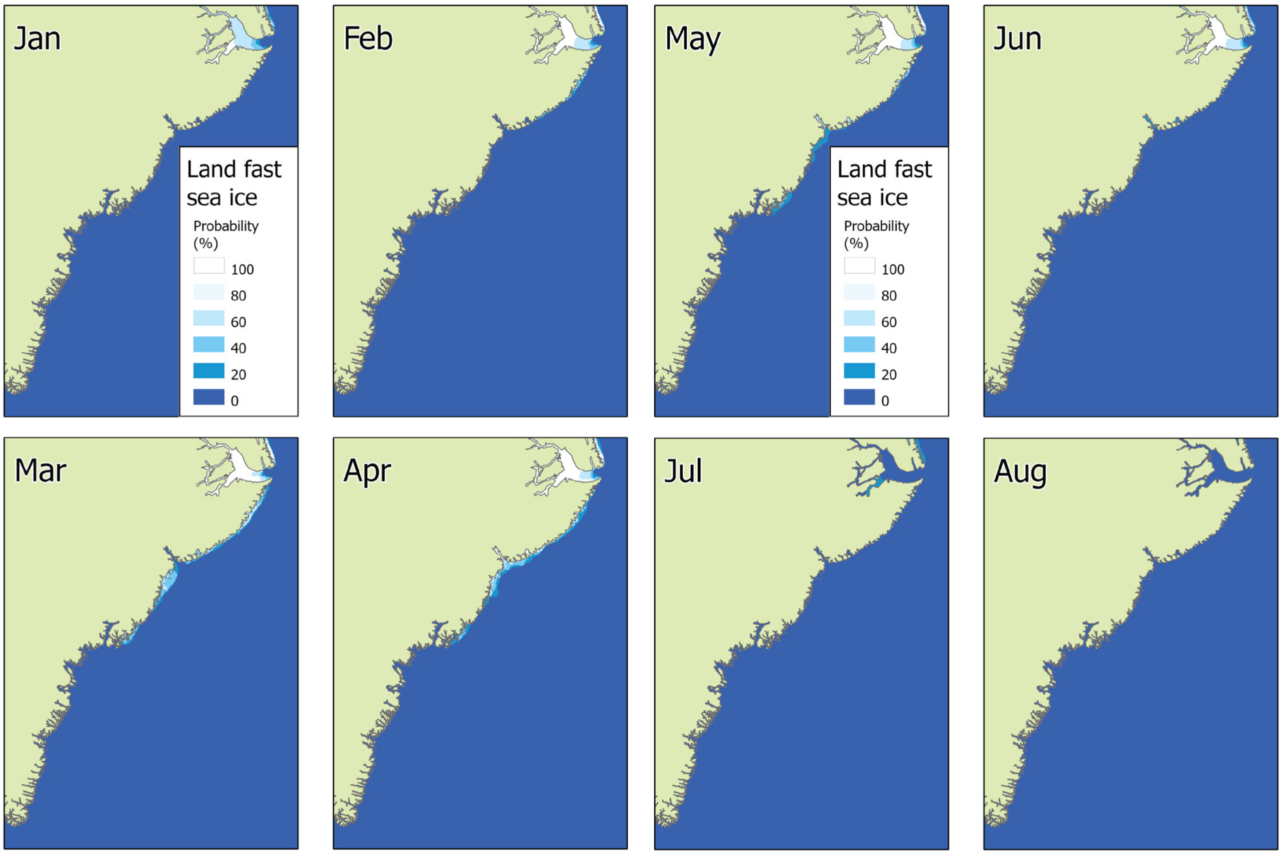


Figure 17. Study area, with offshore areas, major currents and polynyas.

6.2 Sea ice

In the area covered by this atlas, several types of ice occur: Two types of sea ice – the fast ice anchored at the coast and immobile, and the dynamic drift ice consisting of floes of varying size and density. In addition, icebergs originating from calving glaciers are frequent along the coast in some areas.



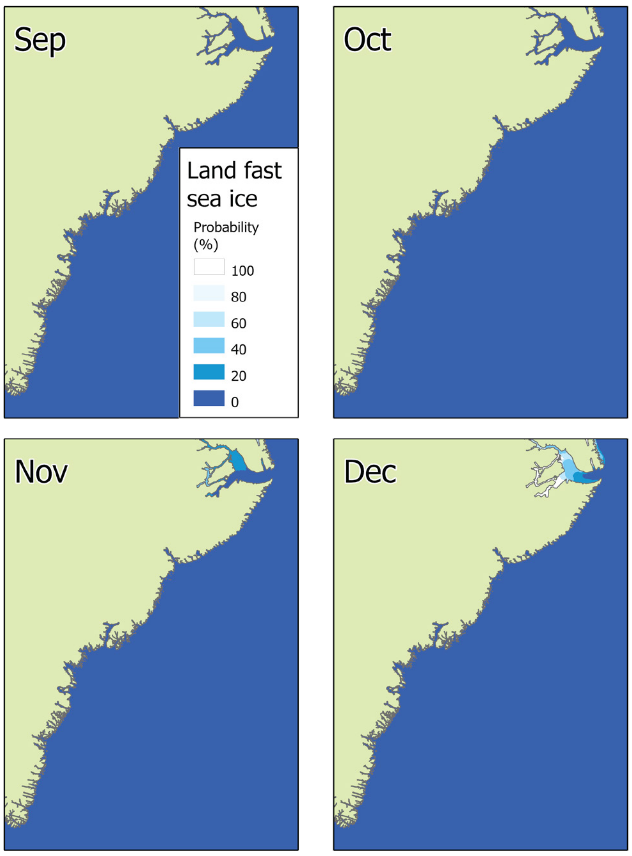


Figure 18. Probability of land fast sea ice cover, based on mid-month sea ice charts 2015–2019 from the Danish Meteorological Institute (Greenland_WA dataset). In each pixel, the probability of fast ice cover is calculated as the number of years out of five that the pixel was covered by a fast ice polygon on the mid-month ice chart. The resolution is very coarse and the fact that fast ice occurs in most of the fjords in late winter (February-March) is not reflected in the map.

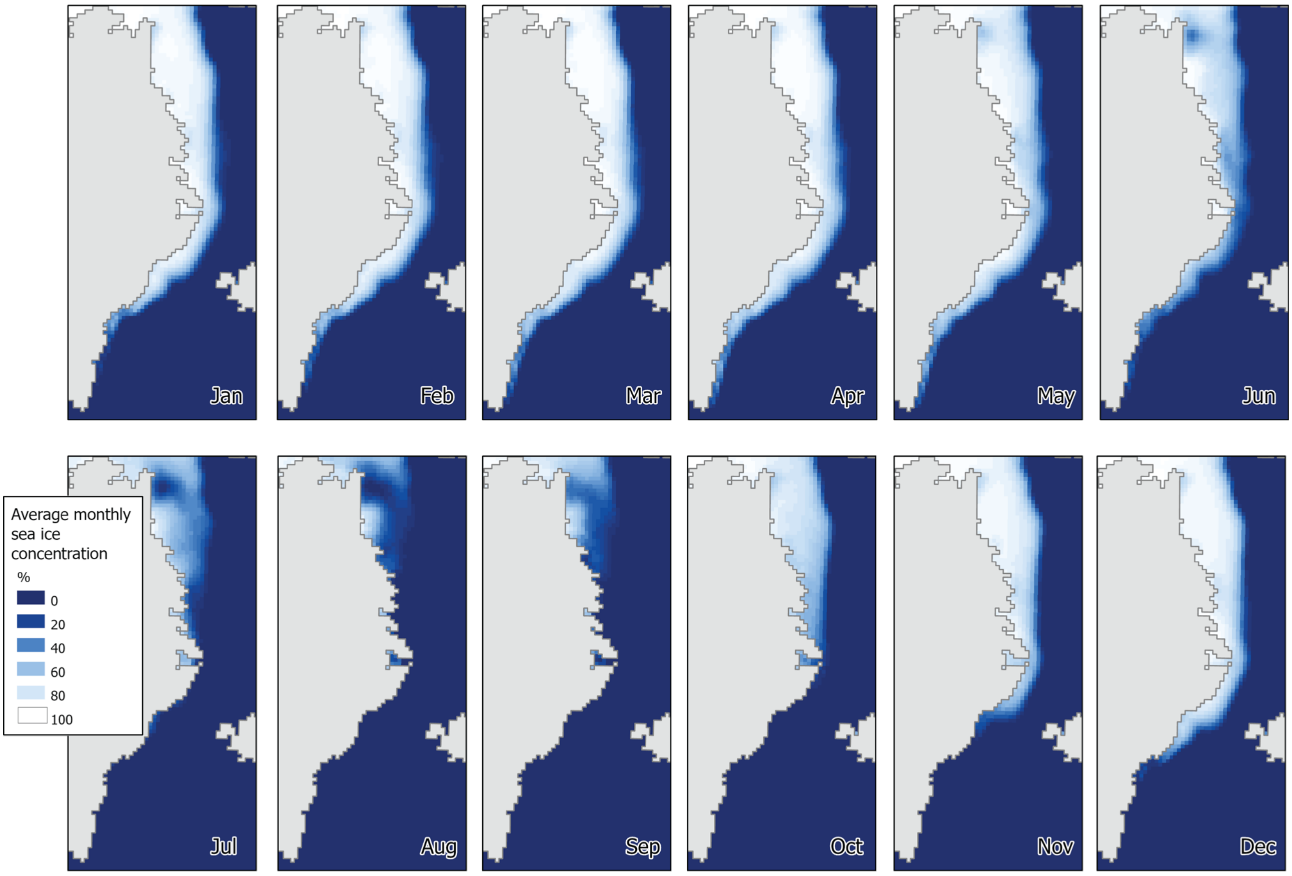


Figure 19. Average monthly sea ice concentration 1979-2019 based on the dataset "Sea Ice Trends and Climatologies from SMMR and SSM/I-SSMIS, Version 3" from National Snow & Ice Data Center (Stroeve & Meier 2018).

Fast ice forms in the fjords from late October and usually lasts into June depending on latitude (Figure 18a,b,c). Drift ice from the Polar Ocean moves in from north in autumn and drifts on the East Greenland Current all along the coast to Cape Farewell and further on around the cape to southwest Greenland, often forming a massive barrier between land and offshore areas (Figure 19). It is usually gone by July, but previously the drift ice belt persisted throughout the summer, at least in the northern part of the atlas area. There are several marine terminating glaciers in the area producing icebergs of different size, and iceberg (often huge tabular bergs) are conveyed to the area from the north by the East Greenland Current.

6.3 Coastal zone geomorphology

The coasts of the region are generally rocky either low (Figures 3 and 4) or with steep tall cliffs, such as the Blosseville Coast (Figures 1 and 6). Talus slopes reaching the sea are also common (Figure 2). There are extensive low sedimentary coasts in specific areas, such as the west coast of Jameson Land in the Scoresby Sound fjord complex (Figure 11), and there are long stretches with marine terminating glaciers, for example in Ikeq/Køge Bugt (Figures 14 and 15) and in several fjords. Here and there are low pocket beaches, barrier islands or spits with sand or boulders. Salt marches and estuaries are few and of limited extent, but salt marshes are found for example in Jameson Land and in some of the southern fjords (Figure 12).

The total length of the coastline on the 1:250.000 scale basemap is ca. 19.575 km, of which ca. 1994 km is archipelagos, and ca. 17.580 km is mainland coast and larger islands. The distribution of segments on shore type and exposure categories, respectively, are given in Table 4. In terms of shoreline length, 'Rocky coast' is the dominant shore type (62.2 %) and 'Protected' is the dominant exposure class (40 %). By length, the 'Rocky coast' and 'Archipelago' shore types constitute 72,4% of the total investigated shoreline. Ca. 82% of the coast is classified as 'Inclined'. See Appendix C, 12.3 for further details.

Table 4. Distribution of shore types by number of continuous stretches and length (km). Percentage distribution is based on length.

Shoretype	No. of strecthes	Km	%
Rocky coast	1752	12182,85	62,24
Archipelago	1058	1994,24	10,19
Glacier coast	432	941,08	4,81
Moraine	252	536,01	2,74
Moraine with erosional cliff	1	3,49	0,02
Alluvial fan	61	102,61	0,52
Talus	825	3398,44	17,36
Barrier beach	3	9,81	0.05
Salt marsh or tidal flat	55	325,41	1.66
Delta	28	80,71	0.41
Total	**4467**	**19574,65**	**100**

6.4 Ecology of the area

The most important ecological element of the region covered by the atlas is the polynya in and off the mouth of Scoresby Sound (Figure 17). This polynya supports an early and rich primary and secondary production, huge amounts of breeding seabirds, marine mammals (seals, whales and polar bears) and a small community, the town Ittoqqortoormiit. Another important area is the region around Tasiilaq, where the ecosystems reminds more of West Greenland than the remainder of the study region.

Table 5. Information on selected marine mammals occurring in the atlas region.

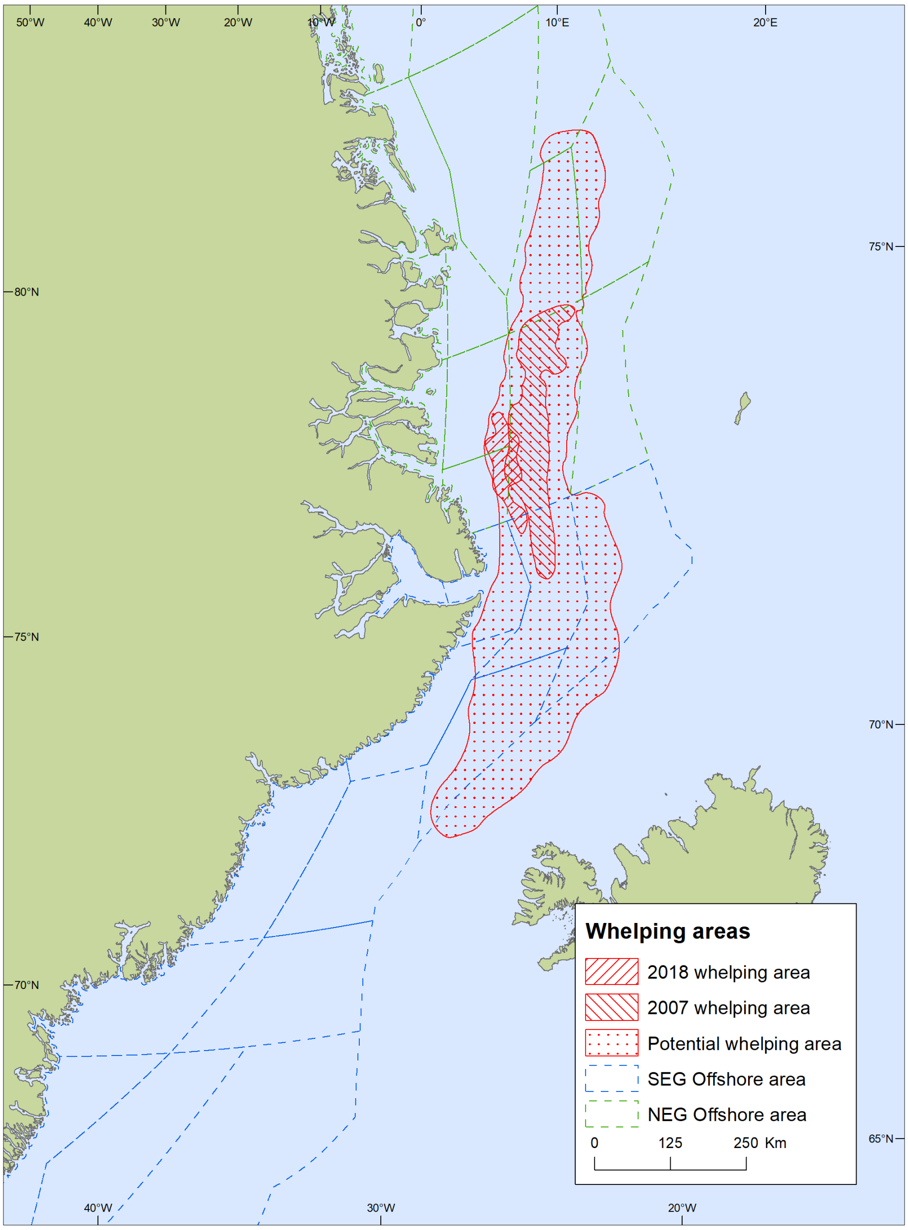
Species	Occurrence	Main habitat	Distribution	National red list status
Polar bear	whole year	coasts, sea ice	widespread	vulnerable (VU)
Walrus	mainly summer	coasts, ice edges and offshore	few in northern parts	near threatened (NT)
Hooded seal	spring and summer	offshore and drift ice	widespread, whelping localised	vulnerable (VU)
Bearded seal	whole year	coast and sea ice	widespread	least concern (LC)
Harp seal	whole year	coasts, offshore and sea ice	widespread, whelping localised	least concern (LC)
Ringed seal	whole year	coasts and sea ice	widespread	least concern (LC)
Harbour seal	whole year	coasts	only in extreme south	critically endangered (CR)
Bowhead whale	spring and summer	offshore and drift ice	in northern part	vulnerable (VU)
Northern right whale	summer	offshore	very few, irregular and far from coast	endangered (EN)
Minke whale	summer	offshore and fjords	widespread	least concern (LC)
Sei whale	summer	offshore	in southern part	endangered (EN)
Fin whale	summer	offshore and fjords	widespread	least concern (LC)
Humpback whale	summer	offshore and fjords	widespread	least concern (LC)
Long-finned pilot whale	summer	offshore	in the southern part	least concern (LC)
White-nosed dolphin	summer	offshore and fjords	in the southern part	least concern (LC)
Killer whale	summer	offshore	widespread	data deficient (DD)
Narwhal	whole year	fjords in summer, off-shore in winter	in northern part	endangered (EN)
Harbour porpoise	summer	offshore	in southern part	least concern (LC)
Sperm whale	summer	offshore	widespread, off shelf	vulnerable (VU)
Northern bottlenose whale	whole year?	offshore	widespread, off shelf	data deficient (DD)

6.4.1 Marine mammals

The true seals are represented by five species: Bearded seals can be found in all parts of the atlas area. They occur throughout the year and are usually associated to sea ice. Ringed seals are numerous throughout the region and especially frequent in ice covered waters, both in fjords with fast ice and in the drift ice. They occur year-round and whelp in liars on the ice. Harp seals are numerous visitors in the open water season, both in the fjords and off-shore. Hooded seals also occur in the open water season, but generally in lower numbers than the harp seals. Both species assemble in March–April on the drift ice in the northern part of the region to give birth to their pups, and later in June–July to moult – the hooded seals also moult on the ice south of Tasiilaq (Figure 20). For details see Boertmann et al. (2020). The fifth seal is the harbour seal. It is only found in coastal waters of the southernmost part of the region and the population is very small (see Frederiksen et al. 2012). The seals (except the protected harbour seal) are important quarry for the hunters of the region.

Walrus occur in small numbers along the coasts of the region, mainly in the northern part as far south as Tasiilaq. Walrus is hunted (the annual quota for East Greenland was 17 in 2020) and the majority (app. 80%) are taken by Ittoqqortoormiit-hunters, the rest by hunters from the Tasiilaq area (for details see Boertmann et al. 2020).

Figure 20. The potential and the actual whelping area in 2007 and 2008 for harp and hooded seals in the Greenland Sea. The potential area is where the whelping has been recorded in recent decades (Øigård et al. 2008, ICES 2019). The blue and green polygons reflect the areas used in the offshore oil spill sensitivity analysis in the present atlas and the Northeast Greenland atlas, respectively.



Polar bears occur throughout the region, on the coasts and in sea ice covered areas. They have some strongholds on the Blosseville Coast and on the coasts south of Tasiilaq. In summer, when sea ice is missing, they concentrate in fjords and other areas with glacier ice, where they can hunt seals on the ice. Female polar bears dig a maternity den in deep snowdrifts in late autumn, give birth to their cubs there in mid-winter, and leave the den in March–April.

The baleen whales comprise the bowhead whale and the summer visitors minke whale, humpback whale, fin whale, blue whale and sei whale. These "summer whales" occur mainly along the shelf break, but fin and humpback whales also in some fjords (Hansen et al. 2018). The bowhead whale is associated to sea ice and occurs in the northernmost part of the region covered by this atlas (Boertmann et al. 2009).

Among the toothed whales, the narwhal is treated separately in this atlas, because it is resident within the region, while the other toothed whales are only summer visitors. Narwhals frequent some fjords in summer (e.g. inner Scoresby Sound, some of the Blosseville Coast fjords, Kangerlussuaq and Ikeq/Køge Bugt), while they seem to spend the winter on the continental shelf break off the Blosseville Coast. The other toothed whales comprise long-finned pilot whale and white-beaked dolphin, which both occur in the southern part of the region, while sperm whale and northern bottlenose whale are found mainly in the deep waters off the shelf. Killer whales may occur everywhere, and are regularly seen in the Tasiilaq area. Harbour porpoise occurs in the southern part of the region. See for example Hansen et al. (2018), Nielsen et al. (2018).

For more detailed information on marine mammals occurring in the northern part of the atlas area, see Boertmann et al. (2020) and Table 5.

Table 6. Overview of the most important seabirds occurring in the atlas area. b = breeding, s = summering (breeding elsewhere), w = wintering, m = migration, c = coastal, o = offshore.

Species	Occurrence	Colonial	Distribution	Comment	National red list status
Red-throated diver	s		c	widespread	least concern (LC)
Northern fulmar	b/s/w	x	c & o	widespread, breeding very local	least concern (LC)
Great cormorant	b/s/w	x	c	breeding very locally	least concern (LC)
Common eider	b/s/w	x	c	widespread	least concern (LC)
King eider	s		c	moulting locally	least concern (LC)
White-tailed eagle	b/w		c	only in extreme south	vulnerable (VU)
Long-tailed duck	s		c	widespread	least concern (LC)
Sabine’s gull	b	x	c	breeding only in extreme north	near threatened (NT)
Lesser black-backed gull	b	x	c	few breeding sites	least concern (LC)
Iceland gull	b/w	x	c	widespread	least concern (LC)
Glaucous gull	b/w	x	c	widespread	least concern (LC)
Great black-backed gull	b	x	c	breeding very locally	least concern (LC)
Black-legged kittiwake	b/w	x	c & o	few breeding sites	vulnerable (VU)
Ivory gull	b/w	x	c & o	breeding very locally	vulnerable (VU)
Arctic tern	b	x	c	widespread	near threatened (NT)
Thick-billed murre	b/m	x	c & o	breeding very locally	vulnerable (VU)
Black guillemot	b/w	X	c	widespread	least concern (LC)
Little auk	b/m/w	x	c & o	breeding only in north	least concern (LC)
Atlantic puffin	b/m/w	x	o	breeding very locally	vulnerable (VU)

6.4.2 Seabirds

Most of the seabirds are colonial breeders, and Figure 21a, b, c show the distribution of the colonies of most of the species breeding in the region.

Among these are the alcids: Black guillemot is widespread in the region. Little auk breeds only in the northernmost part (Scoresby Sound), where huge colonies are found in talus slopes. Thick-billed murre breeds in two (perhaps three) colonies at the Scoresby Sound polynya, and it also occurs as migrant in spring and autumn, when birds from the large population in Svalbard move along the shelf break to and from winter quarters off southwest Greenland and Newfoundland. Atlantic puffin may breed with a few pairs at the Scoresby Sound polynya. The offshore analysis also includes the occurrence of common murre and Atlantic puffin in the non-breeding seasons.

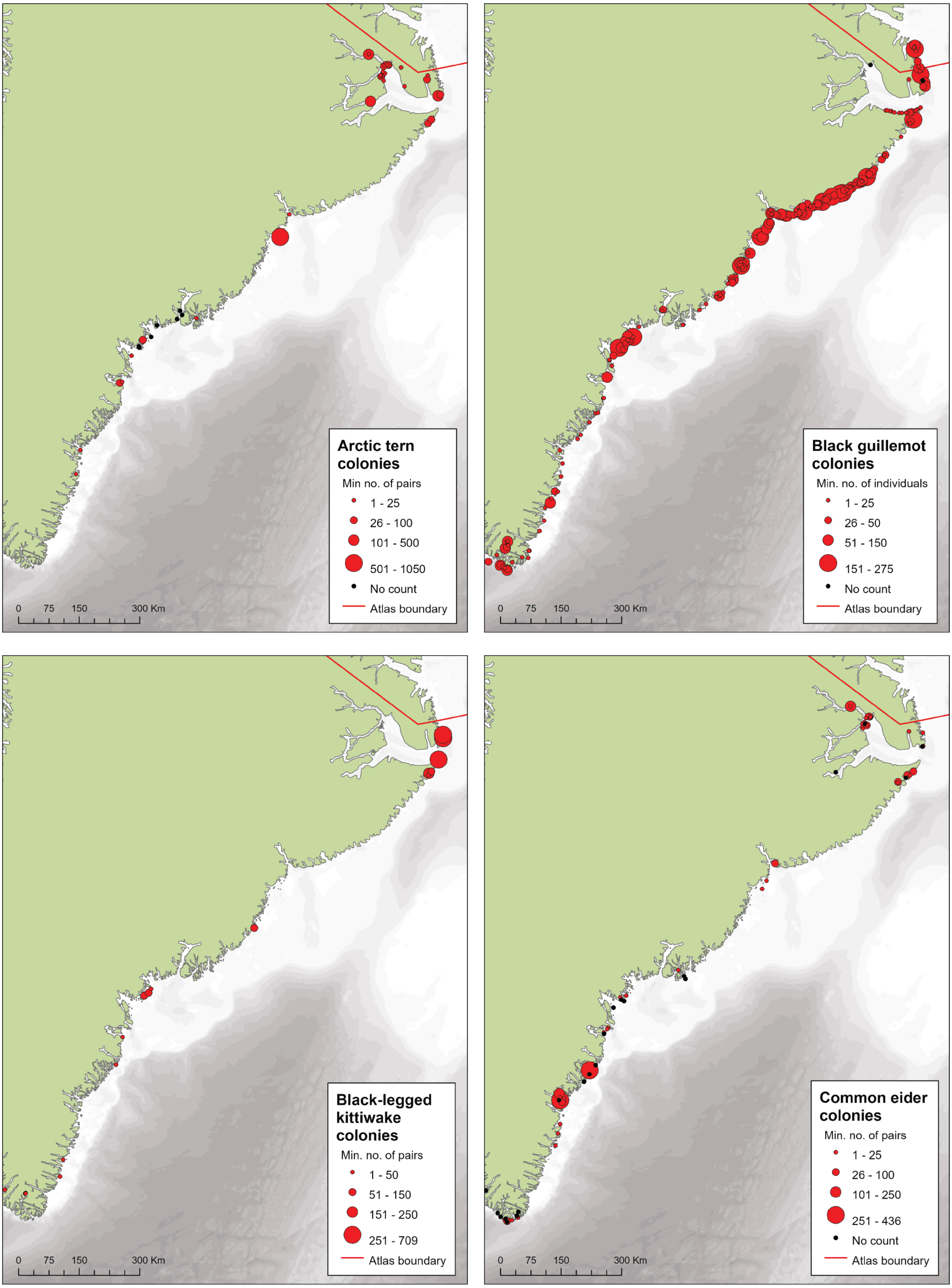


Figure 21a. Location of seabird breeding colonies in the atlas-region.

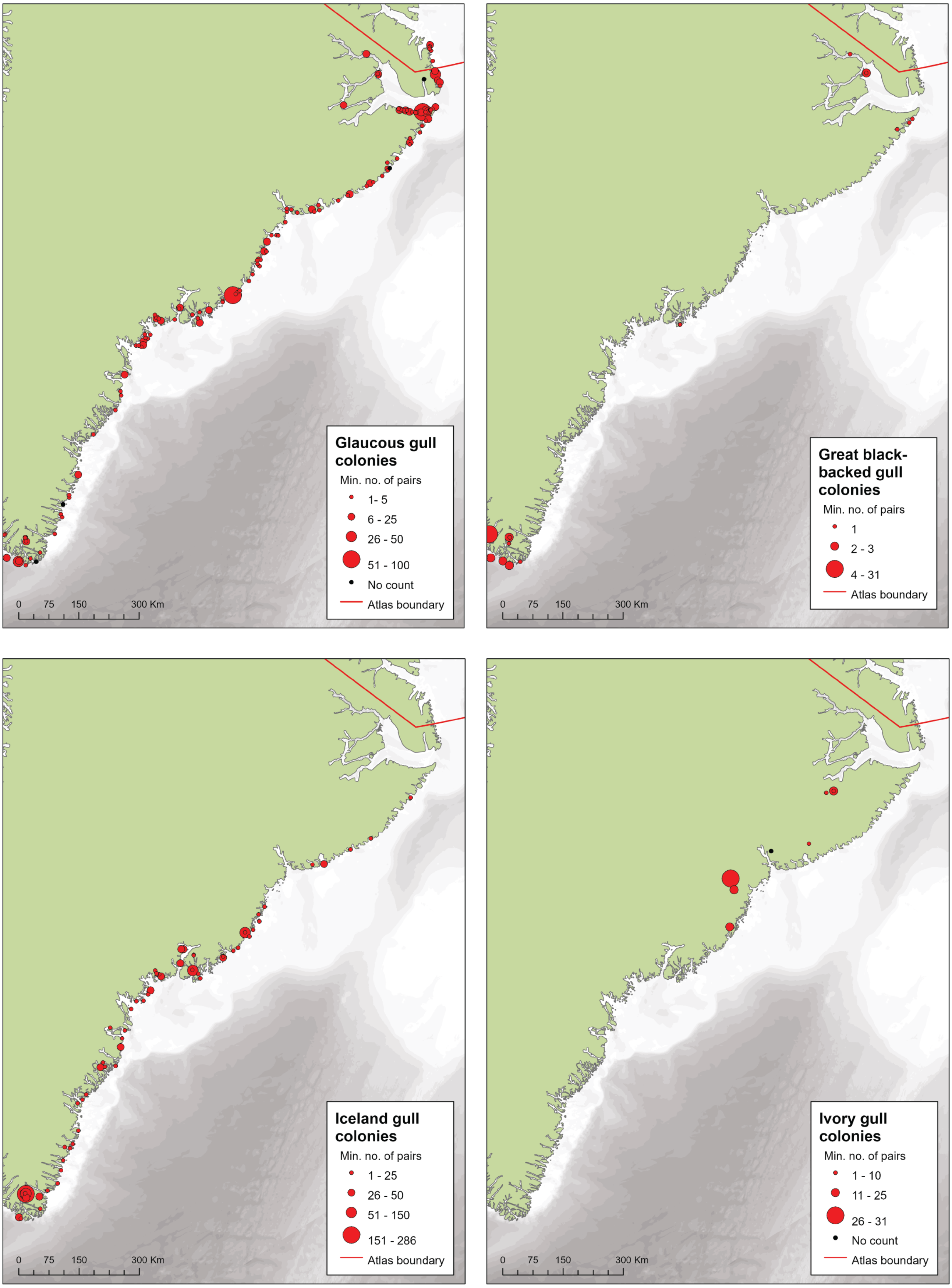


Figure 21b. Location of seabird breeding colonies in the atlas-region.

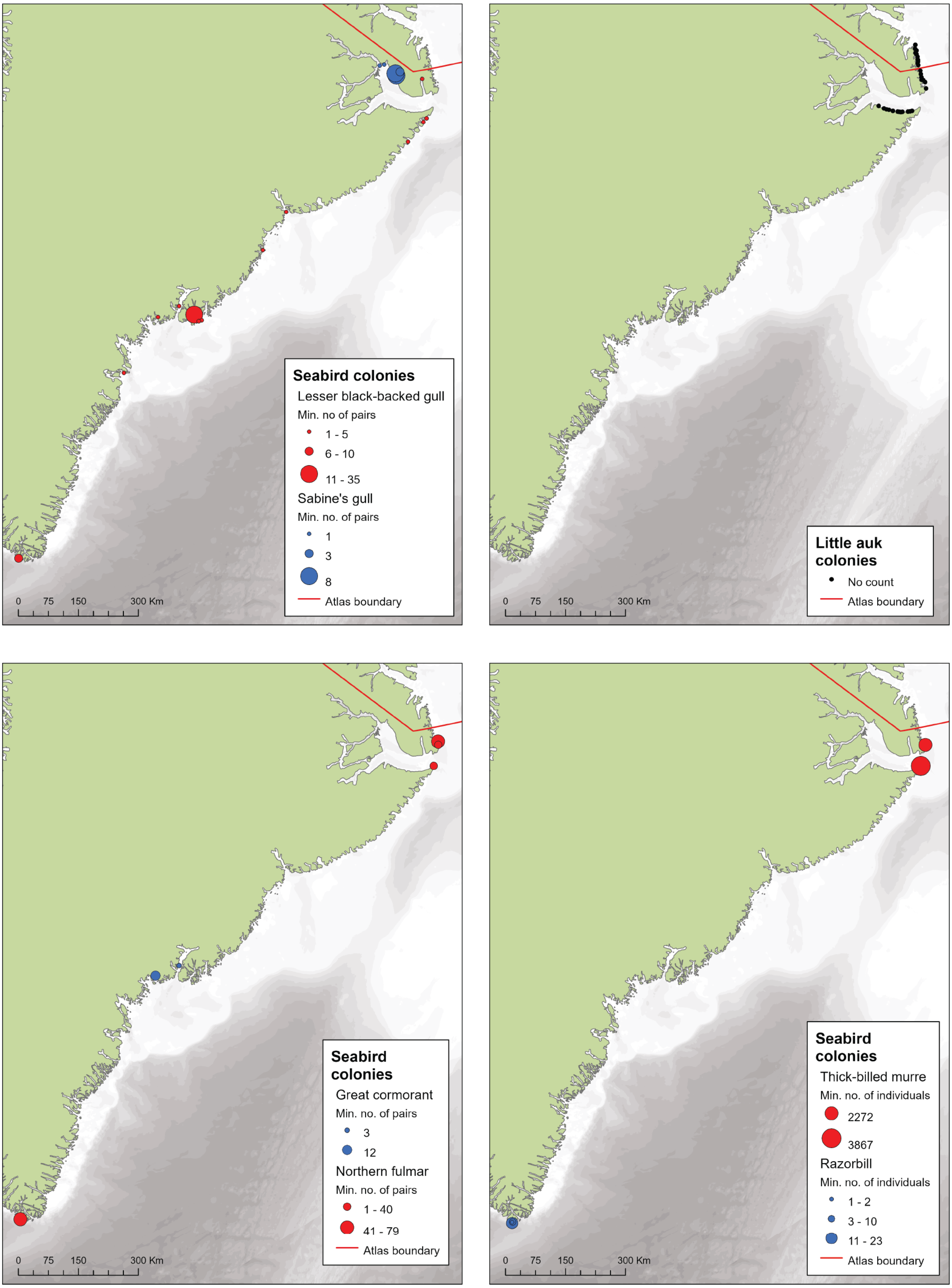


Figure 21c. Location of seabird breeding colonies in the atlas-region.

The non-alcid pursuit diving seabirds in this region include the red-throated diver (loon), which breeds at small lakes, but forage in shallow coastal waters, the red-breasted merganser, which occurs in the central and northernmost part of the region, and great cormorant, which breeds in a few colonies in the Tasiilaq area.

The seaducks include common eider, which nests in colonies widespread on small islands and on the coast. In spring, large flocks are found in open water areas. King eiders assemble to moult in a single fjord on the Blosseville Coast. Long-tailed ducks breed inland, and large flocks of moulting birds are found in sheltered bays and fjords in late summer.

Among the gulls breeding in the area, glaucous gull and Iceland gull are widespread and common species. Black-legged kittiwake and northern fulmar breed in a few colonies. Great black-backed gull and lesser black-backed gull have breeding distributions that are more restricted and Sabine's gull breeds only in the northernmost part of the region. Ivory gull breeds in a few inland colonies (on nunataks) and forage in fjords with glacier ice. The ivory gull moreover have a winter quarter off the coast of the southern part of the region (Gilg et al. 2010).

For more detailed information on seabirds occurring in the northern part of the atlas area, see Boertmann et al. (2020) and Table 6.

6.4.3 Fish

Important fish in the region includes Greenland halibut, capelin, Arctic char, Atlantic cod, redfish, mackerel, herring and salmon. In ice covered waters polar cod is important as an ecological key species (see below). Northern shrimp also occur. On some of the offshore banks near Tasiilaq, Atlantic cod have very important spawning areas, and further offshore mackerel and herring now occur in quantities allowing for a large fishery during summer (although not every year). See Figure 22a, b, which show where commercial fisheries target some of these species..

6.5 Archaeological and historic sites

Compared to West Greenland, knowledge on the archaeology of the region covered by the atlas is rather limited. There are pre-historic and historic sites here and there, mainly Thule Culture sites, ruins from historic settlements, old weather stations, expedition houses and a US air base from World War II (Ikateq near Tasiilaq). In total, 519 archaeological and historic sites listed in the Nunniffiit database (Greenland Archive of Antiquities) at Greenland National Museum & Archives are included in the maps and sensitivity calculations of the atlas. See Appendix C, 12.8 for details.

6.6 Human use

The human population in the region is concentrated in two separate areas: the town of Ittoqqortoormiit (including the nearby airport at Nerlerit Inaat/Constable Pynt) at the mouth of Scoresby Sound, and the area around the town of Tasiilaq, which also includes five smaller settlements. The total population numbered 3190 persons on Jan. 1, 2020 (Table 7).

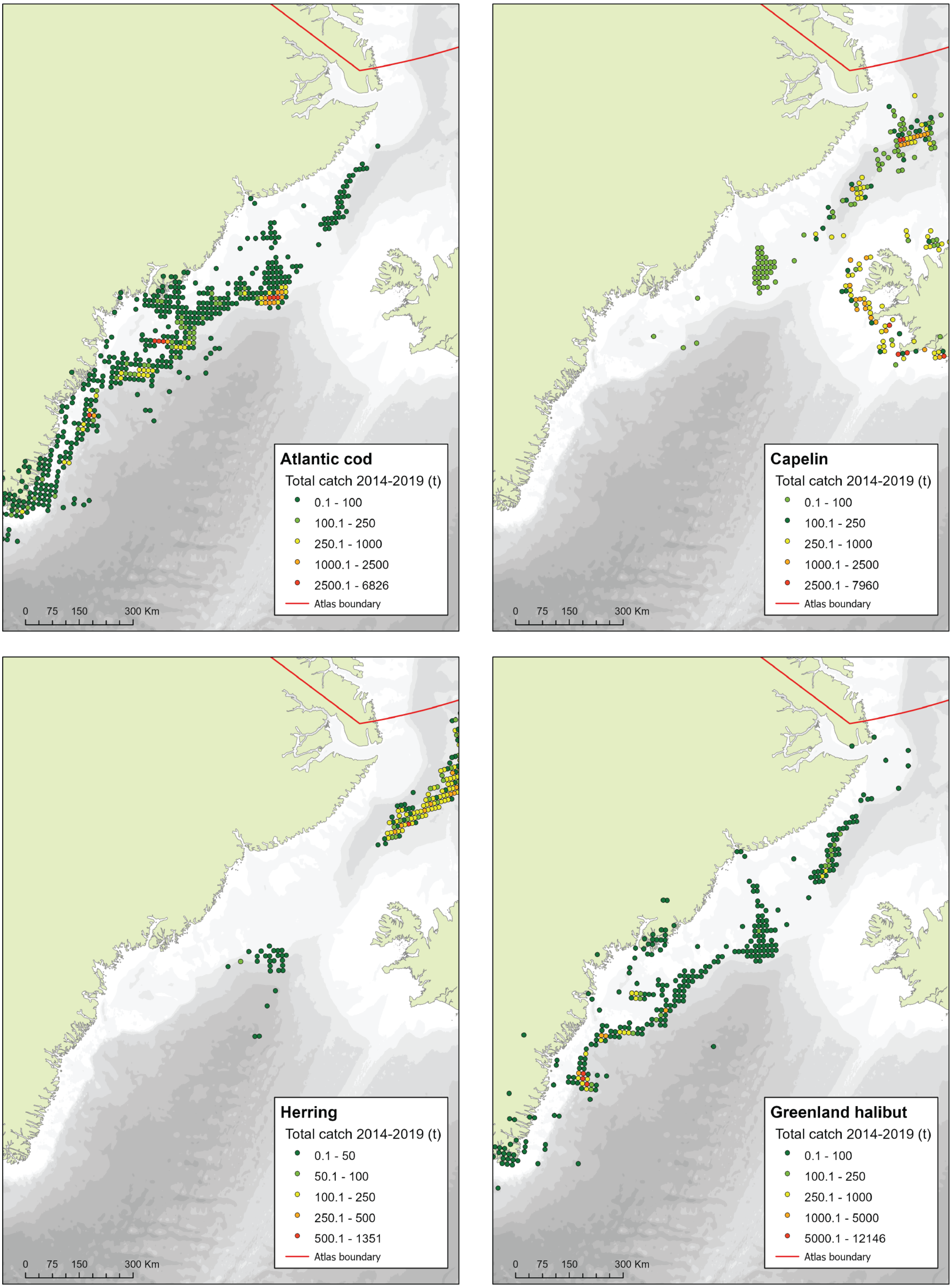
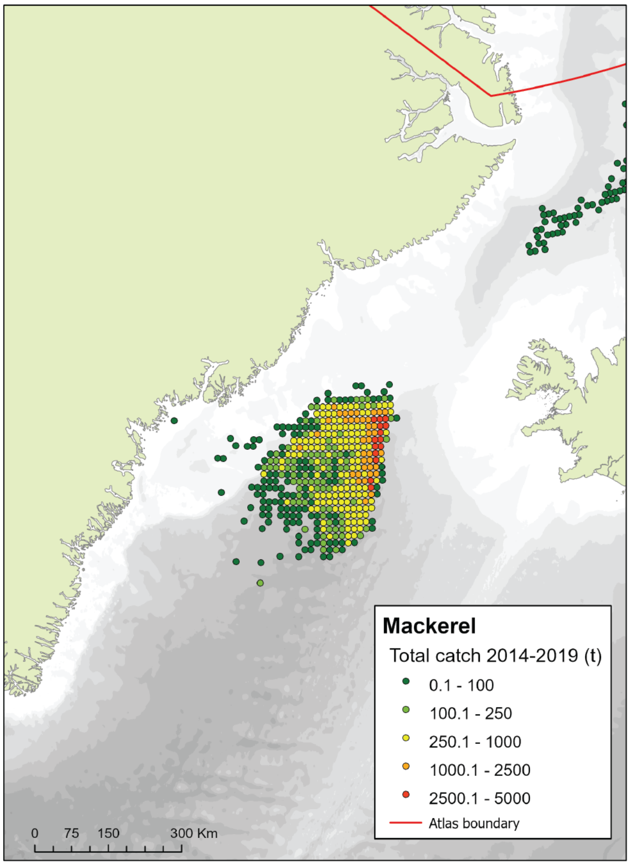
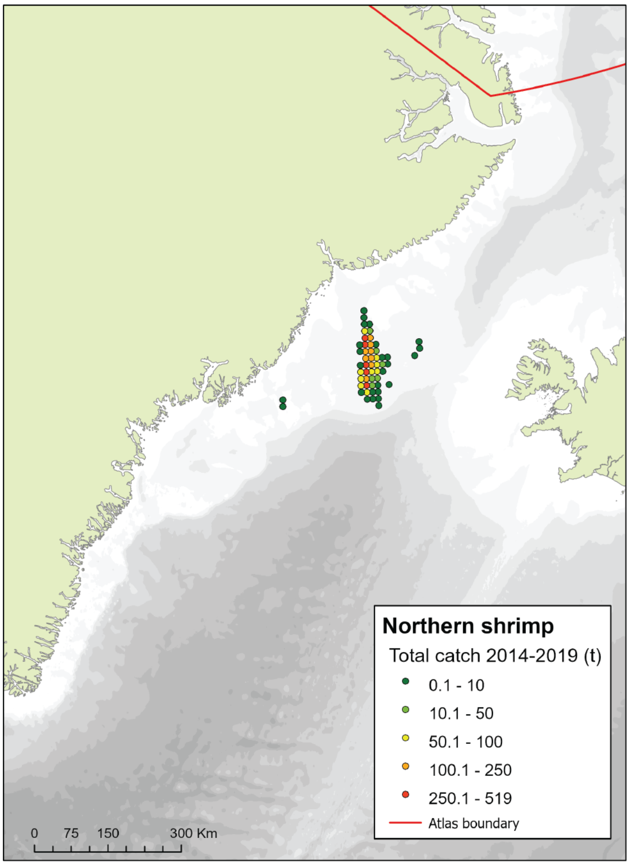


Figure 22a. Total catch of Atlantic cod, capelin, herring and Greenland halibut between 2014 and 2019 (data from GINR).





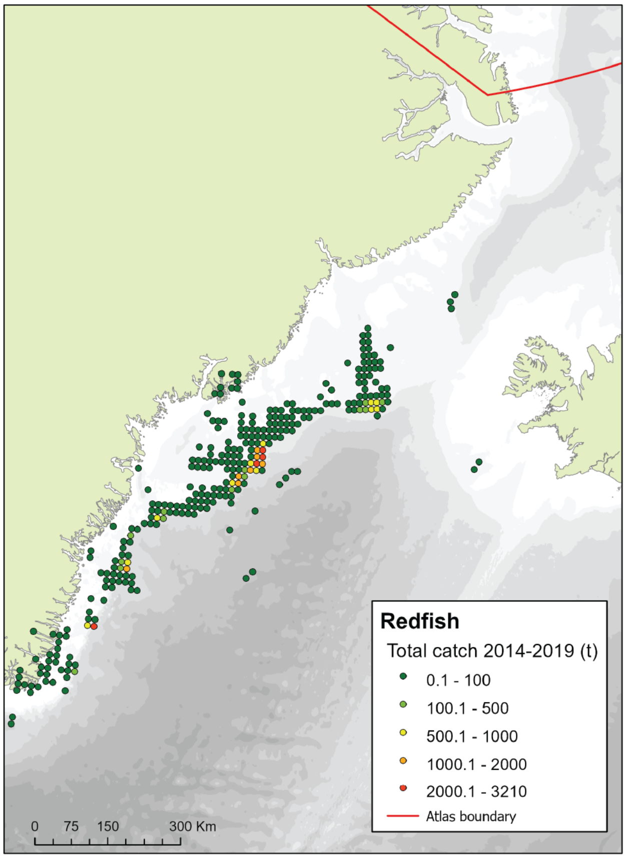


Figure 22b. Total catch of mackerel, northern shrimp and redfish between 2014 and 2019 (data from GINR).

Table 7. The human population in the region covered by the atlas. Towns are indicated with bold face types, settlements with normal font.

Town/settlement	No of people Jan. 1, 2020
Tasiilaq	1985
Sermiliaaq	209
Isortoq	64
Kulusuk	241
Tiniteqilaaq	96
Kuummiit	248
Ittoqqortoormiit	345
Nerlerit Inaat	2
Total	**3190**

With ca. 230 licensed hunters (Greenland Statistics 2018), and ca. 13,000 pieces of game reported bagged annually (Pinarneq 2015; excluding fish), hunting and fishing remains important in the atlas area (Flora et al. 2019; 2020). A wide range of different species are harvested, including seals, toothed whales (nar-

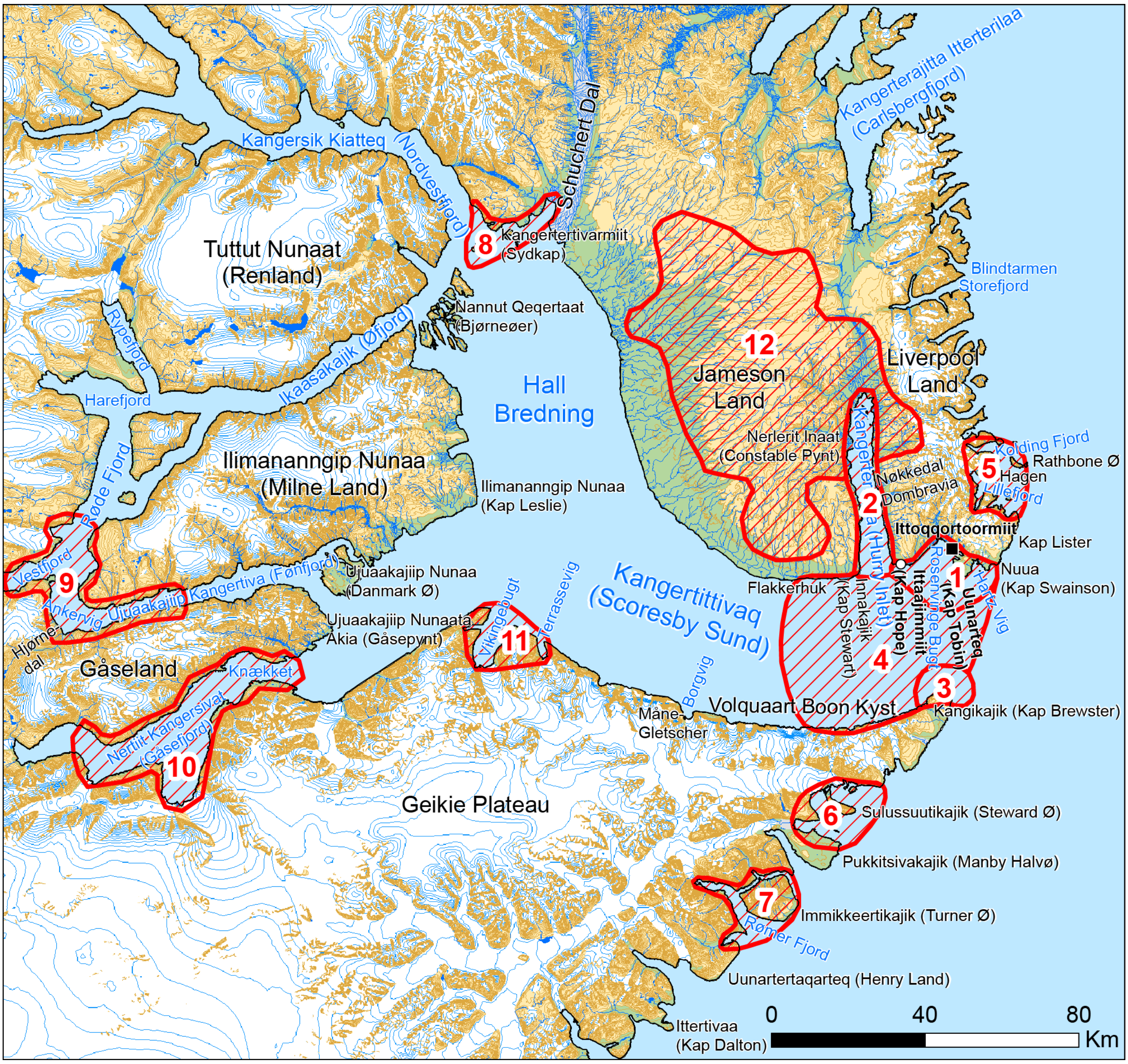


Figure 23. The most important hunting and fishing areas for hunters from Ittoqqortoormiit/Scoresbysund (after Flora et al. 2019).

whal, killer whale, pilot whale, white-beaked dolphin), walrus, polar bear, minke whale, seabirds, geese, muskox, Arctic char and, in the Tasiilaq area, also a number of marine fish species. For most of the year, hunting and fishing takes place in coastal areas within ca. 50 km of towns and settlements. However, in spring the hunting area gradually expands as the edge of the land fast sea ice, e.g. surrounding the Scoresby Sound polynya, becomes an important hunting area. The size of the hunting area is at its maximum during the open water season in July-August. At this time, the coastal areas visited by Ittoqqortoormiit hunters encompass the whole Scoresby Sound fjord complex, and stretch from Carlsberg Fjord in the north to Rømer Fjord in the south on the outer coast. Hunters from the Tasiilaq-area use coastal areas over a stretch of ca. 630 km from Ikeq/Køge Bugt in the south to Nansen Fjord in north during summer. It is mainly for the hunting of narwhals that the hunters travel long distances during summer. The most important hunting areas are show in Figures 23 and 24.

Besides hunting, a range of tourist activities take place near towns and settlements, and the area is also visited by cruise ships during summer. In the offshore area, there is commercial fishery for Greenland halibut, Atlantic cod, redfish, northern shrimp, capelin, herring and mackerel (Figure 22a, b).

For more detailed information on human use in the atlas area, see Flora et al. (2019; 2020) and Appendix C, 12.5.

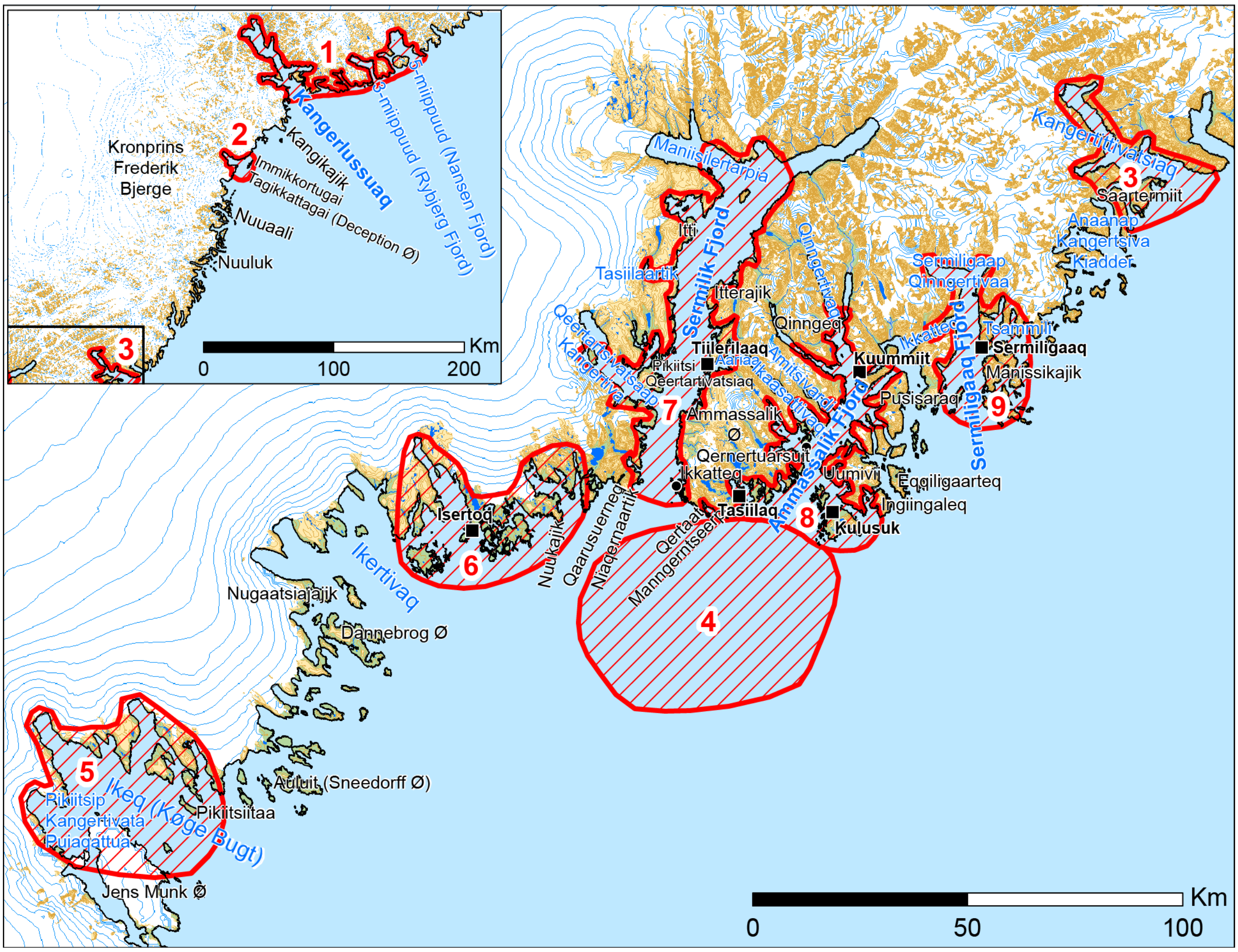
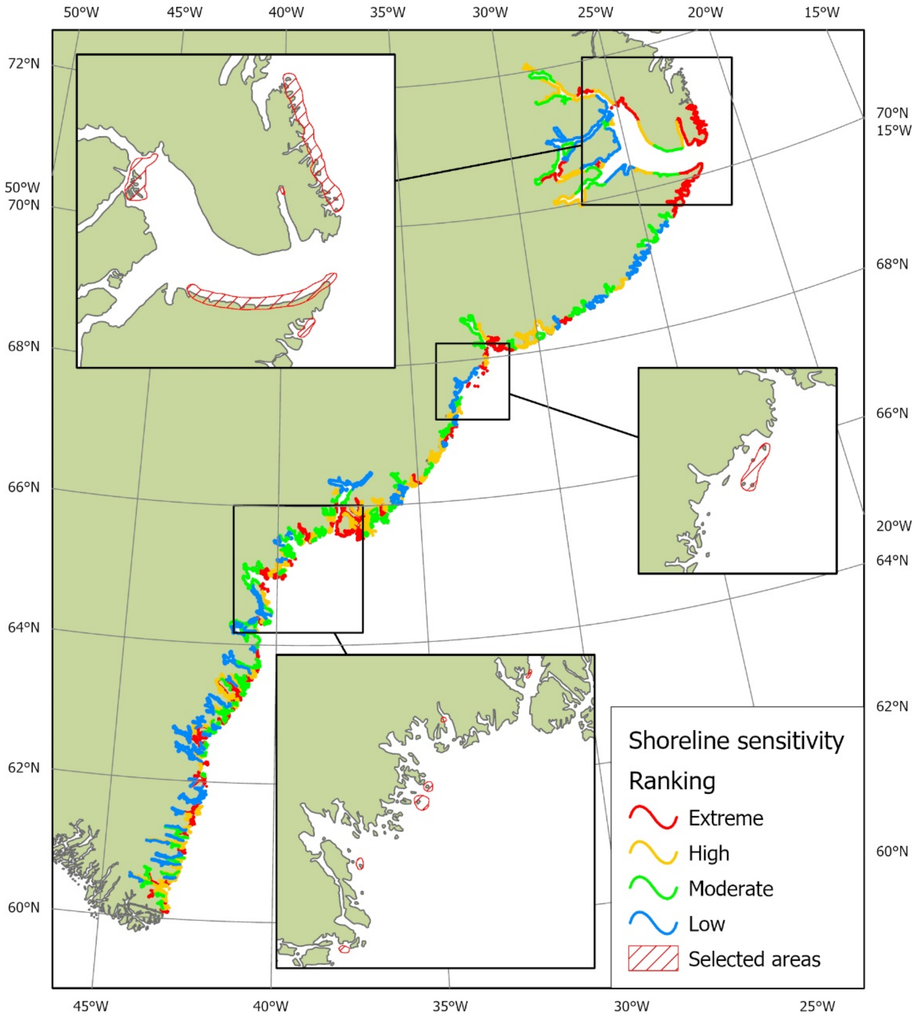


Figure 24. The most important hunting and fishing areas for hunters from the Tasiilaq area (after Flora et al. 2019).

6.7 Areas of extreme and high sensitivity

Figure 25 shows an overview of the shoreline segments and their sensitivity to marine oil spills. In total, there are 114 segments of extreme sensitivity and 106 of high sensitivity. In addition, 15 smaller areas have been selected, because of their significant biological importance in the atlas area. The areas with the highest concentration of extreme and high sensitivity segments are the Tasiilaq area, the mouth of Scoresby Sound, and near Skærgårdshalvø in Kangerlussuaq.

Figure 25. The sensitivity of the entire coastline of the study region and the selected areas.



7 Offshore sensitivity

In this chapter, operational oil spill sensitivity maps for the offshore region covered by the atlas are presented on a scale of 1:5.500.000 (Figures 27-34). The offshore parts of the atlas have been split into smaller areas based on bathymetry, sea ice cover and biodiversity. For each season (winter, spring, summer, autumn) and area (OS_1-17), an oil spill sensitivity ranking is provided by color (low, moderate, high, extreme), and the resources contributing most to the sensitivity are indicated with icons. Along with the seasonal maps, short environmental descriptions are provided for each offshore area, including relative abundance values for species occurrences and human resource use (scale 1-5). The seasonal sensitivity values of the areas, and their ranking, are also given in tables (Tables 10-17). For a more detailed listing of all parameter values used in the sensitivity calculation, see Appendix B.

When interpreting the operational offshore maps, it is important to keep in mind that the sensitivity ranking of areas into the categories extreme, high, moderate and low is scale-dependent. Thus, each area is ranked only in comparison with areas that intersect a buffer with a radius of 250 km around the area being ranked (see Appendix C, 12.6 for details). This was done to ensure that the sensitivity ranking captures local differences in sensitivity and are not dominated by large-scale patterns, e.g. latitudinal biodiversity gradients. As such, the operational offshore maps reflect oil spill sensitivity on a spatial scale of 500-1000 km. However, should an oil spill affect an area, which is larger than this (e.g. as a consequence of oil drift along the East Greenland

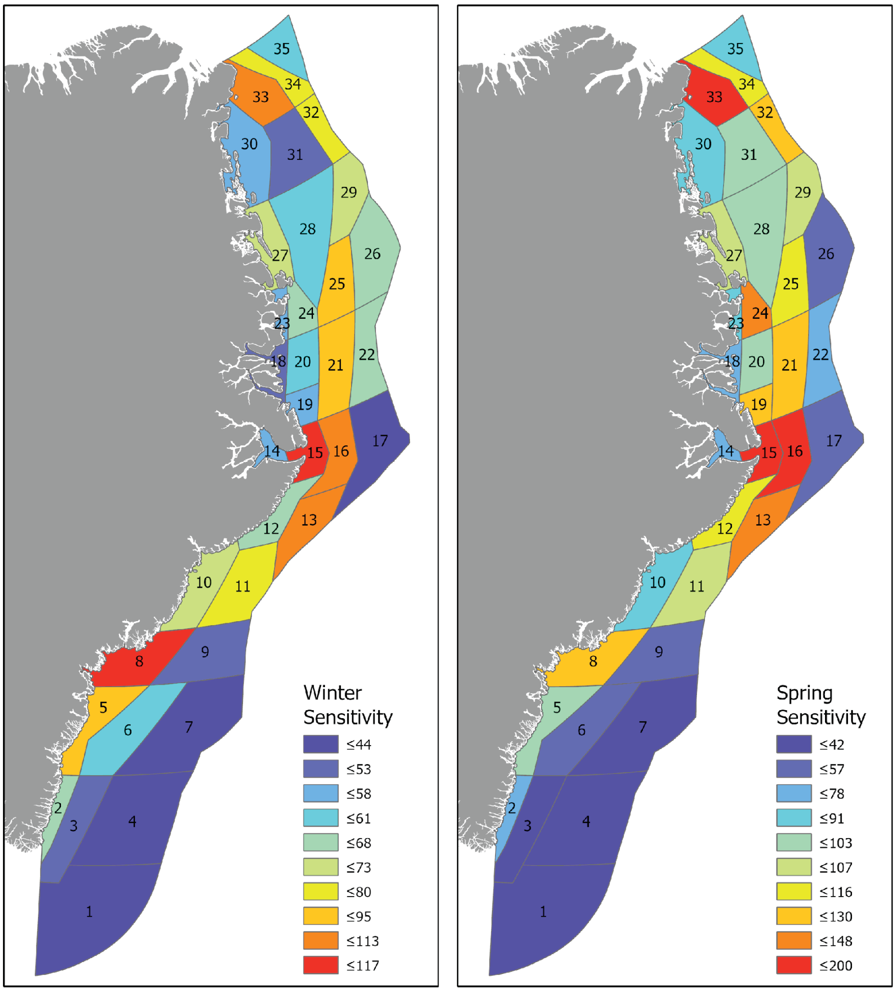
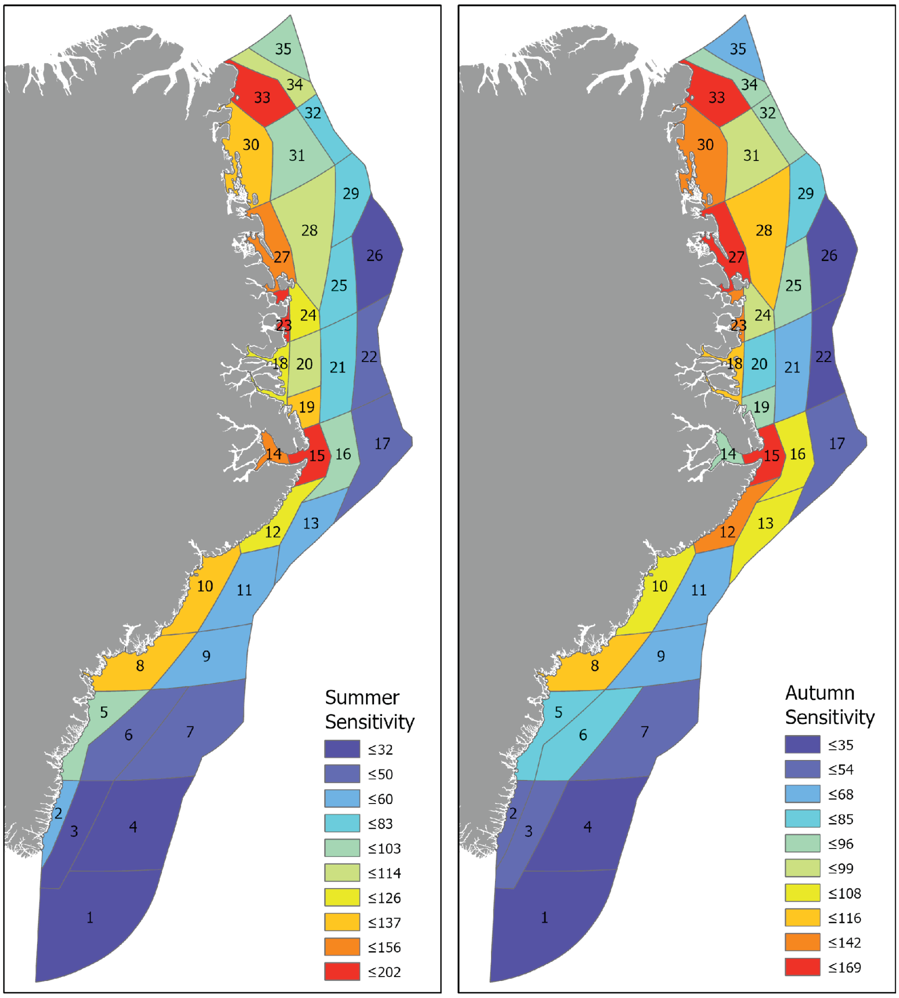


Figure 26a. Oil spill sensitivity scores (S) of offshore areas in all of East Greenland during winter and spring. Each offshore area is shown with its id number.

Figure 26b. Oil spill sensitivity scores (S) of offshore areas in all of East Greenland during summer and autumn. Each offshore area is shown with its id number.



Current), we also provide seasonal overview maps of the sensitivity values of offshore areas in all of East Greenland in Figures 26a and b. The color coding used in these maps can be seen as a relative sensitivity ranking on an East Greenland scale.

7.1 Offshore sensitivity summary

Seen across all offshore areas covered by the current atlas (OS_1-17), the analysis indicates that spring is the most sensitive season of the year (Tables 8 and 9).

Table 8. Average sensitivity of offshore areas per season.

Season	Average sensitivity of offshore areas
Winter	67
Spring	85
Summer	79
Autumn	78

Within the 17 individual offshore areas, the sensitivity also varies seasonally. Table 9 lists the most sensitive season per area.

Table 9. The most sensitive season in the different offshore areas.

Area	Most sensitive season	Sensitivity value in most sensitive season	Average sensitivity across seasons
OS_1	Autumn	28	26
OS_2	Spring	75	62
OS_3	Autumn	54	43
OS_4	Autumn	28	26
OS_5	Summer	102	92
OS_6	Autumn	69	57
OS_7	Summer/Autumn	38	33
OS_8	Summer	130	120
OS_9	Autumn	68	59
OS_10	Summer	136	100
OS_11	Spring	107	77
OS_12	Summer	124	105
OS_13	Spring	133	102
OS_14	Summer	146	93
OS_15	Spring	200	162
OS_16	Spring	157	113
OS_17	Spring	55	48

7.2 Legend to offshore sensitivity maps

Offshore sensitivity maps

Offshore species*

Al - Alcids

Ig - Ivory gull

Pd - Non-alcid pursuit divers

Sd - Seaducks

Sf - Surface feeding seabirds

Bf - Bottom fish

If - Ice fauna

Pf - Pelagic fish

Bw - Baleen whales

Nw - Narwhal

Ow - Other toothed whales

Pb - Polar bear

Se - Seals

Wa - Walrus

Ws - Seals, whelping/moulting

Offshore resource use*

Hu - Human use

Sea depth (200 m)

Offshore areas sensitivity ranking

Extreme

High

Moderate

Low

*Icons are are only visible for occurences with relative abundance/importance >=3

7.3 Offshore sensitivity, winter (January-March)

Environmental description, southern part (Figure 27)

Offshore area 1 (OS_1): *Human use* (0): no significant human use recorded in this area. *Species occurrence*: **Al** (2): winter quarter for Atlantic puffin, common murre, little auk and thick-billed murre. **Sf** (2): winter quarter for black-legged kittiwake and northern fulmar. **Bf** (1): redfish, Greenland halibut and Atlantic cod. **Ow** (1): northern bottlenose whale and sperm whale. **Se** (1): harp seal and hooded seal.

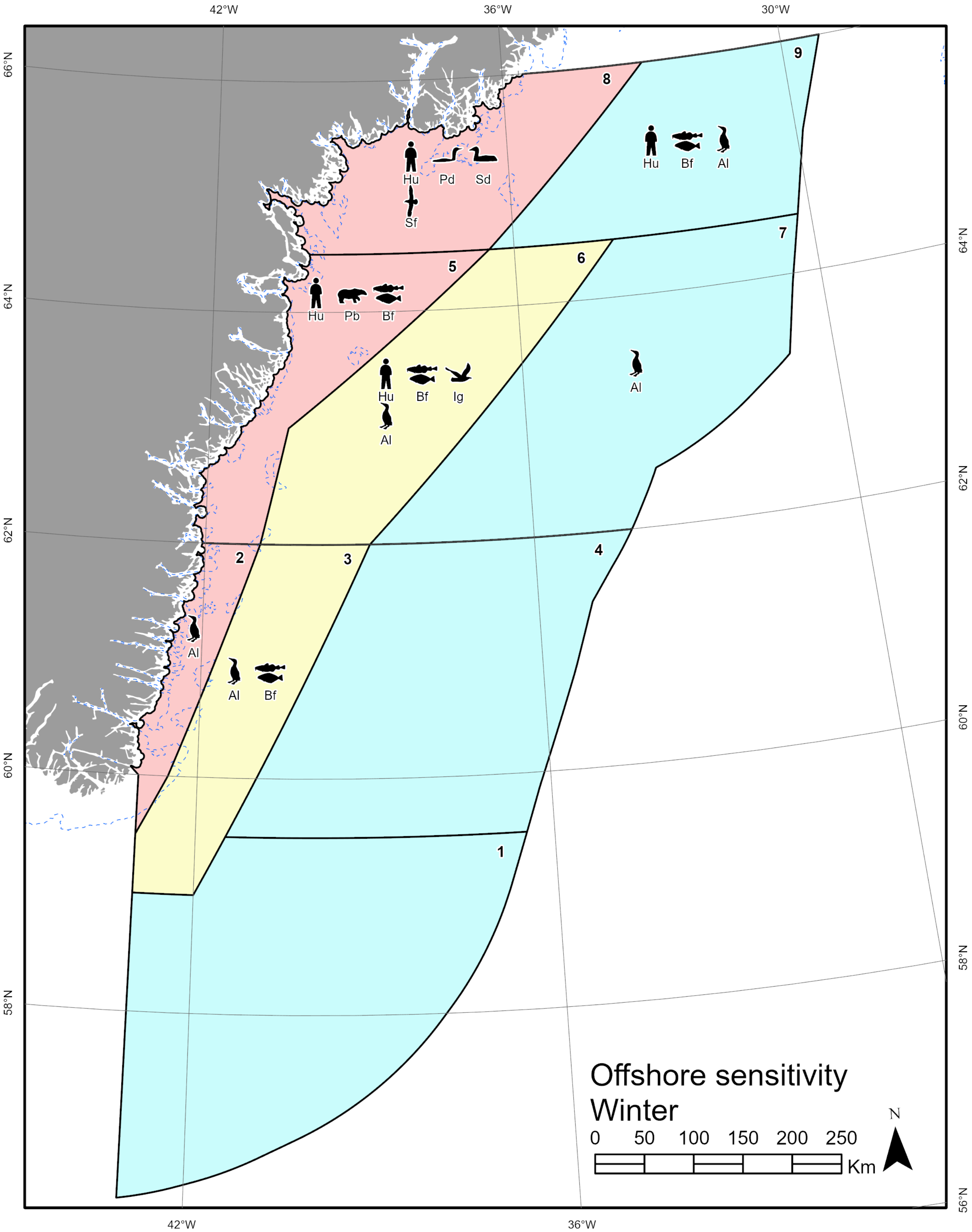


Figure 27. Oil spill sensitivity ranking of offshore areas during winter (January-March) in the southern part of the atlas area.

Offshore area 2 (OS_2): *Human use* (1): commercial fishery for Atlantic cod, redfish and Greenland halibut. *Species occurrence*: **Al** (3): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of redfish and Greenland halibut. **If** (2): sea ice associated fauna, e.g. polar cod. **Se** (2): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Ig** (1): winter quarter for ivory gull. **Pb** (1): polar bear. **Sd** (1): winter quarter for common eider.

Offshore area 3 (OS_3): *Human use* (2): commercial fishery for redfish, Atlantic cod and Greenland halibut. *Species occurrence*: **Al** (3): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (3): fishery data suggest moderate abundance of Atlantic cod and redfish and some Greenland halibut. **Ig** (2): winter quarter for ivory gull. **Sf** (2): winter quarter for black-legged kittiwake and northern fulmar. **Ow** (1): northern bottlenose whale, sperm whale and white-beaked dolphin. **Pb** (1): polar bear. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal.

Offshore area 4 (OS_4): *Human use* (1): commercial fishery for Atlantic cod and Greenland halibut. *Species occurrence*: **Al** (2): winter quarter for Atlantic puffin, common murre, little auk and thick-billed murre. **Sf** (2): winter quarter for black-legged kittiwake and northern fulmar. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Ow** (1): northern bottlenose whale, sperm whale and white-beaked dolphin. **Se** (1): harp seal and hooded seal.

Offshore area 5 (OS_5): *Human use* (3): commercial fishery for Atlantic cod, Greenland halibut and redfish. *Species occurrence*: **Pb** (5): polar bear. **Bf** (4): fishery data suggest high abundance of Atlantic cod, moderate abundance of Greenland halibut and some redfish. **Al** (2): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **If** (2sea): sea ice associated fauna, e.g. polar cod. **Ig** (2): winter quarter for ivory gull. **Se** (2): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Sd** (1): winter quarter for common eider.

Offshore area 6 (OS_6): *Human use* (4): commercial fishery for Greenland halibut, redfish, Atlantic cod, mackerel and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Greenland halibut, redfish and Atlantic cod. **Ig** (5): winter quarter for ivory gull. **Al** (3): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Nw** (1): narwhal. **Ow** (1): northern bottlenose whale, sperm whale, white-beaked dolphin. **Pb** (1): polar bear. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (1): winter quarter for black-legged kittiwake and northern fulmar.

Offshore area 7 (OS_7): *Human use* (0): no significant human use recorded in this season. *Species occurrence*: **Al** (3): winter quarter for Atlantic puffin, common murre, little auk, thick-billed murre. **Bf** (2): fishery data suggest presence of redfish, Atlantic cod and Greenland halibut. Greenland halibut spawning in NW part of area. **Sf** (2): winter quarter for black-legged kittiwake and northern fulmar. **Ow** (1): northern bottlenose whale, sperm whale and white-beaked dolphin. **Se** (1): harp seal and hooded seal.

Offshore area 8 (OS_8): *Human use* (5): Area used by inhabitants from Tasiilaq and surrounding settlements for hunting, fishing and tourism. commercial fishery for Atlantic cod, mackerel, Greenland halibut, redfish, northern shrimp and capelin. *Species occurrence*: **Pd** (3): winter quarter for great cormorant and red-breasted merganser. **Sd** (3): winter quarter for common eider. **Sf** (3): winter quarter for black-legged kittiwake, glaucous gull, great black-backed gull, Iceland gull and northern fulmar. **Al** (2): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of Greenland halibut and redfish. **If** (2): sea ice associated fauna, e.g. polar cod. **Se** (2): bearded seal, harbour seal, harp seal, hooded seal, ringed seal. **Ig** (1): winter quarter for ivory gull. **Pb** (1): polar bear. **Wa** (1): walrus.

Offshore area 9 (OS_9): *Human use* (4): commercial fishery for Mackerel, Atlantic cod, redfish, northern shrimp, Greenland halibut, Herring and Capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Atlantic cod, redfish and some Greenland halibut. Greenland halibut spawning in SW part of area. **Al** (3): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Nw** (2): narwhal. **If** (1): sea ice associated fauna, e.g. polar cod. **Ow** (1): northern bottlenose whale, sperm whale, white-beaked dolphin. **Pb** (1): polar bear. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (1): winter quarter for black-legged kittiwake and northern fulmar.

Table 10. Offshore sensitivity during winter in the southern part of the atlas area.

Area	Sensitivity value	Ranking
OS_1	24	Low
OS_2	67	Extreme
OS_3	44	High
OS_4	26	Low
OS_5	95	Extreme
OS_6	61	High
OS_7	29	Low
OS_8	114	Extreme
OS_9	49	Low

Environmental description, northern part (Figure 28)

Offshore area 10 (OS_10): *Human use* (3): Coastal areas used by inhabitants from Tasiilaq and surrounding settlements for hunting. commercial fishery for Atlantic cod, Greenland halibut and northern shrimp. *Species occurrence*: **If** (3): sea ice associated fauna, e.g. polar cod. **Sf** (3): winter quarter for black-legged kittiwake, glaucous gull, Iceland gull and northern fulmar. **Pb** (2): polar bear. **Se** (2): bearded seal, harp seal, hooded seal, ringed seal. **Al** (1): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Wa** (1): walrus.

Offshore area 11 (OS_11): *Human use* (2): commercial fishery for northern shrimp, Greenland halibut, Atlantic cod, capelin and redfish. *Species occurrence*: **Nw** (5): narwhal. **Bf** (2): fishery data suggest presence of Atlantic cod, Greenland halibut and redfish. **If** (2): sea ice associated fauna, e.g. polar cod. **Pb** (2): polar bear. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Al** (1): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Ow** (1): northern bottlenose whale, sperm whale, white-beaked dolphin. **Sf** (1): winter quarter for black-legged kittiwake and northern fulmar. **Ws** (1): whelping hooded seals in March in the northeastern part of the area.

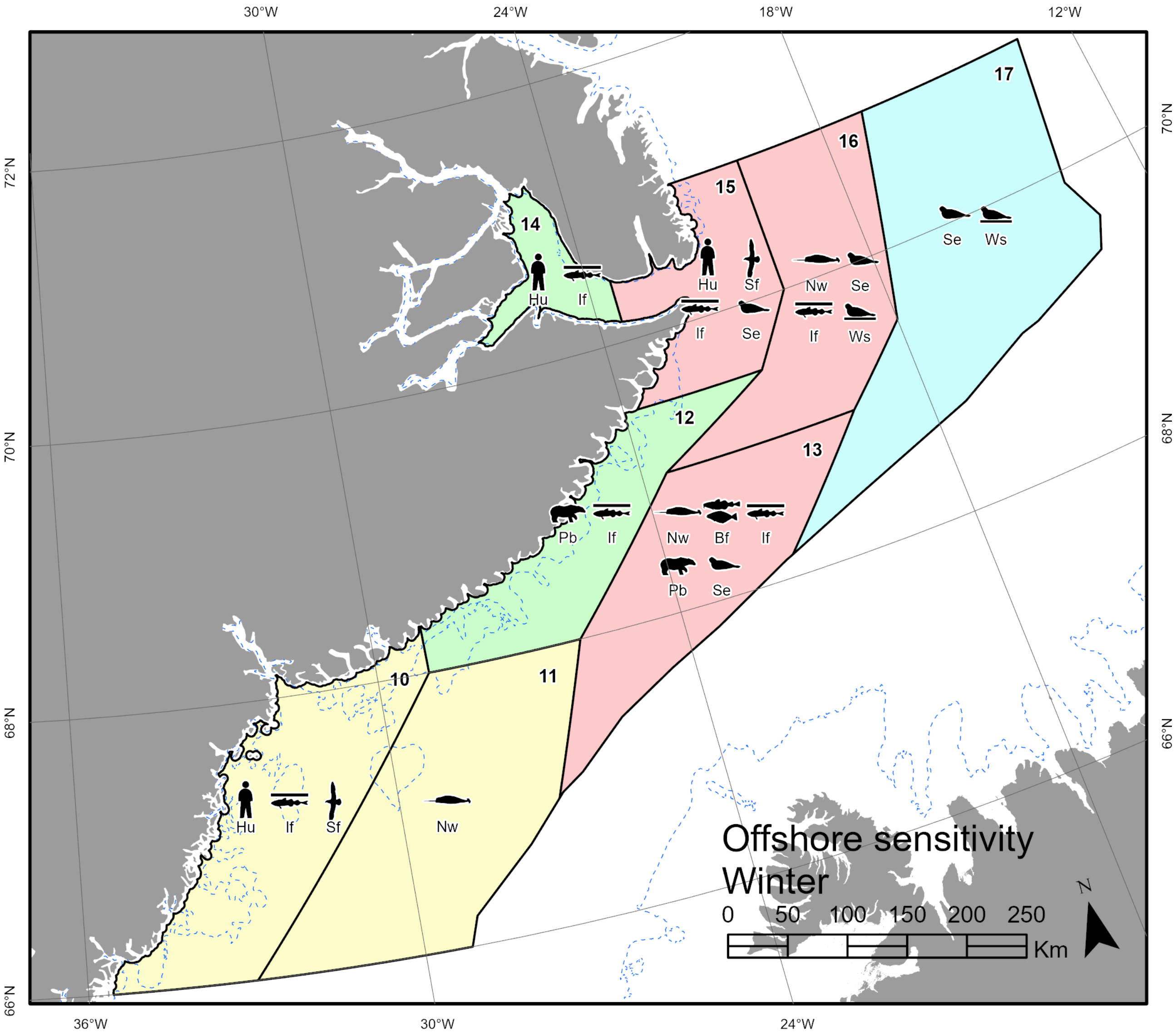


Figure 28. Oil spill sensitivity ranking of offshore areas during winter (January-March) in the northern part of the atlas area.

Offshore area 12 (OS_12): *Human use* (1): commercial fishery for Greenland halibut. *Species occurrence*: **Pb** (4): polar bear. **If** (3): sea ice associated fauna, e.g. polar cod. **Se** (2): bearded seal, harp seal, hooded sealand ringed seal. **Al** (1): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (1): fishery data suggest presence of Greenland halibut. **Wa** (1): walrus.

Offshore area 13 (OS_13): *Human use* (2): commercial fishery for capelin, herring, Greenland halibut, Atlantic cod, mackerel and redfish. *Species occurrence*: **Nw** (5): narwhal. **Bf** (3): fishery data suggest moderate abundance of Greenland halibut, and presence of Atlantic cod and redfish. **If** (3): sea ice associated fauna, e.g. polar cod. **Pb** (3): polar bear. **Se** (3): bearded seal, harp seal , hooded seal and ringed seal. **Al** (2): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Ws** (2): whelping hooded seals in March in the eastern part of the area. **Ow** (1): northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (1): winter quarter for black-legged kittiwake, glaucous gull and northern fulmar.

Offshore area 14 (OS_14): *Human use* (4): Area used by inhabitants from Ittoqqortoormiit during Mar-Oct for hunting, fishing and recreational activities, including tourism. *Species occurrence*: **If** (3): sea ice associated fauna, e.g. polar cod. **Pb** (2): polar bear. **Bf** (1): Greenland halibut. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal.

Offshore area 15 (OS_15): *Human use* (5): Area used all year by inhabitants from Ittoqqortoormiit for hunting, fishing and recreational activities, including tourism. A little commercial fishery for capelin in extreme SW part of area. *Species occurrence*: **Sf** (4): winter quarter for black-legged kittiwake, glaucous gull and northern fulmar. **If** (3): sea ice associated fauna, e.g. polar cod. **Se** (3): bearded seal, harp seal, hooded seal, ringed seal. **Al** (2): winter quarter for black guillemot, little auk and thick-billed murre. **Pb** (2): polar bear. **Ws** (2): whelping hooded seals in March in the eastern part of the area. **Bf** (1): fishery data suggest presence of Greenland halibut. **Wa** (1): walrus.

Offshore area 16 (OS_16): *Human use* (2): commercial fishery for Capelin, Greenland halibut, Herring and Atlantic cod. *Species occurrence*: **Nw** (4): narwhal. **Se** (4): bearded seal, harp seal, hooded seal and ringed seal. **If** (3): sea ice associated fauna, e.g. polar cod. **Ws** (3): whelping hooded seals in March. **Al** (2): winter quarter for Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (1): fishery data suggest presence of Greenland halibut and Atlantic cod. **Ow** (1): northern bottlenose whale, sperm whale and white-beaked dolphin. **Pb** (1): polar bear. **Sf** (1): winter quarter for black-legged kittiwake, glaucous gull and northern fulmar.

Offshore area 17 (OS_17): *Human use* (0): no significant human use recorded in this season. *Species occurrence*: **Se** (3): harp seal and hooded seal. **Ws** (3): whelping hooded seals in March, especially in the western part of the area. **Al** (2): winter quarter for Atlantic puffin, common murre, little auk and thick-billed murre. **Nw** (2): narwhal. **Ow** (2): northern bottlenose whale, sperm whale and white-beaked dolphin. **If** (1): sea ice associated fauna, e.g. polar cod. **Pb** (1): polar bear. **Sf** (1): winter quarter for black-legged kittiwake and northern fulmar.

Table 11. Offshore sensitivity during winter in the northern part of the atlas area.

Area	Sensitivity value	Ranking
OS_10	73	High
OS_11	80	High
OS_12	63	Moderate
OS_13	107	Extreme
OS_14	54	Moderate
OS_15	117	Extreme
OS_16	97	Extreme
OS_17	44	Low

7.4 Offshore sensitivity, spring (April-May)

Environmental description, southern part (Figure 29)
Offshore area 1 (OS_1): *Human use* (0): no significant human use recorded in this area. *Species occurrence*: **Al** (2): spring migration of Atlantic puffin, little auk and thick-billed murre. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (2): spring migration of black-legged kittiwake and northern fulmar. **Bf** (1): redfish, Greenland halibut and Atlantic cod. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **Se** (1): hooded seal.

Offshore area 2 (OS_2): *Human use* (1): commercial fishery for Atlantic cod, redfish and Greenland halibut. *Species occurrence*: **If** (5): sea ice associated fauna, e.g. polar cod. **Al** (2): spring migration of black guillemot and little auk. **Bf**

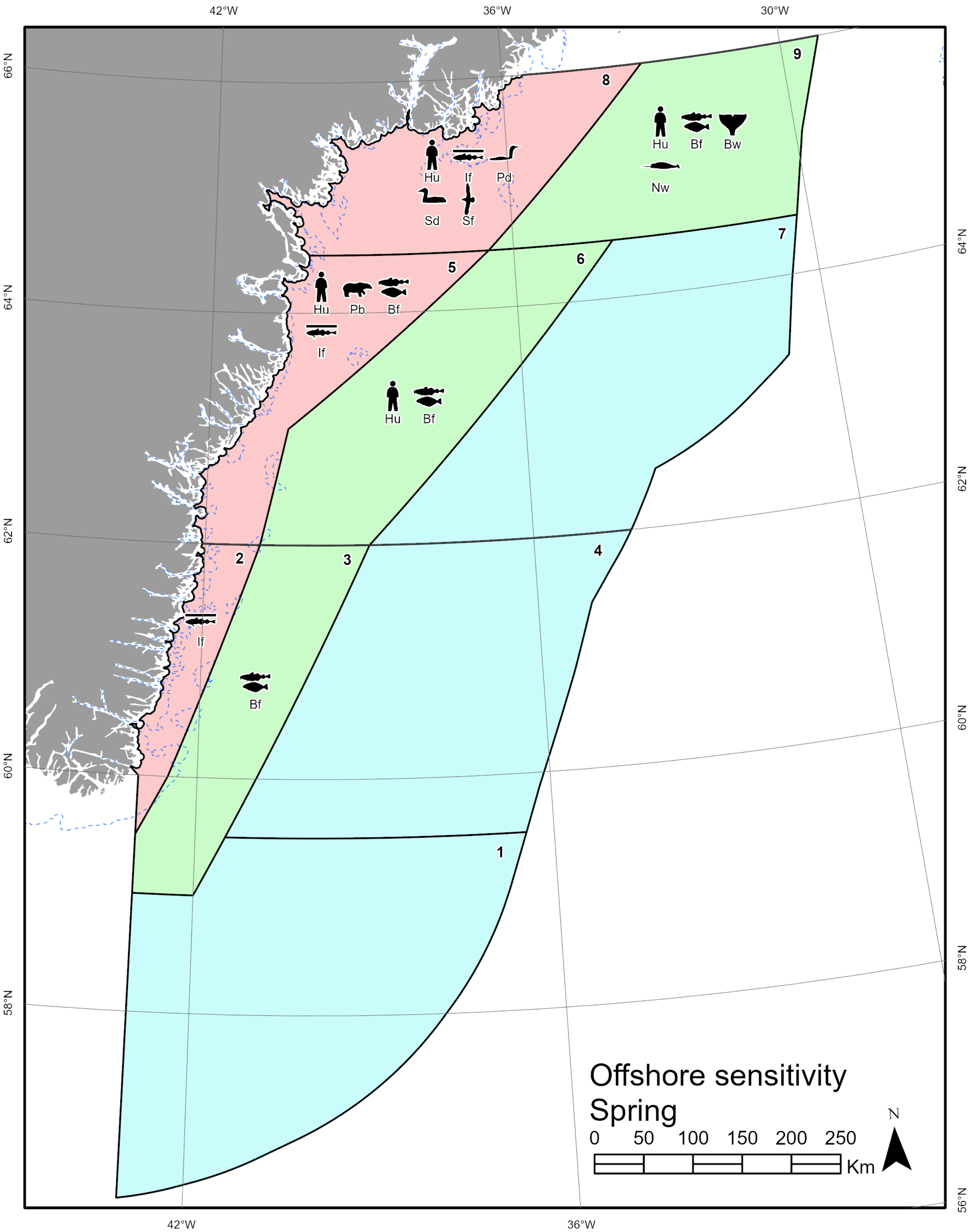


Figure 29. Oil spill sensitivity ranking of offshore areas during spring (April-May) in the southern part of the atlas area.

(2): fishery data suggest moderate abundance of Atlantic cod, and presence of redfish and Greenland halibut. **Se** (2): bearded seal, harbour seal, hooded seal and ringed seal. **Pb** (1): polar bear. **Sd** (1): spring migration of common eider. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull and Iceland gull.

Offshore area 3 (OS_3): *Human use* (2): commercial fishery for redfish, Atlantic cod and Greenland halibut. *Species occurrence*: **Bf** (3): fishery data suggest moderate abundance of Atlantic cod and redfish, and some Greenland halibut. **Al** (2): spring migration of Atlantic puffin, little auk and thick-billed murre. **Bw** (2): blue whale, fin whale, humpback whale and minke whale. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale and white-beaked dolphin. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): spring migration of ivory gull. **Pb** (1): polar bear. **Se** (1): bearded seal, harbour seal, hooded seal and ringed seal. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull and northern fulmar.

Offshore area 4 (OS_4): *Human use* (1): commercial fishery for Atlantic cod and Greenland halibut. *Species occurrence*: **Al** (2): spring migration of Atlantic puffin, little auk and thick-billed murre. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **Se** (1): hooded seal. **Sf** (1): spring migration of black-legged kittiwake and northern fulmar.

Offshore area 5 (OS_5): *Human use* (3): commercial fishery for Atlantic cod, Greenland halibut and redfish. *Species occurrence*: **Pb** (5): polar bear. **Bf** (4): fishery data suggest high abundance of Atlantic cod, moderate abundance of Greenland halibut and some redfish. **If** (4): sea ice associated fauna, e.g. polar cod. **Sd** (2): spring migration of common eider. **Se** (2): bearded seal, harbour seal, hooded seal and ringed seal. **Al** (1): spring migration of Atlantic puffin, black guillemot, little auk and thick-billed murre. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull, Iceland gull and northern fulmar.

Offshore area 6 (OS_6): *Human use* (4): commercial fishery for Greenland halibut, redfish, Atlantic cod, mackerel and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Greenland halibut, redfish and Atlantic cod. **Bw** (2): blue whale, fin whale, humpback whale and minke whale. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale and white-beaked dolphin. **Al** (1): spring migration of Atlantic puffin, little auk and thick-billed murre. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): spring migration of ivory gull. **Pb** (1): polar bear. **Se** (1): bearded seal, harbour seal, hooded seal and ringed seal. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull and northern fulmar.

Offshore area 7 (OS_7): *Human use* (0): no significant human use recorded in this season. *Species occurrence*: **Al** (2): spring migration of Atlantic puffin, little auk and thick-billed murre. **Bf** (2): fishery data suggest presence of redfish, Atlantic cod and Greenland halibut. Greenland halibut spawning in NW part of area. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale, white-beaked dolphin. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **Se** (1): hooded seal. **Sf** (1): spring migration of black-legged kittiwake and northern fulmar.

Offshore area 8 (OS_8): *Human use* (5): Area used by inhabitants from Tasiilaq and surrounding settlements for hunting, fishing and tourism. commercial fishery for Atlantic cod, mackerel, Greenland halibut, redfish, northern shrimp and capelin. *Species occurrence*: **If** (4): sea ice associated fauna, e.g. polar cod. **Pd** (3): great cormorant and red-breasted mergansers arrive at breeding sites. **Sd** (3): spring migration of common eider. **Sf** (3): spring migration of black-legged kittiwake, glaucous gull, great black-backed gull, Iceland gull and lesser black-backed gull. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of Greenland halibut and redfish. **Nw** (2): narwhal. **Se** (2): bearded seal, harbour seal, hooded seal and ringed seal. **Al** (1):

spring migration of Atlantic puffin, black guillemot, little auk and thick-billed murre. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **Pb** (1): polar bear. **Wa** (1): walrus.

Offshore area 9 (OS_9): *Human use* (4): commercial fishery for mackerel, Atlantic cod, redfish, northern shrimp, Greenland halibut, herring and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Atlantic cod, redfish and some Greenland halibut. Greenland halibut spawning in SW part of area. **Bw** (3): blue whale, fin whale, humpback whale and minke whale. **Nw** (3): narwhal. **Al** (2): spring migration of Atlantic puffin, common murre, little auk and thick-billed murre. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale, white-beaked dolphin. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): spring migration of ivory gull. **Pb** (1): polar bear. **Se** (1): bearded seal, hooded seal and ringed seal. **Sf** (1): spring migration of black-legged kittiwake and northern fulmar.

Table 12. Offshore sensitivity during spring in the southern part of the the atlas area.

Area	Sensitivity value	Ranking
OS_1	27	Low
OS_2	75	Extreme
OS_3	42	Moderate
OS_4	26	Low
OS_5	99	Extreme
OS_6	46	Moderate
OS_7	26	Low
OS_8	121	Extreme
OS_9	57	Moderate

Environmental description, northern part (Figure 30)
Offshore area 10 (OS_10): *Human use* (3): Coastal areas used by inhabitants from Tasiilaq and surrounding settlements for hunting. commercial fishery for Atlantic cod, Greenland halibut and northern shrimp. *Species occurrence*: **If** (5): sea ice associated fauna, e.g. polar cod. **Pb** (2): polar bear. **Sf** (2): spring migration of black-legged kittiwake, glaucous gull and Iceland gull. **Al** (1): spring migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Bw** (1): humpback whale and minke whale. **Nw** (1): narwhal. **Sd** (1): spring migration of common eider. **Se** (1): bearded seal, hooded seal and ringed seal. **Wa** (1): walrus.

Offshore area 11 (OS_11): *Human use* (2): commercial fishery for northern shrimp, Greenland halibut, Atlantic cod, capelin and redfish. *Species occurrence*: **Nw** (5): narwhal. **If** (4): sea ice associated fauna, e.g. polar cod. **Al** (2): spring migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (2): fishery data suggest presence of Atlantic cod, Greenland halibut and redfish. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale and white-beaked dolphin. **Pb** (2): polar bear. **Se** (2): bearded seal, hooded seal, harp seal and ringed seal. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **Ig** (1): spring migration of ivory gull. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull and northern fulmar. **Ws** (1): whelping hooded seals in northeastern part of area.

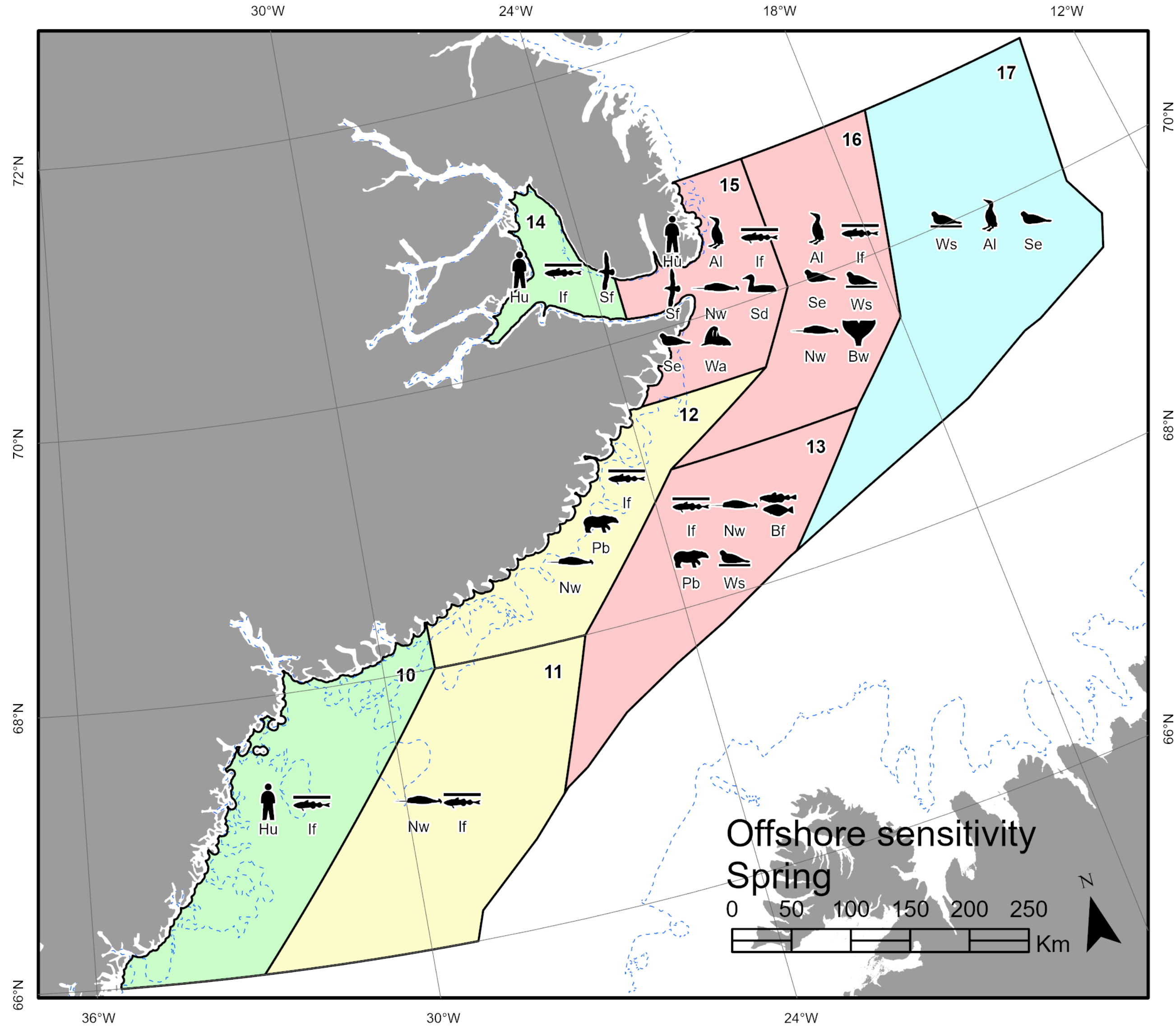


Figure 30. Oil spill sensitivity ranking of offshore areas during spring (April-May) in the northern part of the atlas area.

Offshore area 12 (OS_12): *Human use* (1): commercial fishery for Greenland halibut. *Species occurrence*: **If** (5): sea ice associated fauna, e.g. polar cod. **Pb** (5): polar bear. **Nw** (3): narwhal. **Al** (2): spring migration of black guillemot, little auk and thick-billed murre. **Bf** (1): fishery data suggest presence of Greenland halibut. **Bw** (1): bowhead whale. **Ig** (1): spring migration of ivory gull. **Sd** (1): spring migration of common eider. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull, great black-backed gull, Iceland gull, lesser black-backed gull and northern fulmar. **Wa** (1): walrus. **Ws** (1): Close proximity to whelping area of harp and hooded seals.

Offshore area 13 (OS_13): *Human use* (2): commercial fishery for capelin, herring, Greenland halibut, Atlantic cod, mackerel and redfish. *Species occurrence*: **If** (5): sea ice associated fauna, e.g. polar cod. **Nw** (5): narwhal. **Bf** (3): fishery data suggest moderate abundance of Greenland halibut, and presence of Atlantic cod and redfish. **Pb** (3): polar bear. **Ws** (3): whelping seals, primarily hooded seal but also harp seals in northern part of area. **Al** (2): spring migration of Atlantic puffin, common murre, little auk and thick-billed murre. **Bw** (2): blue whale, fin whale, humpback whale and minke whale. **Ow** (2): Atlantic white-sided dolphin, northern bottlenose whale, sperm whale, white-beaked dolphin. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Ig** (1): spring migration of ivory gull. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull and northern fulmar.

Offshore area 14 (OS_14): *Human use* (4): Area used by inhabitants from Ittoqqortoormiit during Mar-Oct for hunting, fishing and recreational activities, including tourism. *Species occurrence*: **If** (5): sea ice associated fauna, e.g. polar cod. **Sf** (3): spring migration of black-legged kittiwake and glaucous gull. **Bf** (1): Greenland halibut. **Pb** (1): polar bear. **Se** (1): bearded seal, hooded seal and ringed seal. **Wa** (1): walrus.

Offshore area 15 (OS_15): *Human use* (5): Area used all year by inhabitants from Ittoqqortoormiit for hunting, fishing and recreational activities, including tourism. A little commercial fishery for capelin in extreme SW part of area. *Species occurrence*: **Al** (5): spring migration of Atlantic puffin, black guillemot, little auk and thick-billed murre. **If** (5): sea ice associated fauna, e.g. polar cod. **Sf** (4): spring migration of black-legged kittiwake, glaucous gull, great black-backed gull, lesser black-backed gull and northern fulmar. **Nw** (3): narwhal. **Sd** (3): spring migration of common eider and King eider. **Se** (3): bearded seal, harp seal, hooded seal and ringed seal. **Wa** (3): walrus. **Ig** (2): spring migration of ivory gull. **Pd** (2): spring migration of red-throated diver. **Ws** (2): whelping harp and hooded seals in eastern part of area. **Bf** (1): fishery data suggest presence of Greenland halibut. **Bw** (1): bowhead whale. **Pb** (1): polar bear.

Offshore area 16 (OS_16): *Human use* (2): commercial fishery for capelin, Greenland halibut, herring and Atlantic cod. *Species occurrence*: **Al** (5): Atlantic puffin, common murre, little auk, thick-billed murre. **If** (5): sea ice associated fauna, e.g. polar cod. **Se** (5): bearded seal, harp seal, hooded seal and ringed seal. **Ws** (5): whelping harp and hooded seals. **Nw** (4): narwhal. **Bw** (3): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **Pb** (2): polar bear. **Bf** (1): fishery data suggest presence of Greenland halibut and Atlantic cod. **Ig** (1): spring migration of ivory gull. **Ow** (1): northern bottlenose whale, sperm whale, white-beaked dolphin. **Sf** (1): spring migration of black-legged kittiwake, glaucous gull and northern fulmar.

Offshore area 17 (OS_17): *Human use* (0): no significant human use recorded in this season. *Species occurrence*: **Ws** (5): whelping harp and hooded seals. **Al** (3): spring migration of Atlantic puffin, common murre, little auk and thick-billed murre. **Se** (3): harp seal and hooded seal. **Bw** (1): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): spring migration of ivory gull. **Nw** (1): narwhal. **Ow** (1): northern bottlenose whale, sperm whale and white-beaked dolphin. **Pb** (1): polar bear. **Sf** (1): spring migration of black-legged kittiwake and northern fulmar.

Table 13. Offshore sensitivity in spring in the northern part of the atlas area.

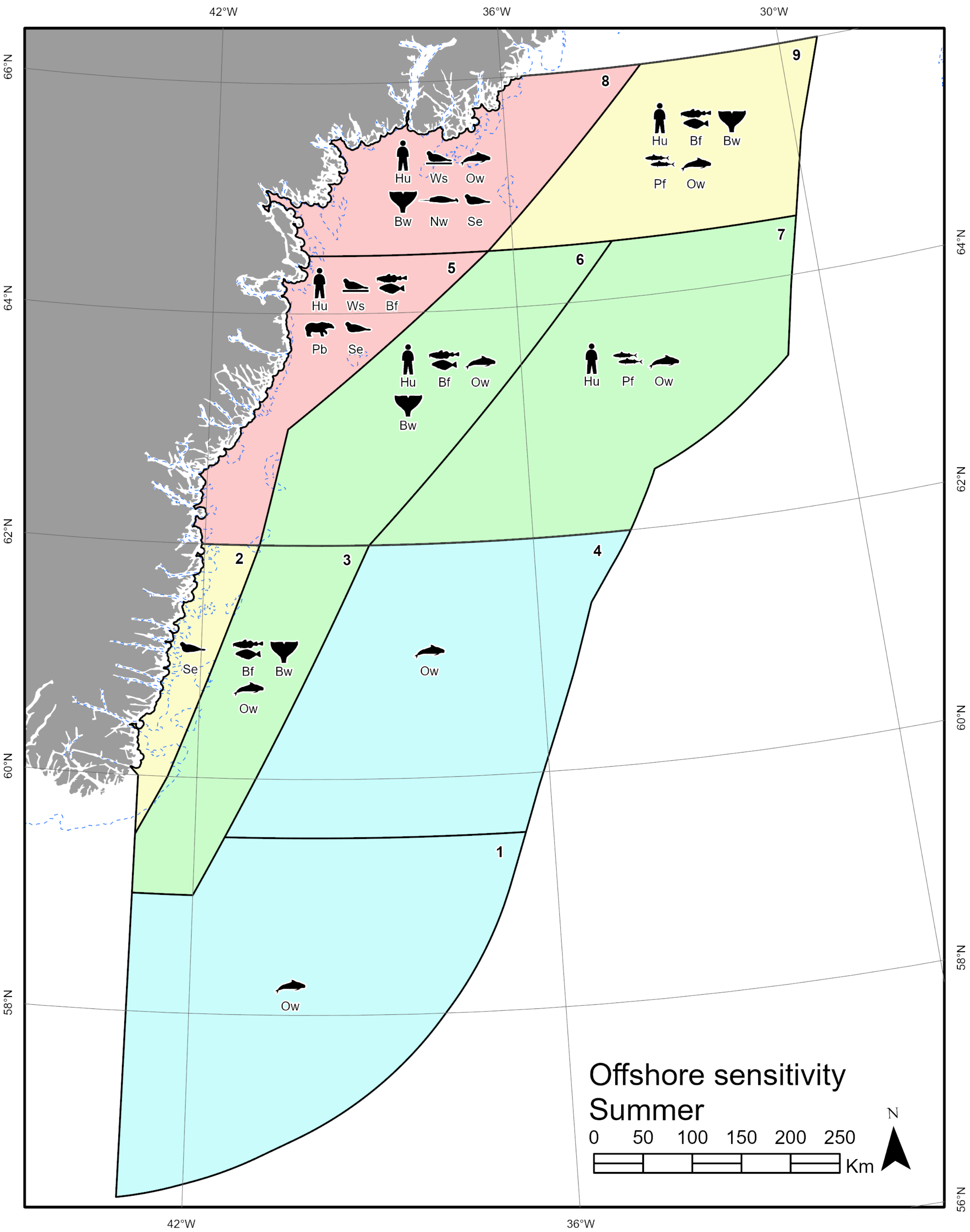
Area	Sensitivity value	Ranking
OS_10	86	Moderate
OS_11	107	High
OS_12	115	High
OS_13	133	Extreme
OS_14	78	Moderate
OS_15	200	Extreme
OS_16	157	Extreme
OS_17	55	Low

7.5 Offshore sensitivity, summer (June-August)

Figure 31. Oil spill sensitivity ranking of offshore areas during summer (June-August) in the southern part of the atlas area.

Environmental description, southern part (Figure 31)

Offshore area 1 (OS_1): *Human use* (0): no significant human use recorded in this area. *Species occurrence*: **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale, white-beaked dolphin. **Al** (2): summering and local breeders of Atlantic puffin, common murre, little auk, razorbill and thick-billed murre. **Bf** (1): redfish, Greenland halibut and Atlantic cod. **Bw** (1): blue whale, fin whale,



humpback whale, minke whale, north Atlantic right whale (very few) and sei whale. **Se** (1): harp seal and hooded seal. **Sf** (1): summering and local breeders of great shearwater and northern fulmar.

Offshore area 2 (OS_2): *Human use* (1): commercial fishery for Atlantic cod, redfish and Greenland halibut. *Species occurrence*: **Se** (4): bearded seal, harbour seal, harp seal, hooded sealand ringed seal. **Al** (2): local breeders of black guillemot and razorbill. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of redfish and Greenland halibut. **Sf** (2): summering and local breeders of Arctic tern, black-legged kittiwake, glaucous gull, great shearwater, Iceland gull and northern fulmar. **Bw** (1): minke whale and humpback whale. **If** (1): sea ice associated fauna, e.g. polar cod. **Ow** (1): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Pb** (1): polar bear. **Sd** (1): moulting and local breeders of common eider.

Offshore area 3 (OS_3): *Human use* (2): commercial fishery for redfish, Atlantic cod and Greenland halibut. *Species occurrence*: **Bf** (3): fishery data suggest moderate abundance of Atlantic cod and redfish, and some Greenland halibut. **Bw** (3): blue whale, fin whale, humpback whale, minke whale and sei whale. **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Al** (1): summering and local breeders of razorbill and thick-billed murre. **Se** (1): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Sf** (1): summering and local breeders of black-legged kittiwake, great shearwater and northern fulmar.

Offshore area 4 (OS_4): *Human use* (1): commercial fishery for Atlantic cod and Greenland halibut. *Species occurrence*: **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bw** (2): blue whale, fin whale, humpback whale, minke whale, north Atlantic right whale (very few) and sei whale. **Al** (1): summering common murres, little auks and thick-billed murres. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Se** (1): harp seal and hooded seal. **Sf** (1): summering great shearwaters and northern fulmars.

Offshore area 5 (OS_5): *Human use* (3): commercial fishery for Atlantic cod, Greenland halibut and redfish. *Species occurrence*: **Ws** (5): moulting hooded seals in Jun-Jul. **Bf** (4): fishery data suggest high abundance of Atlantic cod, moderate abundance of Greenland halibut and some redfish. **Pb** (4): polar bear. **Se** (4): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Al** (2): local breeders of black guillemot. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (2): summering and local breeders of Arctic tern, black-legged kittiwake, glaucous gull, great shearwater, Iceland gull, lesser black-backed gull and northern fulmar. **Bw** (1): blue whale, fin whale, humpback whale, minke whale and sei whale. **If** (1): sea ice associated fauna, e.g. polar cod. **Sd** (1): moulting and local breeders of common eider.

Offshore area 6 (OS_6): *Human use* (4): commercial fishery for Greenland halibut, redfish, Atlantic cod, mackerel and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Greenland halibut, redfish and Atlantic cod. **Ow** (4): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bw** (3): blue whale, fin whale, humpback whale, minke whale and sei whale. **Pf** (2): fishery data suggest moderate abundance of mackerel (some years) and presence of capelin. **Se** (2): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Al** (1): local breeders of black guillemot. **Sf** (1): summering and local breeders of black-legged kittiwake, great shearwater and northern fulmar. **Ws** (1): moulting hooded seals in Jun-Jul.

Offshore area 7 (OS_7): *Human use* (3): commercial fishery for mackerel (Jun-Sep), redfish, Atlantic cod, herring and Greenland halibut. *Species occurrence*: **Pf** (4): fishery data suggest high abundance of mackerel (some years), and presence of herring (some years). **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bf** (2): fishery data suggest presence of redfish, Atlantic cod and Greenland halibut. Greenland halibut spawning in NW part of area. **Bw** (2): blue whale, fin whale, humpback whale, minke whale, north Atlantic right whale (very few) and sei whale. **Al** (1): summering common murres and thick-billed murre. **Se** (1): harp seal and hooded seal. **Sf** (1): summering great shearwaters and northern fulmars.

Offshore area 8 (OS_8): *Human use* (5): Area used by inhabitants from Tasiilaq and surrounding settlements for hunting, fishing and tourism. commercial fishery for Atlantic cod, mackerel, Greenland halibut, redfish, northern shrimp and capelin. *Species occurrence*: **Ws** (5): moulting hooded seals in Jun-Jul. **Ow** (4): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bw** (3): blue whale, fin whale, humpback whale, minke whale and sei whale. **Nw** (3): narwhal. **Se** (3): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Al** (2): local breeders of black guillemot. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of Greenland halibut and redfish. **If** (2): sea ice associated fauna, e.g. polar cod. **Ig** (2): local breeders of ivory gull. **Pd** (2): local breeders of great cormorant. **Sf** (2): summering and local breeders of Arctic tern, black-legged kittiwake, glaucous gull, great black-backed gull, great shearwater, Iceland gull and lesser black-backed gull. **Pb** (1): polar bear. **Pf** (1): fishery data suggest presence of mackerel (some years). **Sd** (1): moulting and local breeders of common eider. **Wa** (1): walrus.

Offshore area 9 (OS_9): *Human use* (4): commercial fishery for mackerel, Atlantic cod, redfish, northern shrimp, Greenland halibut, herring and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Atlantic cod, redfish and some Greenland halibut. Greenland halibut spawning in SW part of area. **Bw** (5): blue whale, fin whale, humpback whale, minke whale and sei whale. **Pf** (5): fishery data suggest high abundance of mackerel (some years), and presence of herring (some years) and capelin. **Ow** (4): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Al** (1): summering common murres, little auks and thick-billed murres. **Nw** (1): narwhal. **Sf** (1): summering and local breeders of black-legged kittiwakes and great shearwater. **Ws** (1): moulting hooded seals in Jun-Jul in the western part of the area.

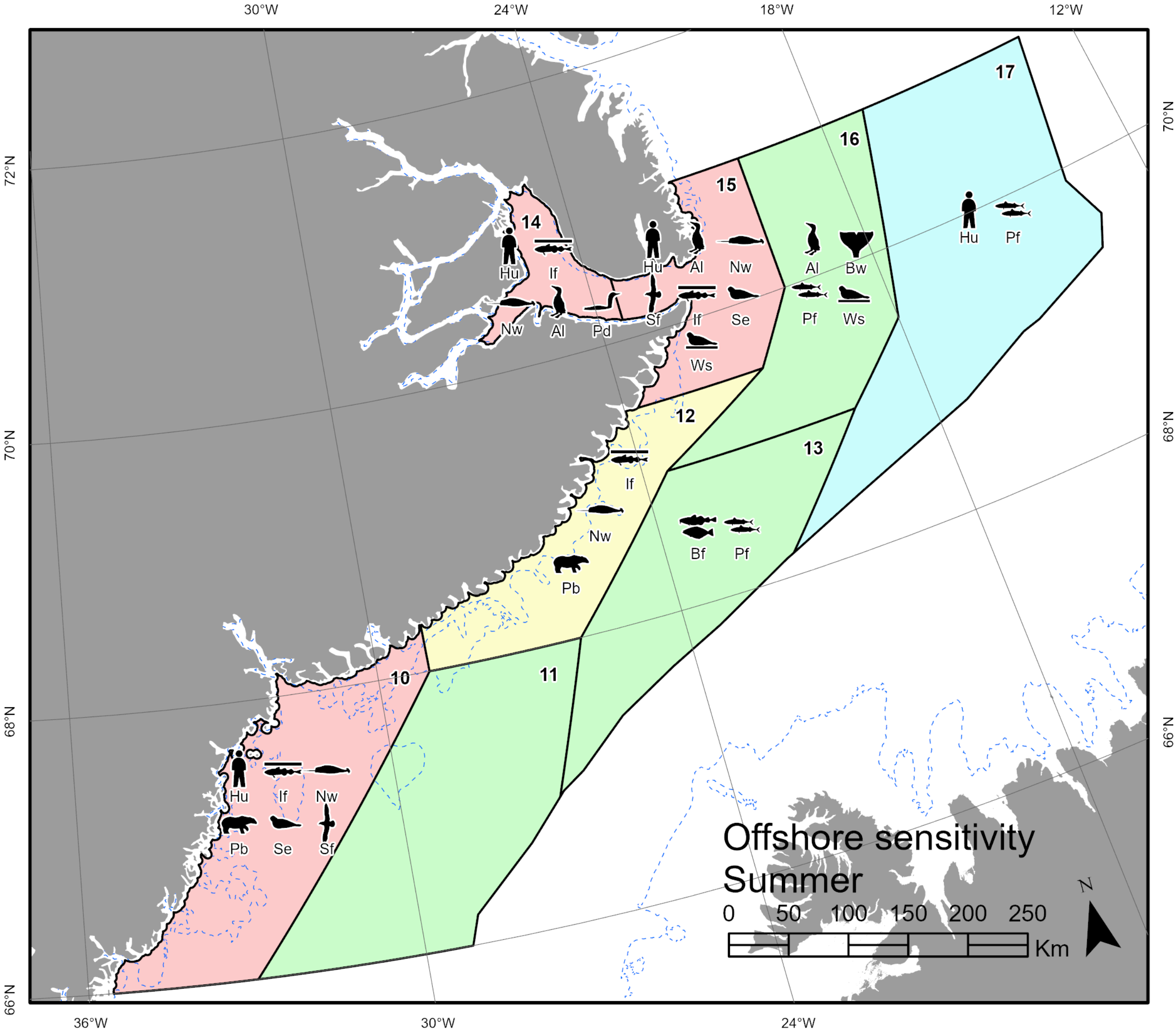
Table 14. Offshore sensitivity in summer in the southern part of the atlas area.

Area	Sensitivity value	Ranking
OS_1	26	Low
OS_2	58	High
OS_3	32	Moderate
OS_4	25	Low
OS_5	102	Extreme
OS_6	50	Moderate
OS_7	38	Moderate
OS_8	130	Extreme
OS_9	60	High

Environmental description, northern part (Figure 32)

Offshore area 10 (OS_10): *Human use* (3): Coastal areas used by inhabitants from Tasiilaq and surrounding settlements for hunting (narwhal hunting). commercial fishery for Atlantic cod, Greenland halibut and northern shrimp. *Species occurrence*: **If** (4): sea ice associated fauna, e.g. polar cod. **Nw** (3): narwhal. **Pb** (3): polar bear. **Se** (3): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (3): summering and local breeders of Arctic tern, black-legged kittiwake, glaucous gull, Iceland gull, lesser black-backed gull and northern fulmar. **Al** (2): local breeders of black guillemot. **Ig** (2): local breeders of ivory gull. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale,

Figure 32. Oil spill sensitivity ranking of offshore areas during summer (June-August) in the northern part of the atlas area.



long-finned pilot whale and white-beaked dolphin. **Ws** (2): moulting hooded seals in Jun-Jul in the southern part of the area. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Sd** (1): moulting and local breeders of common eider. **Wa** (1): walrus.

Offshore area 11 (OS_11): *Human use* (2): commercial fishery for northern shrimp, Greenland halibut, Atlantic cod, capelin and redfish. *Species occurrence*: **Bf** (2): fishery data suggest presence of Atlantic cod, Greenland halibut and redfish. **Bw** (2): blue whale, fin whale, humpback whale, minke whale and sei whale. **If** (2): sea ice associated fauna, e.g. polar cod. **Nw** (2): narwhal. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Al** (1): summering common murres and thick-billed murres. **Pf** (1): fishery data suggest presence of capelin. **Sf** (1): summering and local breeders of black-legged kittiwake and northern fulmar. **Ws** (1): moulting hooded seals in Jun-Jul in the southwestern part of the area.

Offshore area 12 (OS_12): *Human use* (1): commercial fishery for Greenland halibut. *Species occurrence*: **If** (4): sea ice associated fauna, e.g. polar cod. **Nw** (4): narwhal. **Pb** (4): polar bear. **Al** (2): local breeders of black guillemot. **Ig** (2): local breeders of ivory gull. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (2): summering and local breeders of black-legged kittiwake, glaucous gull, Iceland gull, lesser black-backed gull and northern fulmar. **Wa** (2): walrus. **Bf** (1): fishery data suggest presence of Greenland halibut. **Bw** (1): bowhead whale. **Ow** (1): killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sd** (1): moulting King eiders.

Offshore area 13 (OS_13): *Human use* (2): commercial fishery for capelin, herring, Greenland halibut, Atlantic cod, mackerel and redfish. *Species occurrence*: **Bf** (3): fishery data suggest moderate abundance of Greenland halibut, and presence of Atlantic cod and redfish. **Pf** (3): fishery data suggest relatively high abundance of capelin, moderate abundance of herring (some years) and presence of mackerel (some years). **Bw** (2): blue whale, bowhead whale, fin whale, humpback whale, minke whale and sei whale. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Al** (1): summering Atlantic puffins, common murres and thick-billed murres. **If** (1): sea ice associated fauna, e.g. polar cod. **Nw** (1): narwhal. **Pb** (1): polar bear. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (1): summering and local breeders of black-legged kittiwake and northern fulmar. **Ws** (1): moulting hooded seals in Jun-Jul in the extreme northeastern part of the area.

Offshore area 14 (OS_14): *Human use* (4): Area used by inhabitants from Ittoqqortoormiit during Mar-Oct for hunting, fishing and recreational activities, including tourism. *Species occurrence*: **If** (5): sea ice associated fauna, e.g. polar cod. **Nw** (5): narwhal. **Al** (4): local breeders of black guillemot, little auk and thick-billed murre. **Pd** (3): local breeders of red-throated diver. **Sd** (2): moulting and local breeders of common eider. **Sf** (2): local breeders of Arctic tern, black-legged kittiwake, glaucous gull, great black-backed gull, northern fulmar and Sabine's gull. **Bf** (1): Greenland halibut. **Ig** (1): local breeders of ivory gull. **Pb** (1): polar bear. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Wa** (1): walrus.

Offshore area 15 (OS_15): *Human use* (5): Area used all year by inhabitants from Ittoqqortoormiit for hunting, fishing and recreational activities, including tourism. A little commercial fishery for for capelin in extreme SW part of area. *Species occurrence*: **Al** (5): local breeders of Atlantic puffin, black guillemot, little auk and thick-billed murre. **Nw** (4): narwhal. **Sf** (4): local breeders of Arctic tern, black-legged kittiwake, glaucous gull, great black-backed gull, Iceland gull, lesser black-backed gull and northern fulmar. **If** (3): sea ice associated fauna, e.g. polar cod. **Se** (3): bearded seal, harp seal, hooded seal and ringed seal. **Ws** (3): moulting hooded seals in Jun-Jul in the eastern part of the area. **Pb** (2): polar bear. **Pd** (2): local breeders of red-throated diver. **Sd** (2): moulting and local breeders of common eider and King eider. **Wa** (2): walrus. **Bf** (1): fishery data suggest presence of Greenland halibut. **Bw** (1): bowhead whale. **Ig** (1): local breeders of ivory gull. **Ow** (1): white-beaked dolphin. **Pf** (1): fishery data suggest presence of capelin.

Offshore area 16 (OS_16): *Human use* (2): commercial fishery for capelin, Greenland halibut, herring and Atlantic cod. *Species occurrence*: **Al** (4): summering and local breeders of Atlantic puffin, little auk and thick-billed murre. **Bw** (3): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **Pf** (3): fishery data suggest relatively high abundance of capelin and presence of herring (some years). **Ws** (3): moulting hooded seals in Jun-Jul. **Nw** (2): narwhal. **Ow** (2): killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (2): summering and local breeders of black-legged kittiwake and northern fulmar. **Bf** (1): fishery data suggest presence of Greenland halibut and Atlantic cod. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): summering and local breeders of ivory gull. **Pb** (1): polar bear. **Wa** (1): walrus.

Offshore area 17 (OS_17): *Human use* (4): commercial fishery for herring (Jun-**Se**p), mackerel (Jun-**Se**p) and capelin. The former two, occasionally very large, but also very variable between years. *Species occurrence*: **Pf** (5): fishery data suggest high abundance of herring (some years), and moderate abundance of mackerel (some years) and capelin. **Al** (2): summering and local breeders of Atlantic puffin, common murre, little auk and thick-billed murre. **Ow** (2): killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **Nw** (1): narwhal. **Se** (1): harp seal and hooded seal. **Sf** (1): summering and local breeders of northern fulmar. **Ws** (1): moulting hooded seals in Jun-Jul.

Table 15. Offshore sensitivity in summer in the northern part of the atlas area.

Area	Sensitivity value	Ranking
OS_10	136	Extreme
OS_11	57	Moderate
OS_12	124	High
OS_13	59	Moderate
OS_14	146	Extreme
OS_15	160	Extreme
OS_16	97	Moderate
OS_17	44	Low

7.6 Offshore sensitivity, autumn (September-December)

Environmental description, southern part (Figure 33)
Offshore area 1 (OS_1): *Human use* (0): no significant human use recorded in this area. *Species occurrence*: **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale,

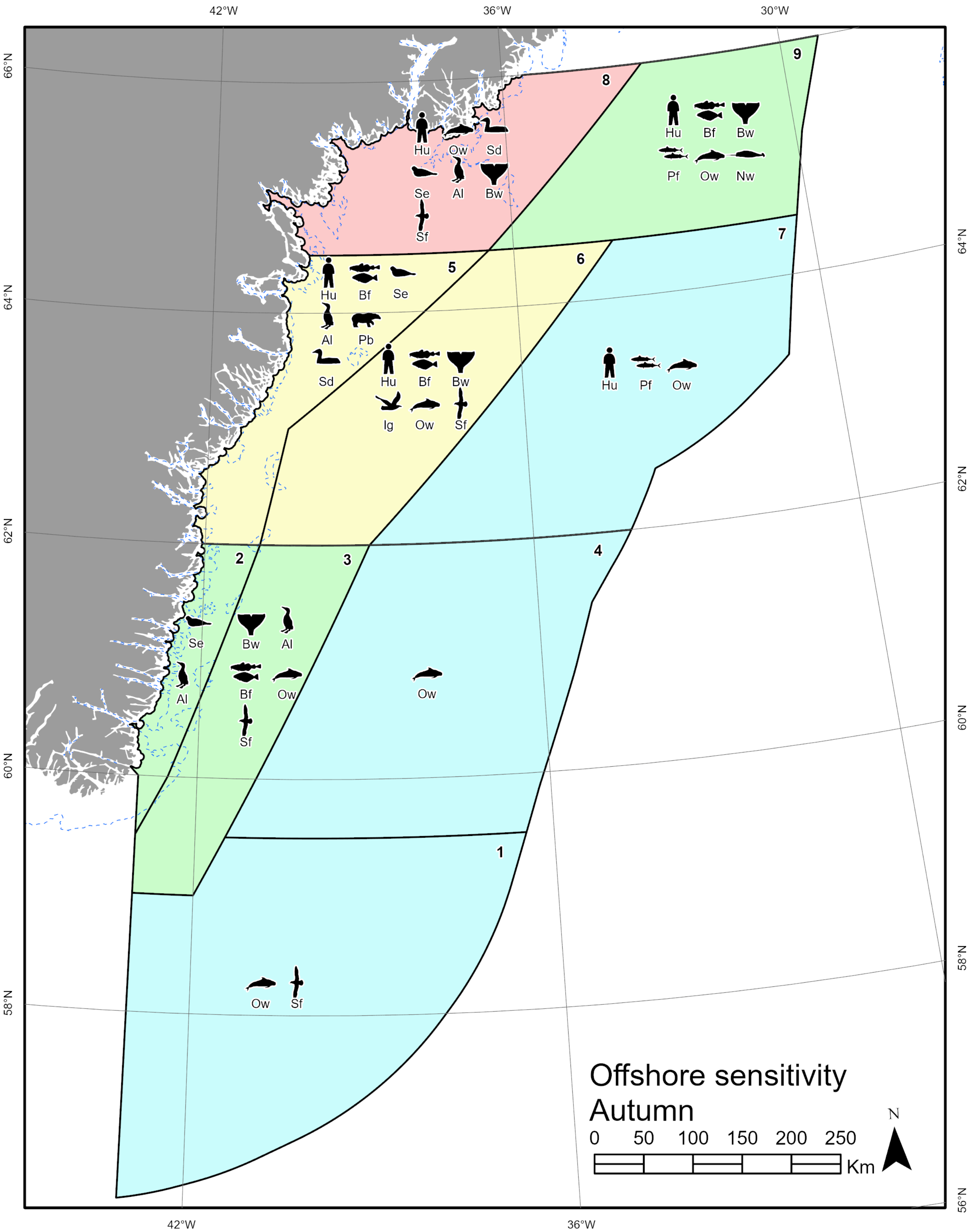


Figure 33. Oil spill sensitivity ranking of offshore areas during autumn (September-December) in the southern part of the atlas area.

sperm whale and white-beaked dolphin. **Sf** (3): autumn migration of black-legged kittiwake, great shearwater and northern fulmar. **Al** (1): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (1): redfish, Greenland halibut and Atlantic cod. **Bw** (1): blue whale, fin whale, humpback whale, minke whale and north Atlantic right whale (very few). **Se** (1): harp seal, hooded seal.

Offshore area 2 (OS_2): *Human use* (1): commercial fishery for Atlantic cod, redfish and Greenland halibut. *Species occurrence*: **Se** (4): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of redfish and Greenland halibut. **Sd** (2): autumn migration of common eider. **Sf** (2): autumn migration of black-legged kittiwake, glaucous gull, great shearwater, Iceland gull and northern fulmar. **Ig** (1): autumn migration of ivory gull. **Ow** (1): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Pb** (1): polar bear.

Offshore area 3 (OS_3): *Human use* (2): commercial fishery for redfish, Atlantic cod and Greenland halibut. *Species occurrence*: **Bw** (4): blue whale, fin whale, humpback whale and minke whale. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (3): fishery data suggest moderate abundance of Atlantic cod and redfish, and some Greenland halibut. **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (3): autumn migration of black-legged kittiwake, glaucous gull, great shearwater and northern fulmar. **Ig** (2): autumn migration of ivory gull. **Se** (1): bearded seal, harbour seal, harp seal, hooded seal and ringed seal.

Offshore area 4 (OS_4): *Human use* (1): commercial fishery for Atlantic cod and Greenland halibut. *Species occurrence*: **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bw** (2): blue whale, fin whale, humpback whale, minke whale and north Atlantic right whale (very few). **Sf** (2): autumn migration of black-legged kittiwake, great shearwater and northern fulmar. **Al** (1): autumn migration of Atlantic puffin, common murre, little auk and thick-billed murre. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Se** (1): harp seal and hooded seal.

Offshore area 5 (OS_5): *Human use* (3): commercial fishery for Atlantic cod, Greenland halibut and redfish. *Species occurrence*: **Bf** (4): fishery data suggest high abundance of Atlantic cod, moderate abundance of Greenland halibut and some redfish. **Se** (4): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Pb** (3): polar bear. **Sd** (3): autumn migration of common eider. **Ig** (2): autumn migration of ivory gull. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (2): autumn migration of black-legged kittiwake, glaucous gull, great shearwater, Iceland gull and northern fulmar.

Offshore area 6 (OS_6): *Human use* (4): commercial fishery for Greenland halibut, redfish, Atlantic cod, mackerel and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Greenland halibut, redfish and Atlantic cod. **Bw** (4): blue whale, fin whale, humpback whale and minke whale. **Ig** (4): autumn migration of ivory gull. **Ow** (4): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (3): autumn migration of black-legged kittiwake, glaucous gull, great shearwater and northern fulmar. **Al** (2): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Pf** (2): fishery data suggest moderate abundance of mackerel (some years) and presence of capelin. **Se** (1): bearded seal, harbour seal, harp seal, hooded seal and ringed seal.

Offshore area 7 (OS_7): *Human use* (3): commercial fishery for mackerel, redfish, Atlantic cod, herring and Greenland halibut. The mackerel fishery, which dominates, takes place in Jun-**Se**p. *Species occurrence*: **Pf** (4): fishery data suggest high abundance of mackerel (some years), and presence of herring (some years). **Ow** (3): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bf** (2): fishery data suggest presence of redfish, Atlantic cod and Greenland halibut. Greenland halibut spawning in NW part of area. **Bw** (2): blue whale, fin whale, humpback whale, minke whale and north Atlantic right whale (very few). **Al** (1): autumn migration of Atlantic puffin, common murre, little auk and thick-billed murre. **Se** (1): harp seal and hooded seal. **Sf** (1): autumn migration of black-legged kittiwake, great shearwater and northern fulmar.

Offshore area 8 (OS_8): *Human use* (5): Area used by inhabitants from Tasiilaq and surrounding settlements for hunting, fishing and tourism, especially in summer. commercial fishery for Atlantic cod, mackerel, Greenland halibut, redfish, northern shrimp and capelin. *Species occurrence*: **Ow** (4): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sd** (4): autumn migration of common eider. **Se** (4): bearded seal, harbour seal, harp seal, hooded seal and ringed seal. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bw** (3): blue whale, fin whale, humpback whale and minke whale. **Sf** (3): autumn migration of black-legged kittiwake, glaucous gull, great black-backed gull, great shearwater, Iceland gull, lesser black-backed gull and northern fulmar. **Bf** (2): fishery data suggest moderate abundance of Atlantic cod, and presence of Greenland halibut and redfish. **Pd** (2): Staging areas for great cormorant and red-breasted merganser. **Ig** (1): autumn migration of ivory gull. **Nw** (1): narwhal. **Pb** (1): polar bear. **Pf** (1): fishery data suggest presence of mackerel (some years). **Wa** (1): walrus.

Offshore area 9 (OS_9): *Human use* (4): commercial fishery for mackerel, Atlantic cod, redfish, northern shrimp, Greenland halibut, herring and capelin. *Species occurrence*: **Bf** (5): fishery data suggest high abundance of Atlantic cod, redfish and some Greenland halibut. Greenland halibut spawning in SW part of area. **Bw** (5): blue whale, fin whale, humpback whale and minke whale. **Pf** (5): fishery data suggest high abundance of mackerel (some years), and presence of herring (some years) and capelin. **Ow** (4): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Nw** (3): narwhal. **Al** (2): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Ig** (1): autumn migration of ivory gull. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (1): autumn migration of black-legged kittiwake, glaucous gull, great shearwater and northern fulmar. **Wa** (1): walrus.

Table 16. Offshore sensitivity in autumn in the southern part of the atlas area.

Area	Sensitivity value	Ranking
OS_1	28	Low
OS_2	50	Moderate
OS_3	54	Moderate
OS_4	28	Low
OS_5	72	High
OS_6	69	High
OS_7	38	Low
OS_8	116	Extreme
OS_9	68	Moderate

Environmental description, northern part (Figure 34)
Offshore area 10 (OS_10): *Human use* (3): Coastal areas used by inhabitants from Tasiilaq and surrounding settlements for hunting, especially in summer (narwhal hunting). commercial fishery for Atlantic cod, Greenland halibut and northern shrimp. *Species occurrence*: **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Sf** (3): autumn migration of black-legged kittiwake, glaucous gull, Iceland gull, lesser black-backed gull and northern fulmar. **If** (2): sea ice associated fauna, e.g. polar cod. **Nw** (2): narwhal. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale and white-beaked dolphin. **Pb** (2): polar bear. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Bf** (1): fishery data suggest presence of Atlantic cod and Greenland halibut. **Ig** (1): autumn migration of ivory gull. **Sd** (1): autumn migration of common eider. **Wa** (1): walrus.

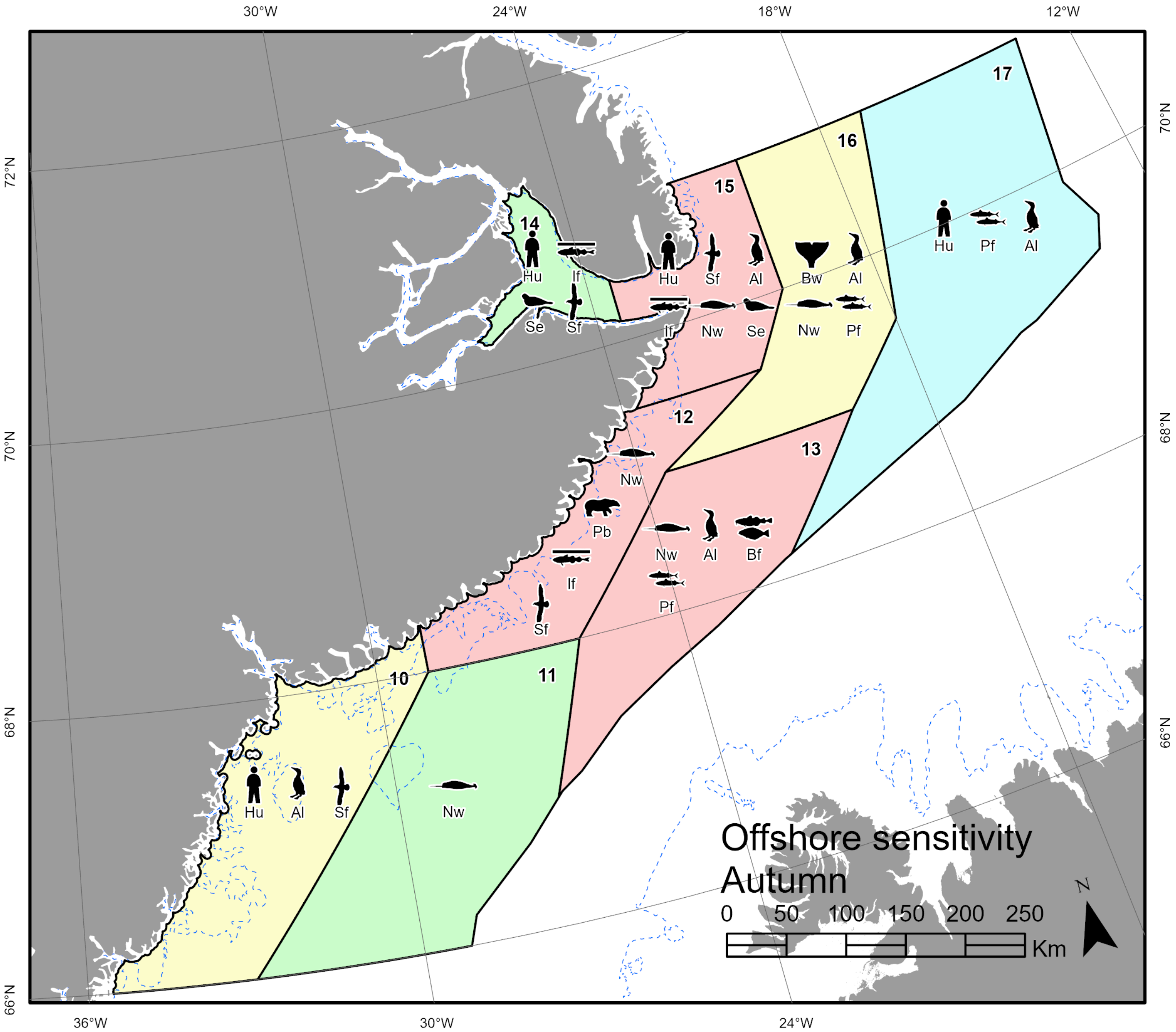


Figure 34. Oil spill sensitivity ranking of offshore areas during autumn (September-December) in the northern part of the atlas area.

Offshore area 11 (OS_11): *Human use* (2): commercial fishery for northern shrimp, Greenland halibut, Atlantic cod, capelin and redfish. *Species occurrence*: **Nw** (4): narwhal. **Al** (2): Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (2): fishery data suggest presence of Atlantic cod, Greenland halibut and redfish. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Bw** (1): blue whale, fin whale, humpback whale and minke whale. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): autumn migration of ivory gull. **Pf** (1): fishery data suggest presence of capelin. **Sf** (1): autumn migration of black-legged kittiwake, glaucous gull, Iceland gull and northern fulmar. **Wa** (1): walrus.

Offshore area 12 (OS_12): *Human use* (1): commercial fishery for Greenland halibut. *Species occurrence*: **Nw** (5): narwhal. **Pb** (5): polar bear. **If** (3): sea ice associated fauna, e.g. polar cod. **Sf** (3): autumn migration of black-legged kittiwake, glaucous gull, great black-backed gull, Iceland gull, lesser black-backed gull and northern fulmar. **Al** (2): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Se** (2): bearded seal, harp seal, hooded seal and ringed seal. **Bf** (1): fishery data suggest presence of Greenland halibut. **Ig** (1): autumn migration of ivory gull. **Ow** (1): killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sd** (1): autumn migration of common eider. **Wa** (1): walrus.

Offshore area 13 (OS_13): *Human use* (2): commercial fishery for capelin, herring, Greenland halibut, Atlantic cod, mackerel and redfish. *Species occurrence*: **Nw** (5): narwhal. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Bf** (3): fishery data suggest moderate abundance of Greenland halibut, and presence of Atlantic cod and redfish. **Pf** (3): fishery data suggest relatively high abundance of capelin, moderate abundance of herring (some years) and presence of mackerel (some years). **Bw** (2): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **If** (2): sea ice associated fauna, e.g. polar cod. **Ow** (2): Atlantic white-sided dolphin, harbour porpoise, killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (2): autumn migration of black-legged kittiwake, glaucous gull and northern fulmar. **Ig** (1): autumn migration of ivory gull. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Wa** (1): walrus.

Offshore area 14 (OS_14): *Human use* (4): Area used by inhabitants from Ittoqqortoormiit during Mar-Oct for hunting, fishing and recreational activities, including tourism. *Species occurrence*: **If** (3): sea ice associated fauna, e.g. polar cod. **Se** (3): bearded seal, harp seal, hooded seal and ringed seal. **Sf** (3): autumn migration of black-legged kittiwake, glaucous gull and northern fulmar. **Nw** (2): narwhal. **Al** (1): autumn migration of black guillemot, little auk and thick-billed murre. **Bf** (1): Greenland halibut. **Ig** (1): autumn migration of ivory gull. **Pb** (1): polar bear. **Wa** (1): walrus.

Offshore area 15 (OS_15): *Human use* (5): Area used all year by inhabitants from Ittoqqortoormiit for hunting, fishing and recreational activities, including tourism. A little commercial fishery for capelin in extreme SW part of area. *Species occurrence*: **Sf** (4): autumn migration of black-legged kittiwake, glaucous gull, great black-backed gull, Iceland gull, lesser black-backed gull and northern fulmar. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **If** (3): sea ice associated fauna, e.g. polar cod. **Nw** (3): narwhal. **Se** (3): bearded seal, harp seal, hooded seal and ringed seal. **Bw** (2): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **Ig** (2): autumn migration of ivory gull. **Pb** (2): polar bear. **Pd** (2): autumn migration of red-throated diver. **Sd** (2): autumn migration of common eider. **Wa** (2): walrus. **Bf** (1): fishery data suggest presence of Greenland halibut. **Ow** (1): white-beaked dolphin. **Pf** (1): fishery data suggest presence of capelin.

Offshore area 16 (OS_16): *Human use* (2): commercial fishery for capelin, Greenland halibut, herring and Atlantic cod. *Species occurrence*: **Bw** (5): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **Al** (3): autumn migration of Atlantic puffin, black guillemot, common murre, little auk and thick-billed murre. **Nw** (3): narwhal. **Pf** (3): fishery data suggest relatively high abundance of capelin and presence of herring (some years). **Ow** (2): killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Sf** (2): autumn migration of black-legged kittiwake, glaucous gull and northern fulmar. **Bf** (1): fishery data suggest presence of Greenland halibut and Atlantic cod. **If** (1): sea ice associated fauna, e.g. polar cod. **Ig** (1): autumn migration of ivory gull. **Pb** (1): polar bear. **Se** (1): bearded seal, harp seal, hooded seal and ringed seal. **Wa** (1): walrus.

Offshore area 17 (OS_17): *Human use* (4): commercial fishery for herring (Jun-**Se**p), mackerel (Jun-**Se**p) and capelin. The former two are occasionally very large, but also very variable between years. *Species occurrence*: **Pf** (5): fishery data suggest high abundance of herring (some years), and moderate abundance of mackerel (some years) and capelin. **Al** (3): autumn migration of Atlantic puffin, common murre, little auk and thick-billed murre. **Ow** (2): killer whale, northern bottlenose whale, sperm whale and white-beaked dolphin. **Bw** (1): blue whale, bowhead whale, fin whale, humpback whale and minke whale. **Ig** (1): autumn migration of ivory gull. **Nw** (1): narwhal. **Se** (1): harp seal and hooded seal. **Sf** (1): autumn migration of black-legged kittiwake and northern fulmar.

Table 17. Offshore sensitivity in autumn in the northern part of the atlas area.

Area	Sensitivity value	Ranking
OS_10	104	High
OS_11	65	Moderate
OS_12	120	Extreme
OS_13	108	Extreme
OS_14	93	Moderate
OS_15	169	Extreme
OS_16	102	High
OS_17	48	Low

8 Operational shoreline information

This chapter contains two series of 80 detailed maps covering the coastal zone of the atlasarea: shoreline sensitivity maps and physical environment and logistics maps. The shoreline sensitivity maps are on left-hand side, and physical environment and logistics maps are on the right-hand side. Descriptive texts (environmental description, shoreline sensitivity summary, access, countermeasures, *safe havens*) and species and human use occurrence graphs appear on the pages in between. There is a common legend to the maps, which is found after the keymap (Figure 35a, b). In the PDF-version of the atlas, the keymap can be used for navigating to and from the individual maps by clicking on the keymap. Please refer to the official topographical maps and nautical charts for any toponyms missing on the maps, and to the East Greenland Pilot (Link), the Greenland Harbour Pilot (Link) and the nautical charts for detailed information on anchorages and sailing routes. DCE is not responsible for the accuracy of the logistical information shown on the maps, neither in terms of their exact location, nor in terms of their suitability (see also Appendix E and F).

Map legend

Basemap

- Land below 200m
- Land above 200m
- Nunatak
- Braided river / Sand
- Lake
- Inland ice
- River
- Contour, Land (100m)
- Contour, Ice (100m)

Physical enivronment and logistics maps

- Town
- Settlement
- Cabins
- Tourist cabins
- Research station
- Abandoned settlement
- Anchor locations
- Inshore containment with length (200m)

Landing site

- Civil airport
- Military airport
- Gravel strip
- Skiway
- Heliport
- Helipad
- Tele site helipad
- Spot landing

Shoretype

- Rocky coast
- Archipelago
- Glacier coast
- Moraine
- Alluvial fan
- Talus
- Barrier beach
- Salt marsh and/or tidal flat
- Delta

Shoreline sensitivity maps

Shoreline species*

- Ab - Alcids breeding
- An - Alcids nonbreeding
- Gb - Gulls breeding
- Iv - Ivory gull breeding
- Lb - Little auk breeding
- Sb - Seaducks breeding
- Sm - Seaducks moulting
- Sn - Seaducks nonbreeding
- Tb - Tubenoses breeding
- Ac - Arctic char
- Pb- Polar bear
- Wa - Walrus

Site specific shoreline species

- Ab - Alcids breeding
- Gb - Gulls breeding
- Iv - Ivory gull breeding
- Lb - Little auk breeding
- Sb - Seaducks breeding
- Tb - Tubenoses breeding
- Wa - Walrus haulout
- Iv - Ivory gull breeding

- Human use*
- Archaeological site
- Selected area
- Ramsar area
- Bird Protection Area

Shoreline areas sensitivity ranking

- Extreme
- High
- Moderate
- Low

*Icons are are only visible for occurrences with relative abundance/importance >=2

Map scale: 1:250,000
Projection: UTM zone 25N
Topographic base: G250 Vector, Copyright SDFE

Maps produced by DCE -
Danish Centre for Environment and Energy
Aarhus University, 2021

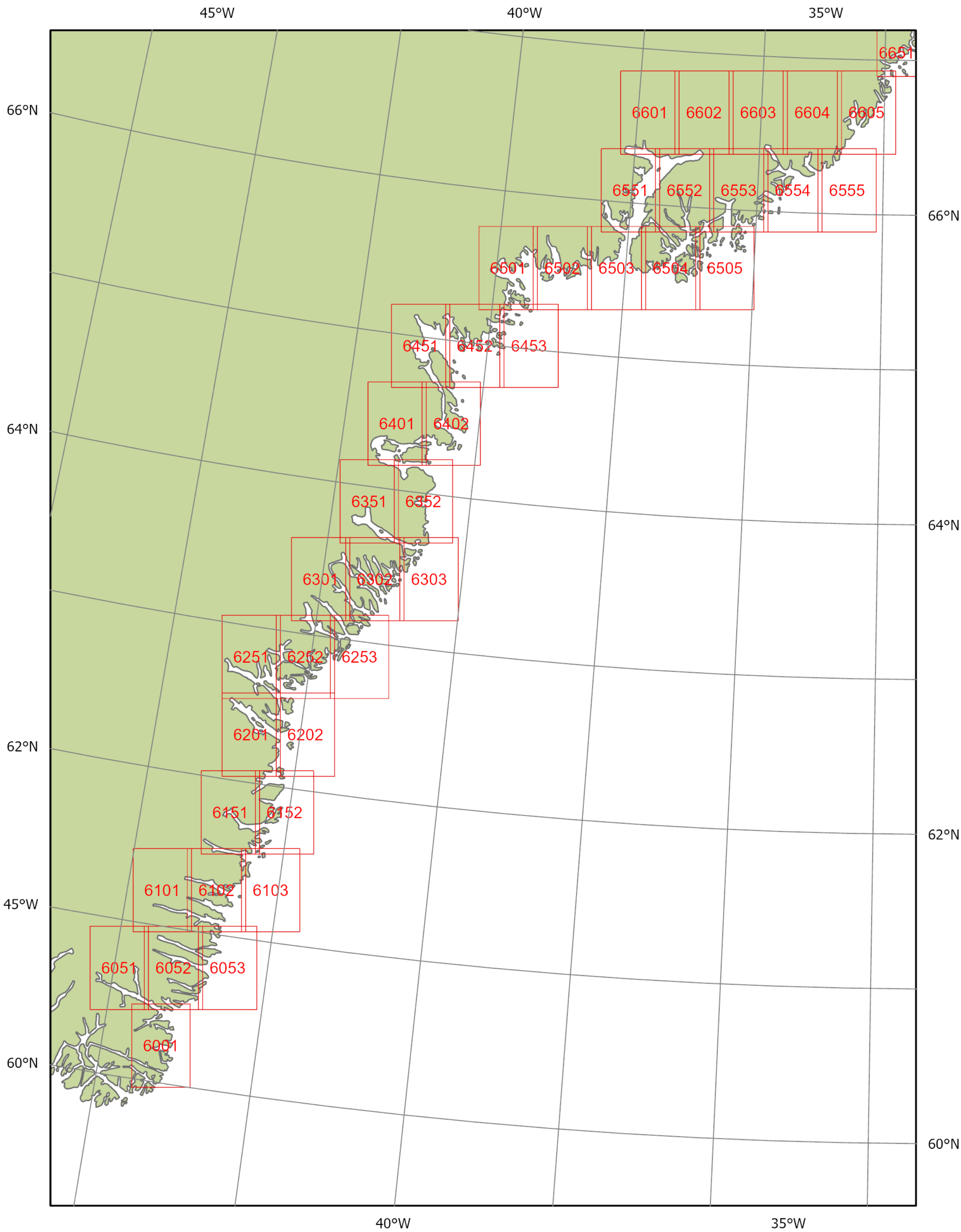


Figure 35a. Key map with overview of the separate map sheets and their ID numbers in the southern part of the atlas area. Click on the left-most digit in the map ID number to jump to the map.

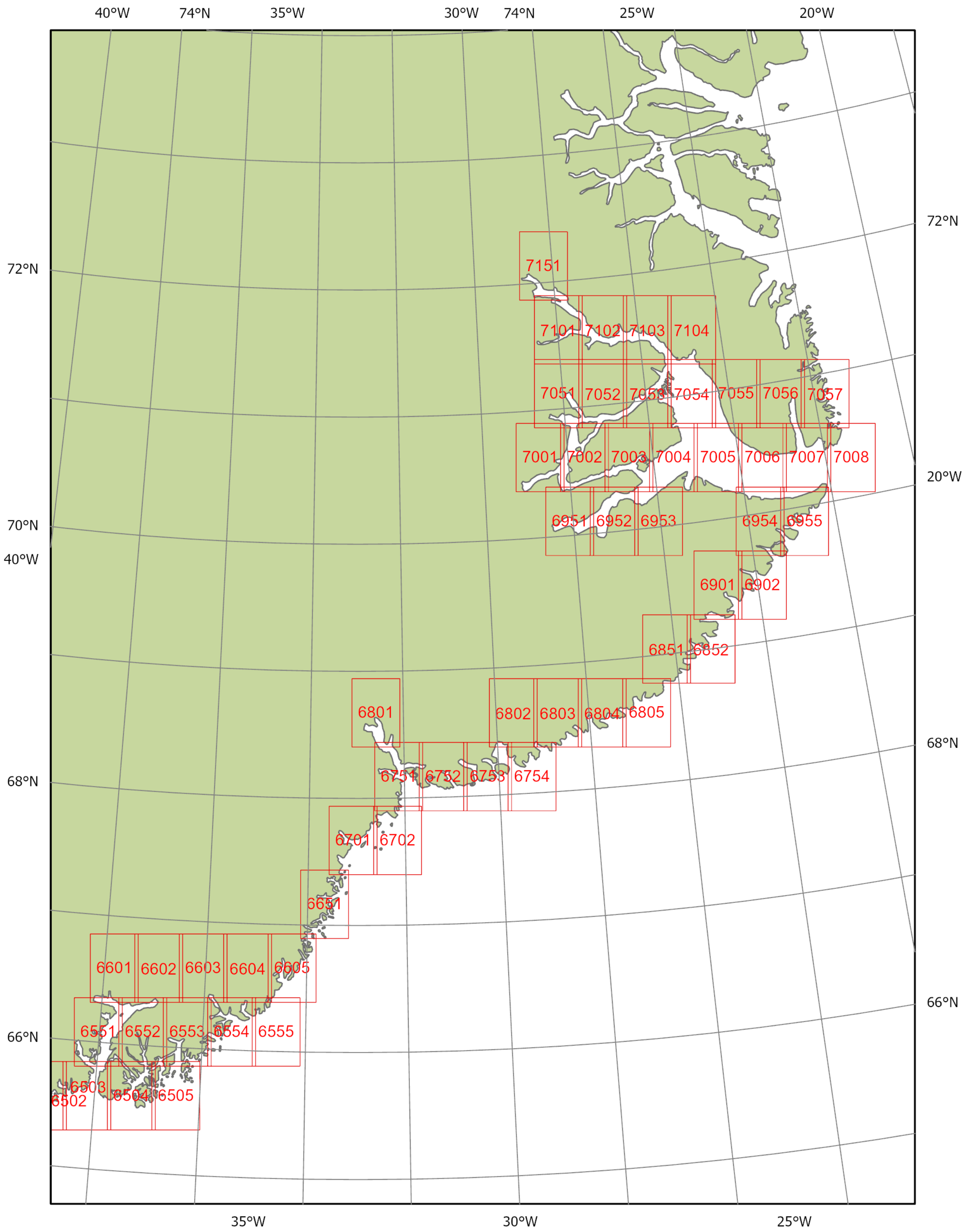
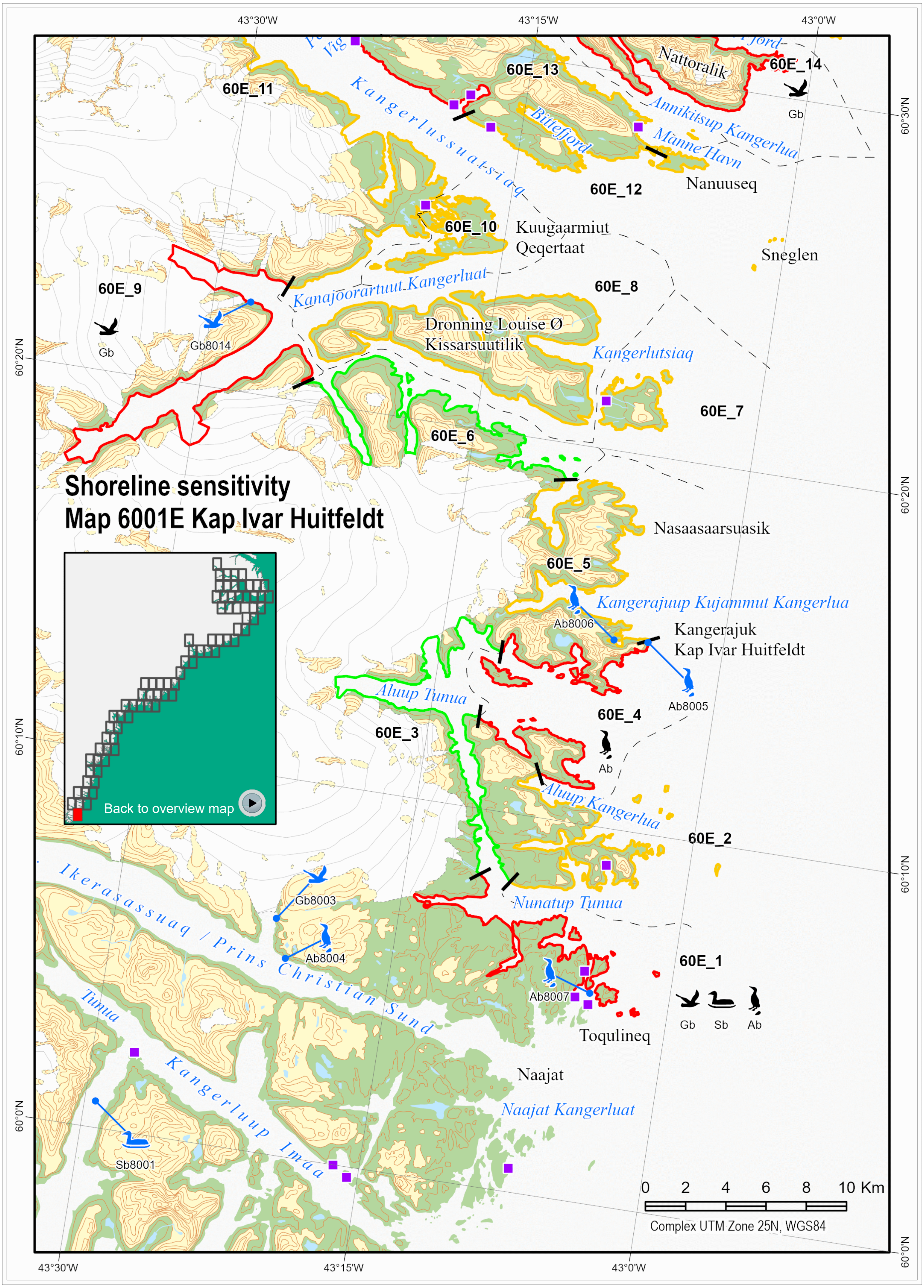


Figure 35b. Key map with overview of the separate map sheets and their ID numbers in the northern part of the atlas area. Click on the left-most digit in the map ID number to jump to the map.


Shoreline sensitivity
Map 6001E Kap Ivar Huitfeldt
43°30'W
43°15'W
43°0'W
60°30'N
60°20'N
60°10'N
60°0'N
60E_1
60E_2
60E_3
60E_4
60E_5
60E_6
60E_7
60E_8
60E_9
60E_10
60E_11
60E_12
60E_13
60E_14
Nattoralik
Amikitsup Kangerlua
Manne Havn
Bittefjord
Kangerlussuatsiaq
Nanuuseq
Kuugaarmiut
Qeqertaat
Sneglen
Kanajoorartuut Kangerluat
Dronning Louise Ø
Kissarsuutilik
Kangerlutsiaq
Nasaasaarsuasik
Kangerajuup Kujammut Kangerlua
Kangerajuk
Kap Ivar Huitfeldt
Aluup Tunua
Aluup Kangerlua
Nunatup Tunua
Ikerasassuaq / Prins Christian Sund
Tunua
Kangerluup Imaa
Toqulineq
Naajat
Naajat Kangerluat
Gb
Sb
Ab
Gb8014
Gb8003
Ab8004
Ab8005
Ab8006
Ab8007
Sb8001
Back to overview map
0
2
4
6
8
10 Km
Complex UTM Zone 25N, WGS84

8.1 Map 6001E – Kap Ivar Huitfeldt

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Ab60E_4	1 colony of black guillemots
Ab60E_1	2 colonies of black guillemots
Gb60E_14, Gb60E_9	1 colony of Iceland gulls
Gb60E_1	1 colony of glaucous gulls and 1 colony of Iceland gulls
Sb60E_1	1 colony of common eiders

Site specific occurrence: blue icons

Ab8004 – Ab8007	Breeding black guillemots
Gb8003	Breeding Iceland gulls and glaucous gulls
Gb8013, Gb8014	Breeding Iceland gulls
Sb8001	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
60E_1	36	Extreme
60E_2	12	High
60E_3	9	Moderate
60E_4	16	Extreme
60E_5	13	High
60E_6	9	Moderate
60E_7	10	High
60E_8	11	High
60E_9	20	Extreme
60E_10	10	High
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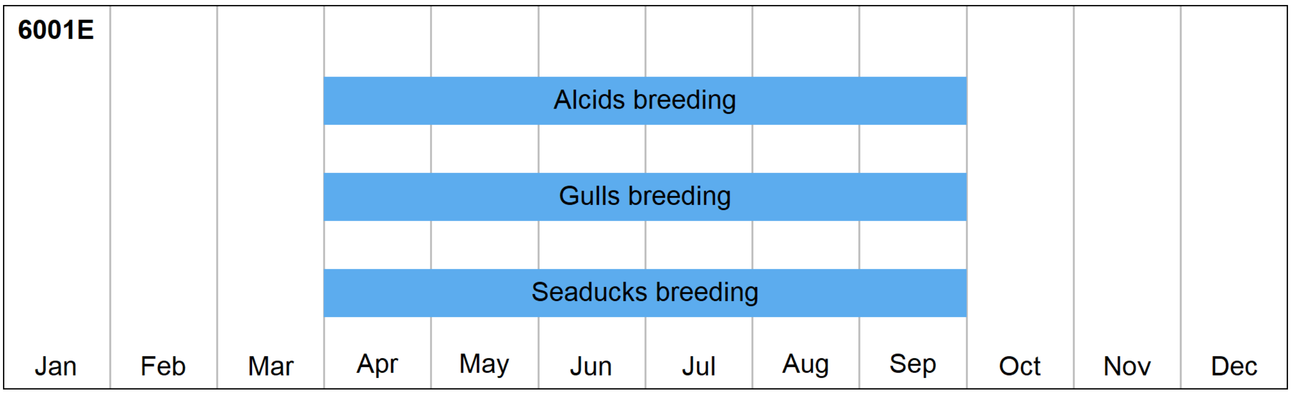
60E_12	13	High
60E_13	10	High
60E_14	16	Extreme
60E_24	16	Extreme



Access

The nearshore waters in this map area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. See nautical chart 2100 and 2130.

The ice limit varies from season to season and from year to year. However, the fjords usually remain free of shorefast ice, while driftice may occur in late winter and spring. Additional dangers to navigation are present here due to icebergs. Shorelines within this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

Dronning Louise Ø (60°21′N, 43°15′W): an expedition reported that several harbours, suitable for ocean-going vessels, were located NW of the peninsula. These harbours were observed to be ice-free from the 10 to 15 July 1932, a time when there was much ice in Lindenow Fjord and off the coast.

There are two known anchor sites in Prins Christian Sund (Appendix E), one at the abandoned weather station (see Greenland Harbour Pilot: https://www.gronlandskehavnelods.dk/Details/1?&lang=ENG).

There are several heliports/pads and one airport located to the west of this map area, and there is a helipad at the abandoned weather station at Prins Christian Sund.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

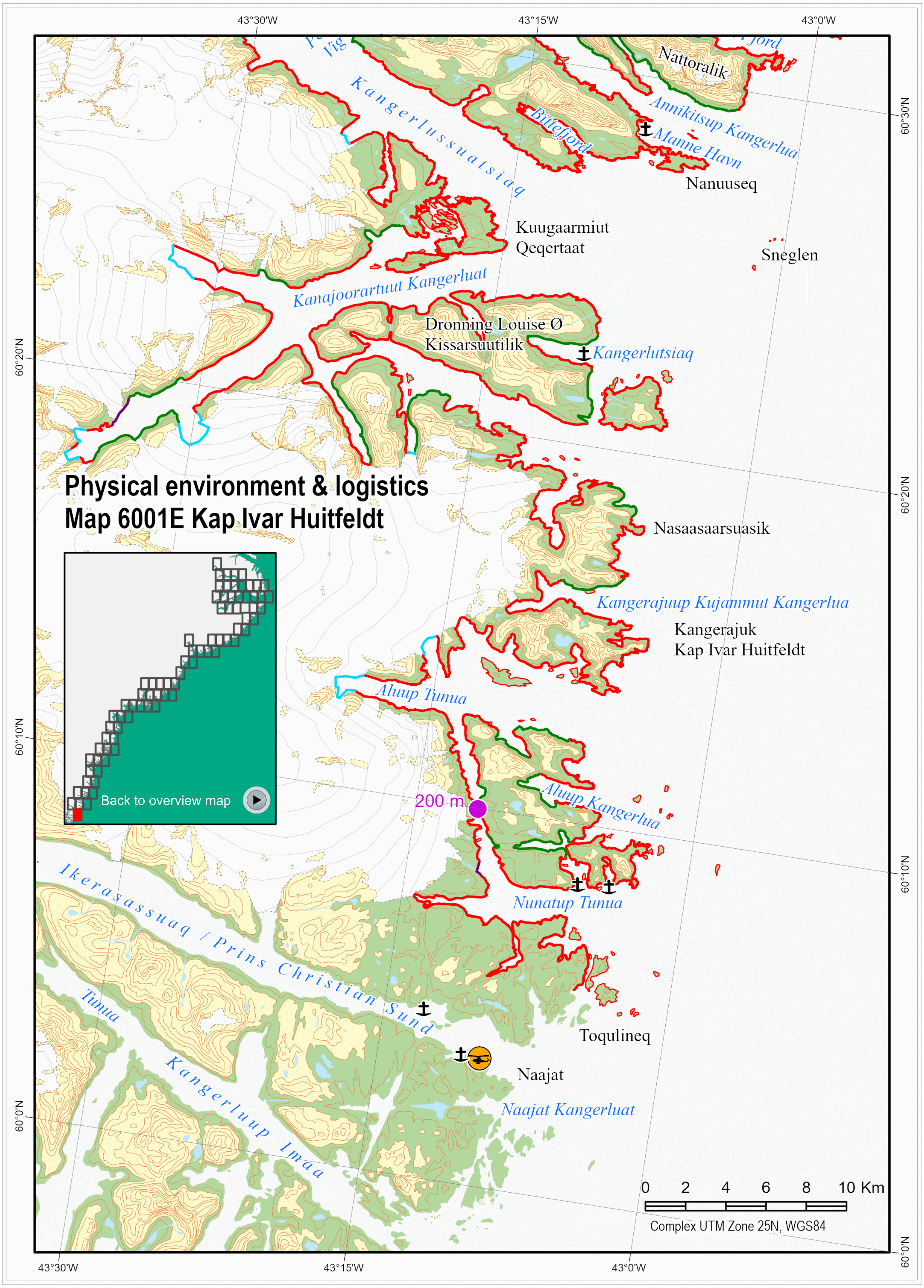
There are no opportunities for nearshore booming among the island shorelines described on this map. On the west side of the island at approx. (60°21′N, 43°10′W), oil could be trapped in the channel between the island and the mainland and avoid extensive oiling of extreme sensitivity. The least width is unknown but appears to be less than 200 m. Oil approaching Annikitsup Kangerlua (60°30′ N) should be diverted to the relatively lower sensitive shoreline on it.

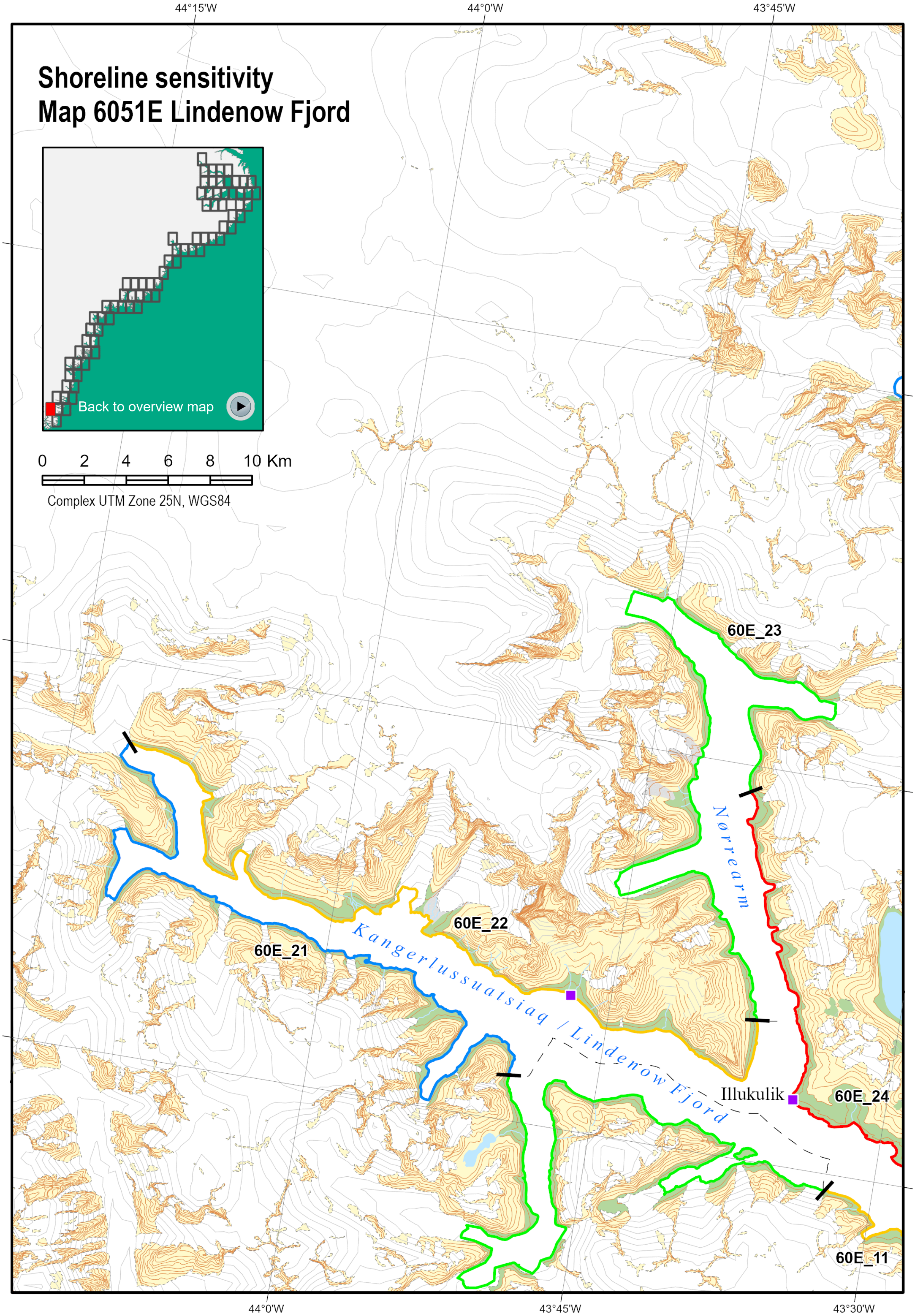
Shorelines shown on this map are predominantly rocky coast, with some talus and glacier, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the islands. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6001E Kap Ivar Huitfeldt
43°30'W
43°15'W
43°0'W
60°30'N
60°20'N
60°10'N
60°0'N
Nattoralik
Annikitsup Kangerlua
Bittefjord
Manne Havn
Nanuuseq
Kangerlussuatsiaq
Kuugaarmiut
Qeqertaat
Sneglen
Kanajoorartuut Kangerluat
Dronning Louise Ø
Kissarsuutilik
Kangerlutsiaq
Nasaasaarsuasik
Kangerajuup Kujammut Kangerlua
Kangerajuk
Kap Ivar Huitfeldt
Aluup Tunua
200 m
Aluup Kangerlua
Nunatup Tunua
Ikerasassuaq / Prins Christian Sund
Tunua
Kangerluup Imaa
Toqulineq
Naajat
Naajat Kangerluat
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84


Shoreline sensitivity
Map 6051E Lindenow Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
44°15'W
44°0'W
43°45'W
43°30'W
60°50'N
60°40'N
60°30'N
60E_21
60E_22
60E_23
60E_24
60E_11
Kangerlussuatsiaq / Lindenow Fjord
Nørrearm
Illukulik

8.2 Map 6051E – Lindenow Fjord

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions.

Species occurrence

Very little species occurrence is registrered on this map, however some capelin may occur.

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
60E_11	13	High
60E_20	9	Moderate
60E_21	8	Low
60E_22	11	High
60E_23	10	Moderate
60E_24	16	Extreme
60E_26	7	Low

Physical environment and logistics, 6051E – Lindenow Fjord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

The ice limit varies from season to season and from year to year; but generally, the fjord remains free of shorefast ice, while drift ice may occur in the offshore waters to the E and in the fjord. Icebergs are also a hazard.

Shorelines within this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

No anchorages are reported for this map area.

There are numerous heliports/stops and one airport located at the towns and settlements W of this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

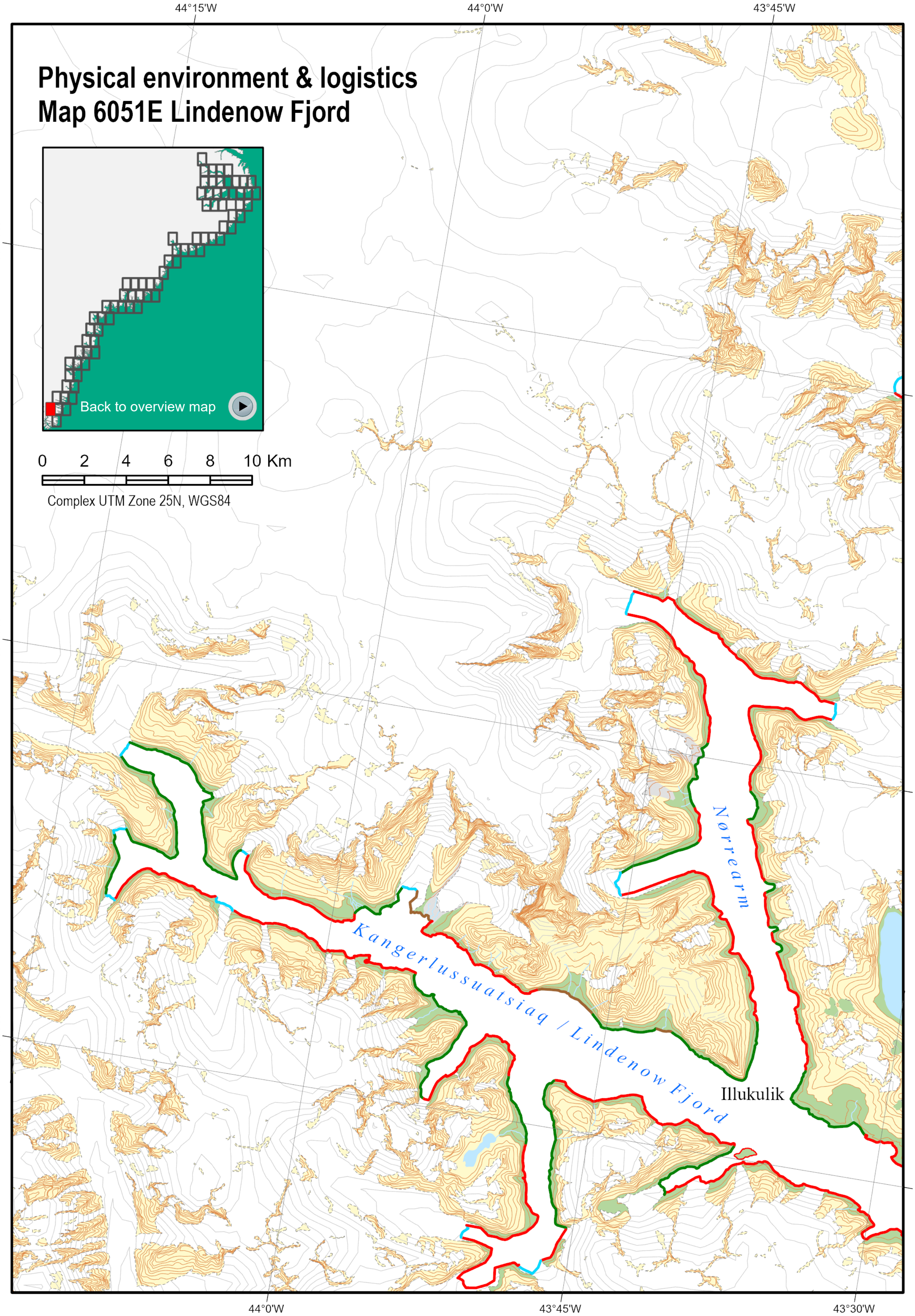
There are no opportunities for exclusion booming in the area shown on this map due to the width of the inlets and the deep nearshore waters. Oil approaching Lindenow Fjord should be diverted to coastline at its entrance to avoid massive oiling of low-energy inshore areas.

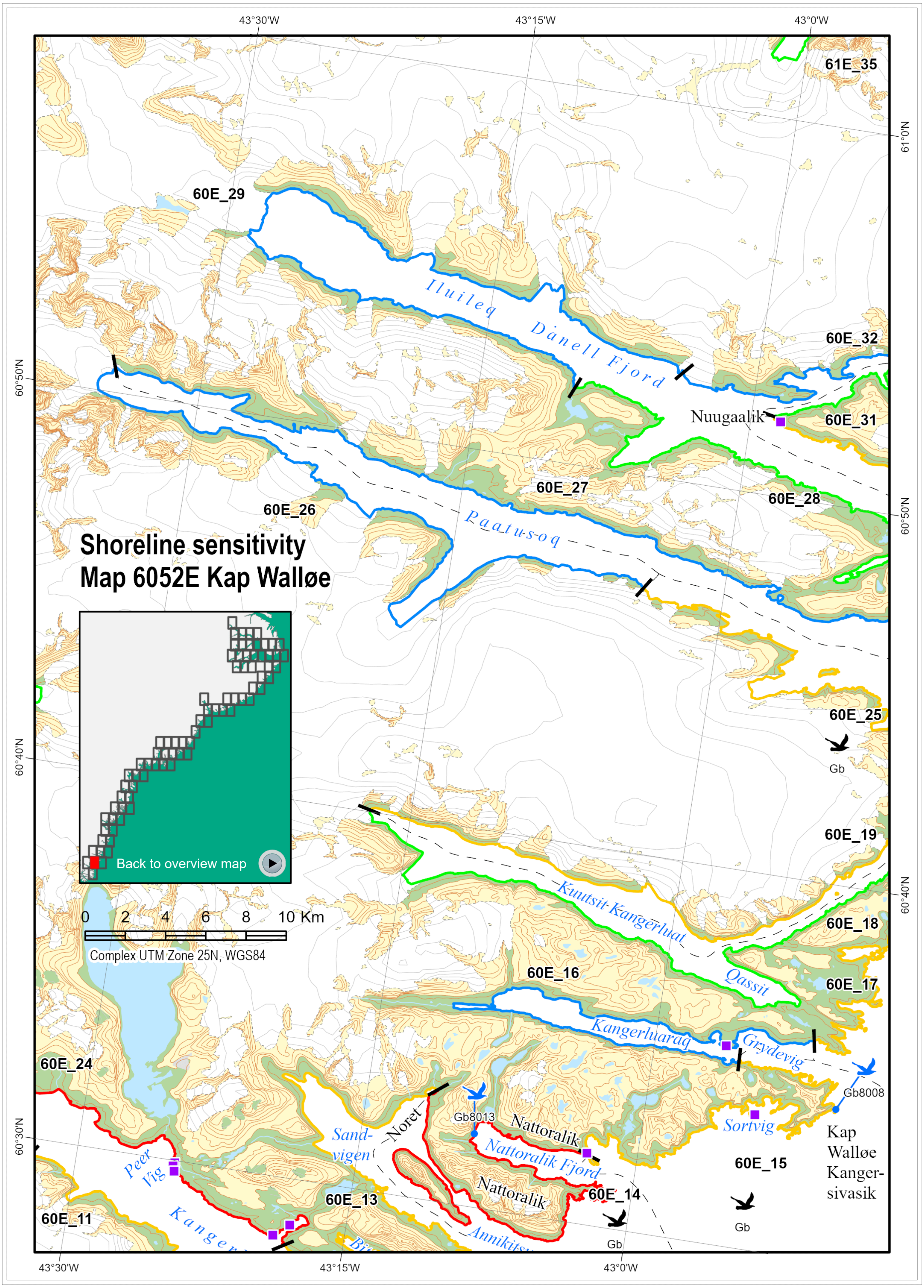
Diversion booming could be attempted to protect selected areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly exposed rock, talus, and glacier, which may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations in the protected waters within Lindenow Fjord. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

Physical environment & logistics
Map 6051E Lindenow Fjord




Shoreline sensitivity
Map 6052E Kap Walløe
43°30'W
43°15'W
43°0'W
61°0'N
60°50'N
60°40'N
60°30'N
61E_35
60E_29
60E_32
60E_31
60E_27
60E_28
60E_26
60E_25
60E_19
60E_18
60E_17
60E_16
60E_24
60E_15
60E_14
60E_13
60E_11
Iluileq
Dånell Fjord
Nuugaalik
Paatus-oq
Kuutsit-Kangerluat
Qassit
Kangerluaraq
Grydevig
Sortvig
Kap
Walløe
Kanger-
sivasik
Nattoralik
Nattoralik Fjord
Sand-
vigen
Noret
Peer
Vig
Gb
Gb8013
Gb8008
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.3 Map 6052E – Kap Walløe

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Gb60E_25	1 colony of Iceland gulls
Gb60E_15	1 colony of glaucous gulls
Gb60E_30	1 colony of black-legged kittiwakes
Gb60E_14	1 colony of Iceland gulls

Site specific occurrence: blue icons

Gb8008, Gb8013	Breeding Iceland gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
60E_11	13	High
60E_12	13	High
60E_13	10	High
60E_14	16	Extreme
60E_15	14	High
60E_16	7	Low
60E_17	11	High
60E_18	9	Moderate
60E_19	10	High
60E_23	10	Moderate
60E_24	16	Extreme
60E_25	14	High
60E_26	7	Low
60E_27	8	Low
60E_28	9	Moderate
60E_29	6	Low
60E_30	14	High
60E_31	8	Moderate
60E_32	8	Low
61E_35	8	Moderate

6052E											
			Gulls breeding								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 6052E – Kap Walløe

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2100). Local knowledge is essential for navigation.

The ice limit varies from season to season and from year to year; but generally, remains the fjord free of shorefast ice, while drift ice may occur in the offshore waters to the E and in the fjords. Icebergs are also a hazard.

Four anchor sites are reported from this map area: Peer Vig, on the N shore of Lindenow Fjord, 7 miles within its entrance, Sandvigen, Grydevig and Manne Havn (Appendix E).

Kuuutsit Kangerluat, entered 13 km NNE of Kap Walløe, extends SW for 10 km and then WNW for 16 km. Paatusoq fjord is entered 8 km N of Kuutsit and extends 20 km WNW. Two rocks, awash, lie in the entrance.

Shorelines within this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

There are several heliports/stops and one airport located at the towns and settlements to the west of this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

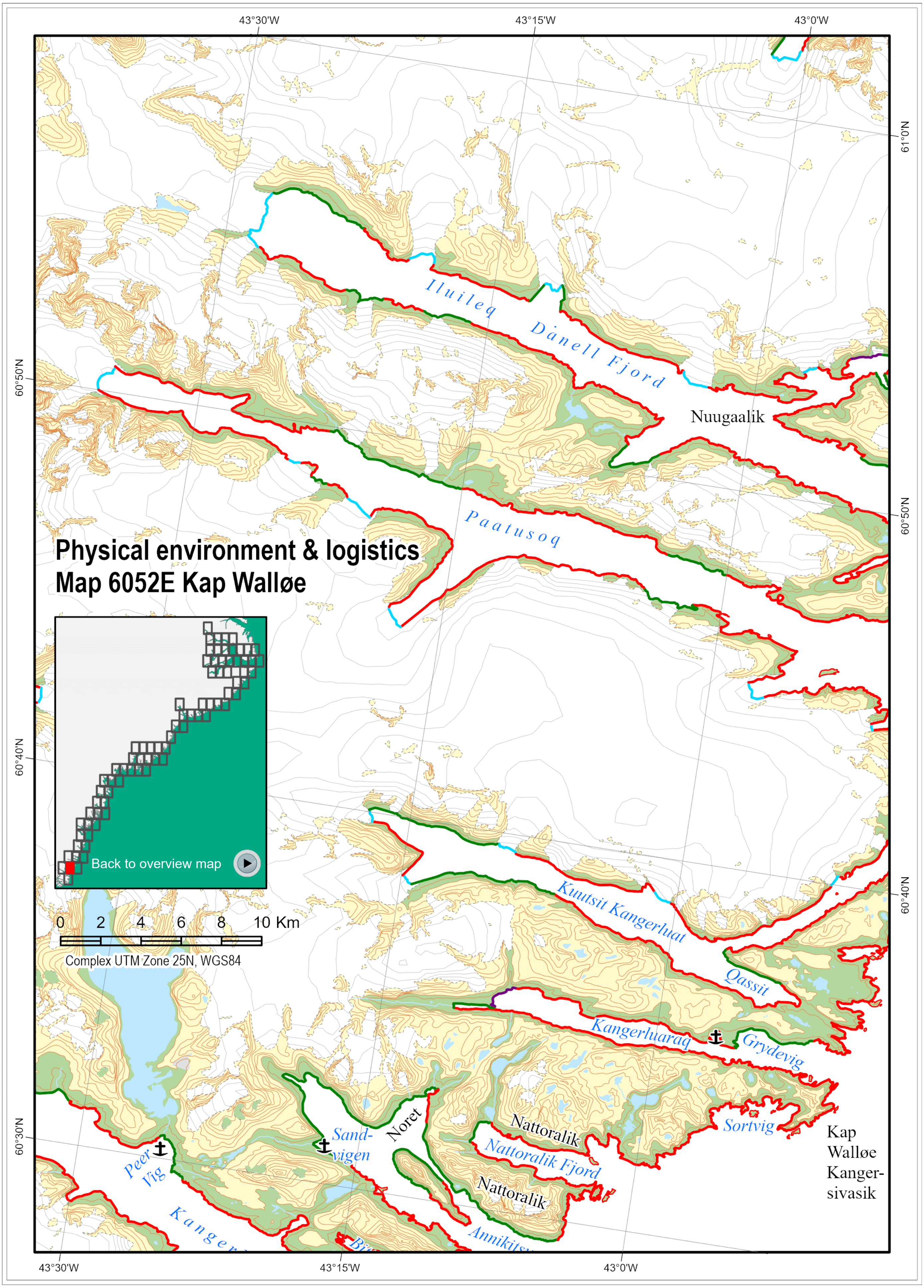
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are few opportunities for nearshore booming shoreline described on this map. Oil approaching the several fjords on this map should be diverted to coastline at its entrance to avoid massive oiling of low-energy inshore areas. Alternatively, diversion booming could be attempted to protect the selected area, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

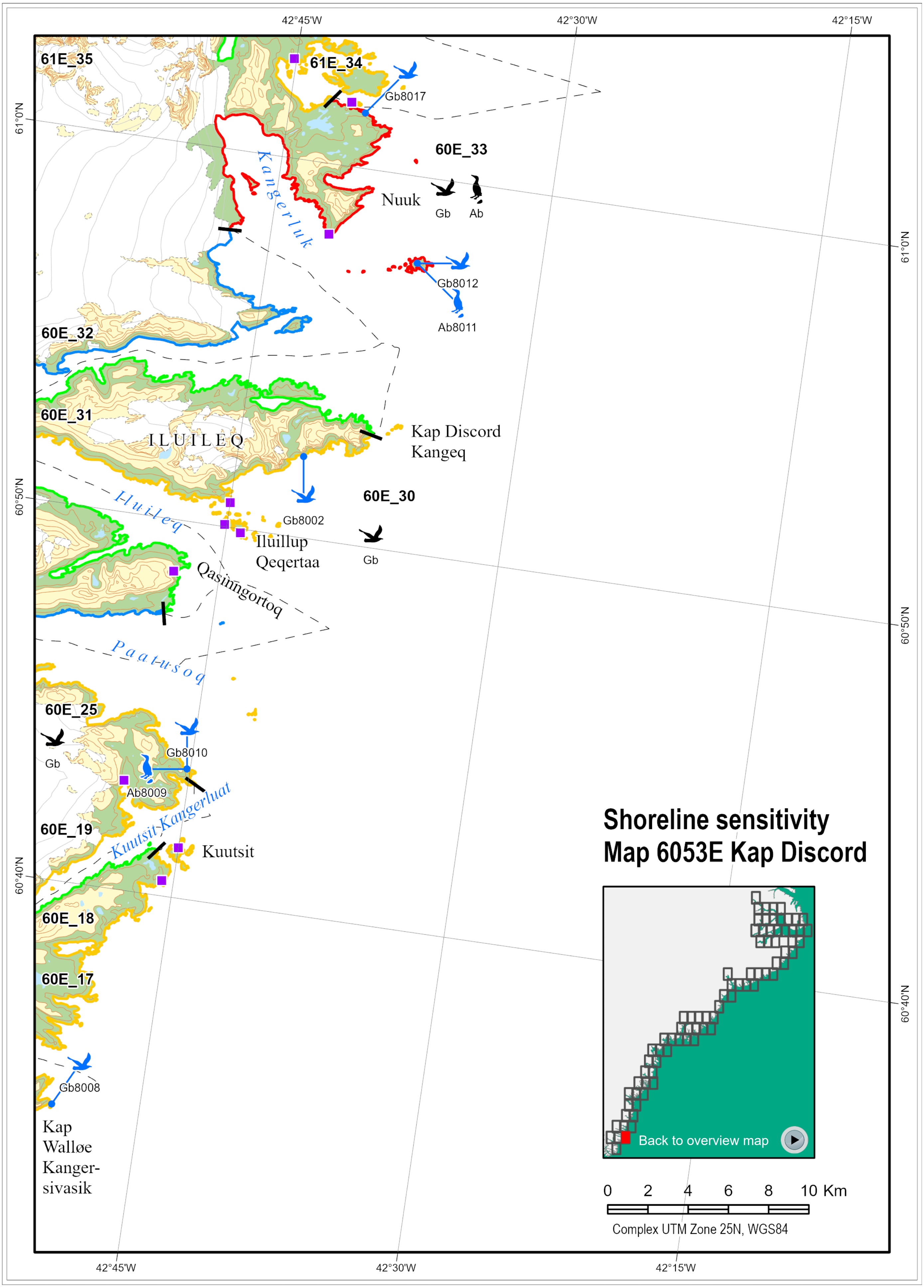
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Consideration should be given to flushing operations in the more protected shorelines within each of the fjords

Safe Havens
There are no *safe havens* identified on this map.



Physical environment & logistics
Map 6052E Kap Walløe
Back to overview map
0
2
4
6
8
10 Km
Complex UTM Zone 25N, WGS84
43°30'W
43°15'W
43°0'W
61°0'N
60°50'N
60°40'N
60°30'N
Iluileq
Dànell Fjord
Nuugaalik
Paatusoq
Kuutsit Kangerluat
Qassit
Kangerluaraq
Grydevig
Sortvig
Kap
Walløe
Kanger-
sivasik
Nattoralik
Nattoralik Fjord
Nattoralik
Noret
Sand-
vigen
Peer
Vig



42°45'W
42°30'W
42°15'W
61°0'N
60°50'N
60°40'N
61E_35
61E_34
Gb8017
60E_33
Kangerluk
Nuuk
Gb
Ab
Gb8012
Ab8011
60E_32
60E_31
ILUILEQ
Kap Discord
Kangeq
60E_30
Gb8002
Iluileq
Iluillup
Qeqertaa
Gb
Qasingortoq
Paatusoq
60E_25
Gb
Gb8010
Ab8009
60E_19
Kuutsit-Kangerluat
Kuutsit
60E_18
60E_17
Gb8008
Kap
Walløe
Kanger-
sivasik
Shoreline sensitivity
Map 6053E Kap Discord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.4 Map 6053E – Kap Discord

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

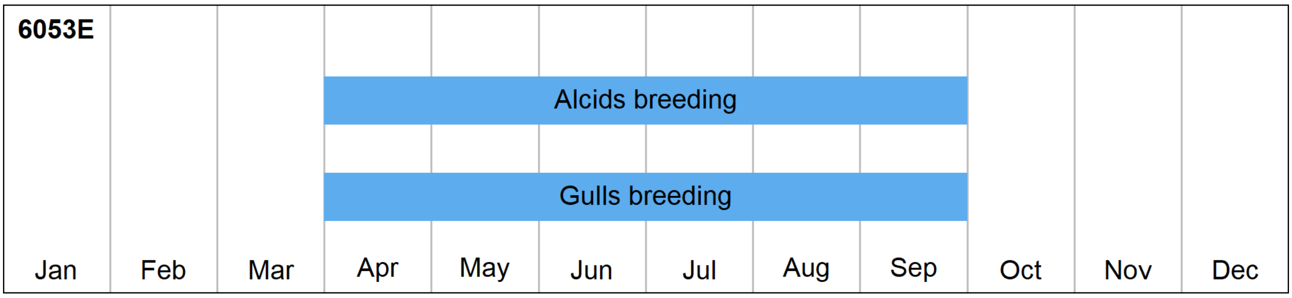
Ab60E_33	1 colony of black guillemots
Gb60E_25	1 colony of Iceland gulls
Gb60E_30	1 colony of black-legged kittiwakes
Gb60E_15	1 colony of glaucous gulls
Gb60E_33	2 colonies of glaucous gulls and 1 colony of Iceland gulls

Site specific occurrence: blue icons

Ab8009, Ab8011	Breeding black guillemots
Gb8002	Breeding black-legged kittiwakes
Gb8008	Breeding glaucous gulls
Gb8010	Breeding Iceland gulls
Gb8012	Breeding glaucous gulls
Gb8017	Breeding Iceland gulls and glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
60E_15	14	High
60E_17	11	High
60E_18	9	Moderate
60E_19	10	High
60E_25	14	High
60E_27	8	Low
60E_28	9	Moderate
60E_30	14	High
60E_31	8	Moderate
60E_32	8	Low
60E_33	28	Extreme
61E_34	10	High
61E_35	8	Moderate



Physical environment and logistics, 6053E – Kap Discord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. See also nautical chart 2100.

The ice limit varies from season to season and from year to year; but generally, remain the fjord free of shorefast ice, while drift ice may occur in the offshore waters and in the fjords late winter and spring. Icebergs are also a hazard.

Nuuk, a small cove, is located on the mainland, 1.5 km N of the NE entrance point of Kangerluk 2 km farther N, is reported to be the only place in this vicinity where boats can be hauled up on the beach. The rocks in the vicinity are reported to contain an intensified geomagnetic field.

There is an anchor site in Kuutsit Kangerluat.

Shorelines within this area are predominantly rock allowing little opportunity for marine access.

There are numerous heliports/stops and one airport located at the towns and settlements to the west of this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas.

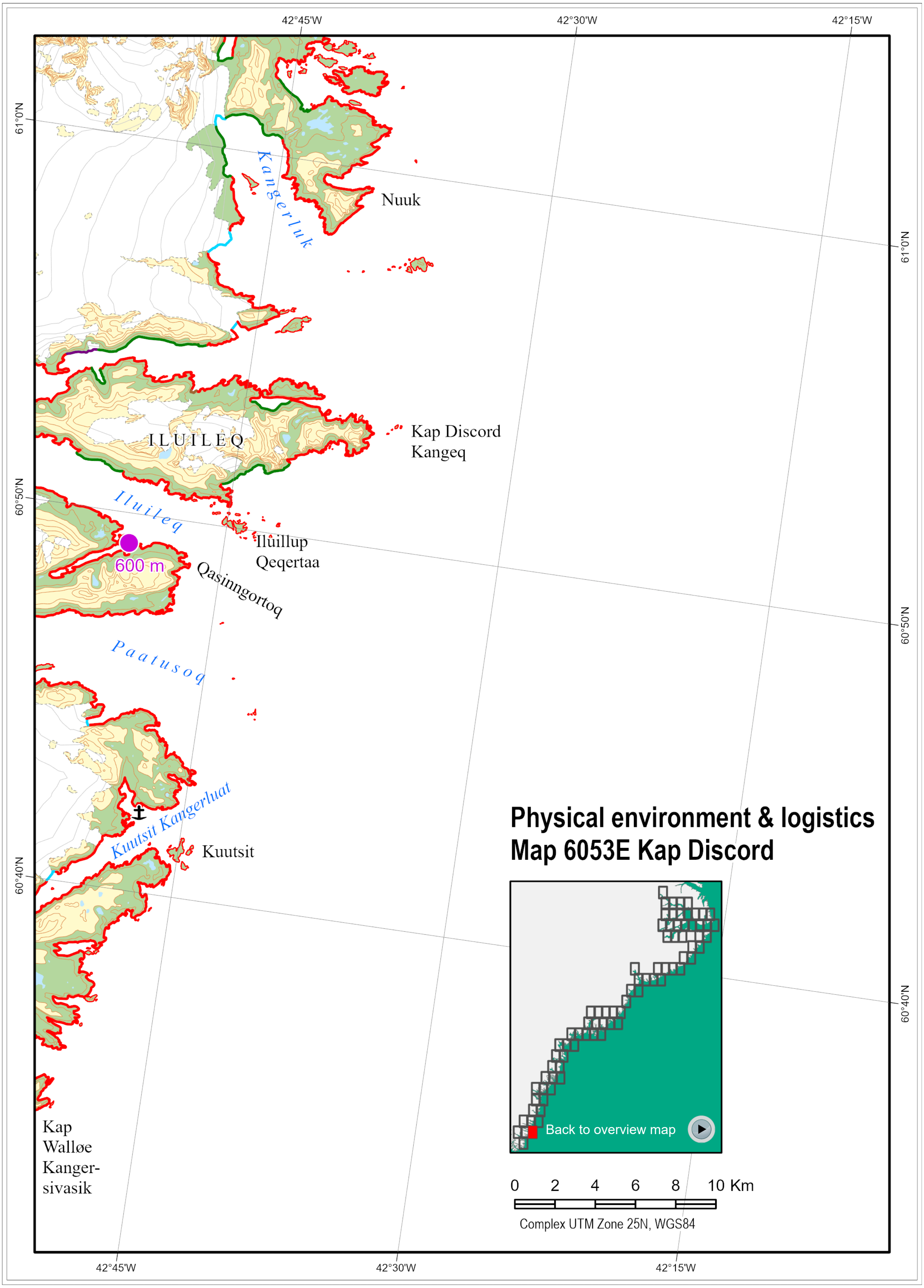
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

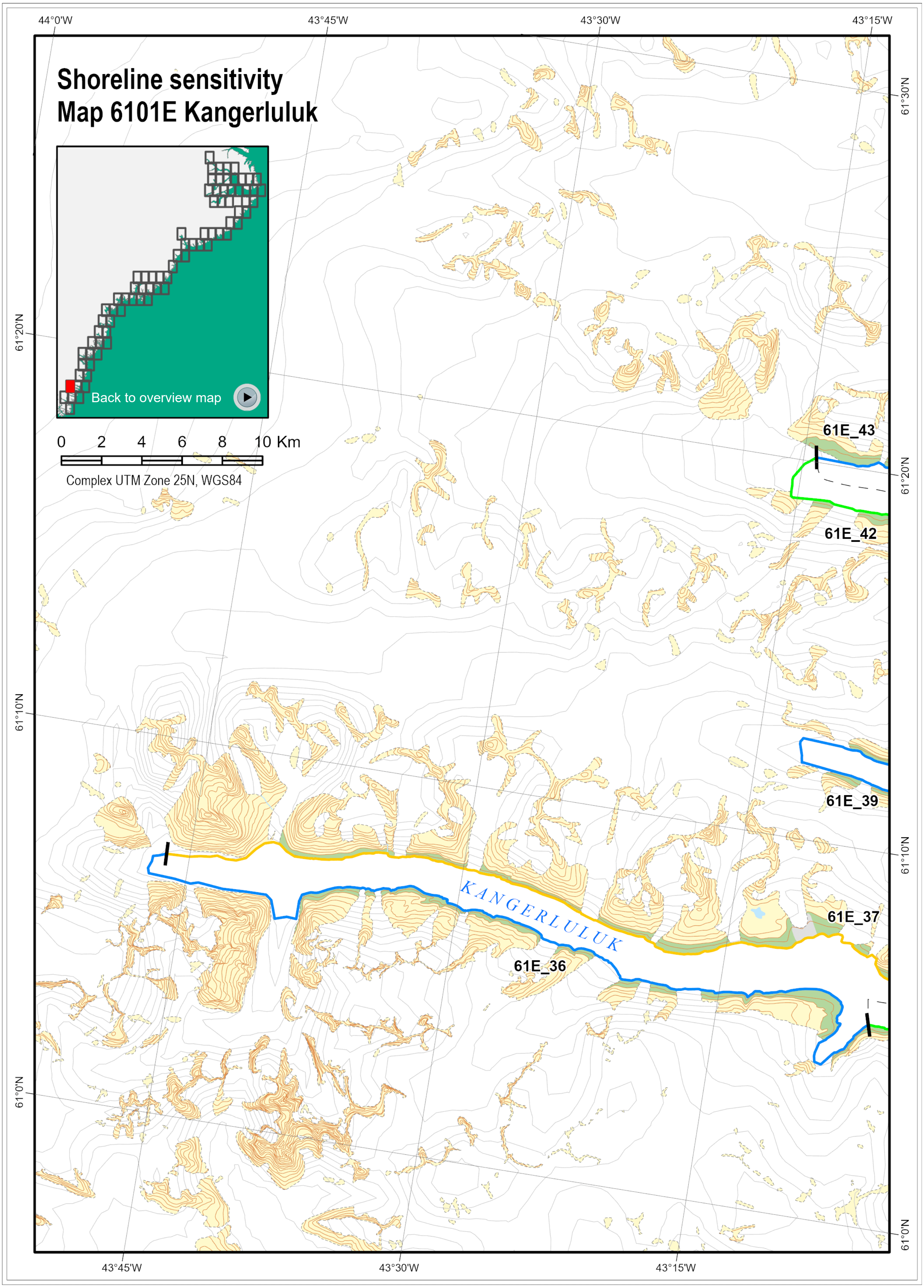
The inlet on the north side of Qasinngortoq (mouth of Iluileq/Danell Fjord) is a candidate for exclusion booming (600 m) but depths are unknown.

There are no other opportunities for exclusion booming in the area shown on this map due to the width of the inlets and the deep nearshore waters. Oil approaching the several fjords on this map should be diverted to coastline at its entrance to avoid massive oiling of low-energy inshore areas. Alternatively, diversion booming could be attempted to protect the selected area, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly exposed rock which may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations in the protected waters within the fjords.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6053E Kap Discord
Nuuk
Kangerluk
Kap Discord
Kangeq
ILUILEQ
Iluileq
Iluillup
Qeqertaa
600 m
Qasinngortoq
Paatusoq
Kuutsit Kangerluat
Kuutsit
Kap
Walløe
Kanger-
sivasik
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
42°45'W
42°30'W
42°15'W
61°0'N
60°50'N
60°40'N



Shoreline sensitivity
Map 6101E Kangerluluk
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
44°0'W
43°45'W
43°30'W
43°15'W
61°30'N
61°20'N
61°10'N
61°0'N
61E_43
61E_42
61E_39
61E_37
61E_36
KANGERLULUK

8.5 Map 6101E – Kangerluluk

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Very little species occurrence is registrered on this map, however some capelin may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
61E_35	8	Moderate
61E_36	7	Low
61E_37	10	High
61E_39	7	Low
61E_42	9	Moderate
61E_43	7	Low

Physical environment and logistics, 6101E – Kangerluluk

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Generally, these fjords remain free of shorefast ice except for the inner most part. Icebergs are also a hazard.

No anchorages are reported for this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

There are numerous heliports/stops and one airport located at the towns and settlements to the west of this map area.

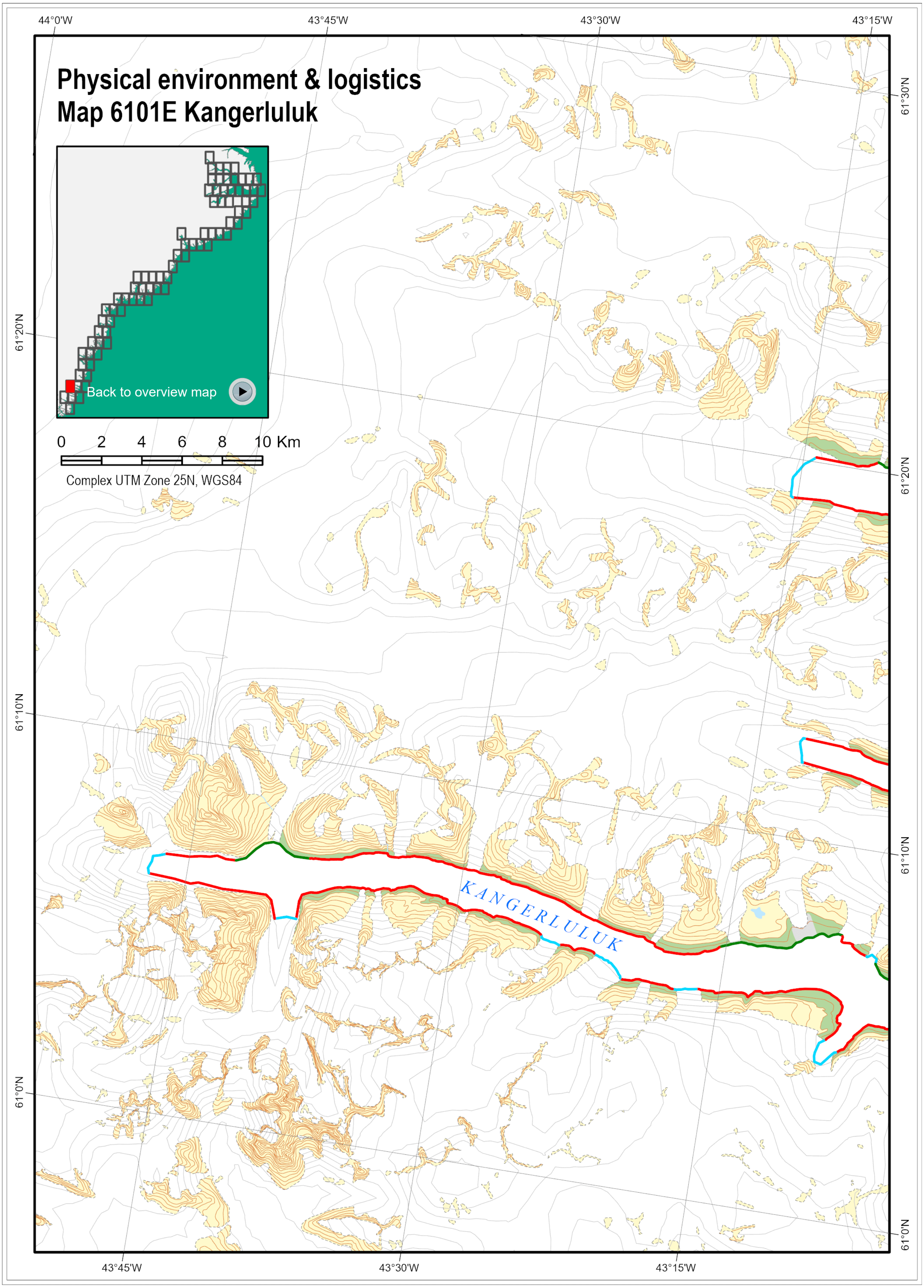
Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

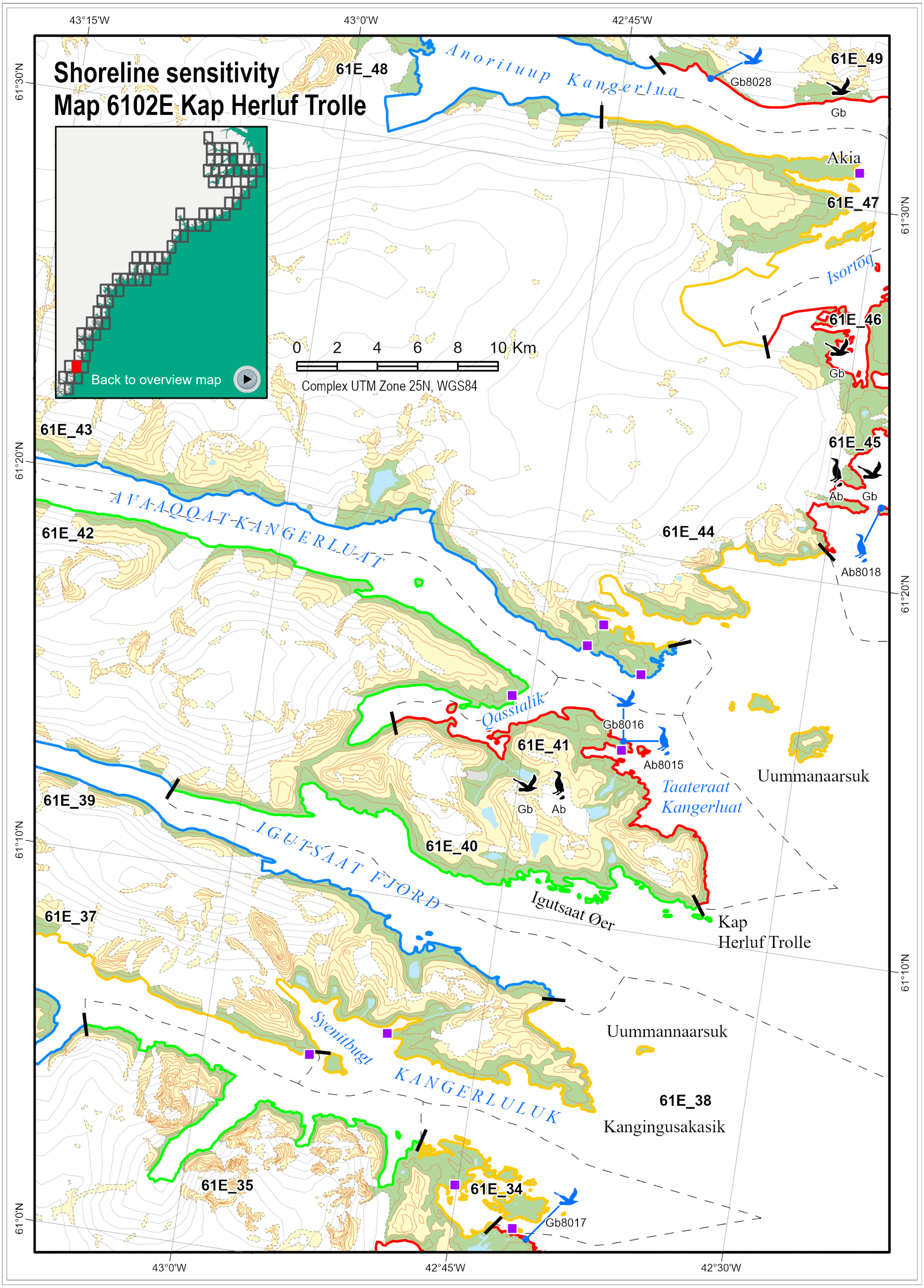
There are no opportunities for nearshore or exclusion booming along the shorelines described on this map. Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas.

Shorelines shown on this map are predominantly exposed rock, talus, and glacier, which may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6101E Kangerluluk
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
KANGERLULUK
44°0'W
43°45'W
43°30'W
43°15'W
61°30'N
61°20'N
61°10'N
61°0'N


Shoreline sensitivity
Map 6102E Kap Herluf Trolle
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
43°15'W
43°0'W
42°45'W
42°30'W
61°30'N
61°20'N
61°10'N
61°0'N
61E_48
61E_49
61E_47
61E_46
61E_45
61E_44
61E_43
61E_42
61E_41
61E_40
61E_39
61E_38
61E_37
61E_35
61E_34
Anorituup Kangerlua
Akia
Isortoq
AVAAQQAT KANGERLUAT
Qassialik
Taateraat Kangerluat
Uummanaarsuk
IGUTSAAT FJORD
Igutsaat Øer
Kap Herluf Trolle
Uummannaarsuk
Syenitbugt
KANGERLULUK
Kangingusakasik
Gb8028
Gb8016
Ab8015
Ab8018
Gb8017
Gb
Ab

8.6 Map 6102E – Kap Herluf Trolle

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

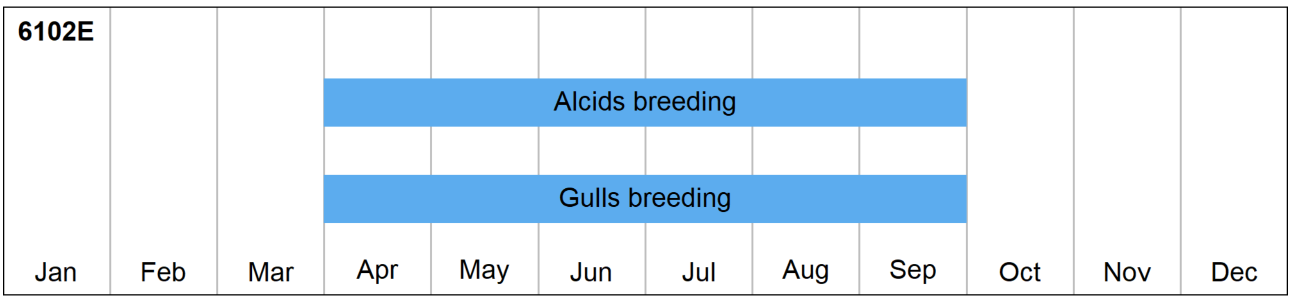
Ab60E_33, Ab61E_41	1 colony of black guillemots
Gb61E_45, Gb61E_46	1 colony of glaucous gulls
Ab61E_45	1 colony of black guillemots
Gb60E_33	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb61E_41	1 colony of black-legged kittiwakes, 1 colony of Iceland gulls and 1 colony of glaucous gulls
Gb61E_49	3 colonies of Iceland gulls

Site specific occurrence: blue icons

Ab8015	Breeding black guillemots
Ab8018	Breeding black guillemots
Gb8016	Breeding Iceland gulls, black-legged kittiwakes and glaucous gull
Gb8017	Breeding Iceland gulls and glaucous gulls
Gb8028	Breeding Iceland gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
60E_33	28	Extreme
61E_34	10	High
61E_35	8	Moderate
61E_36	7	Low
61E_37	10	High
61E_38	10	High
61E_39	7	Low
61E_40	9	Moderate
61E_41	26	Extreme
61E_42	9	Moderate
61E_43	7	Low
61E_44	11	High
61E_45	22	Extreme
61E_46	16	Extreme
61E_47	11	High
61E_48	5	Low
61E_49	19	Extreme



Physical environment and logistics, 6102E – Kap Herluf Trolle

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. See also nautical charts 2100 and 2200.

The ice limit varies from season to season and from year to year; but generally, the fjords remains free of shorefast ice, while drift ice may occur in the offshore waters and in the fjords late winter and spring. Icebergs are also a hazard.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

An anchor site is indicated on the S shore of Avaaqaat Kangerluat (Appendix E).

There are numerous heliports/stops and one airport located at the towns and settlements to the west of this map area.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

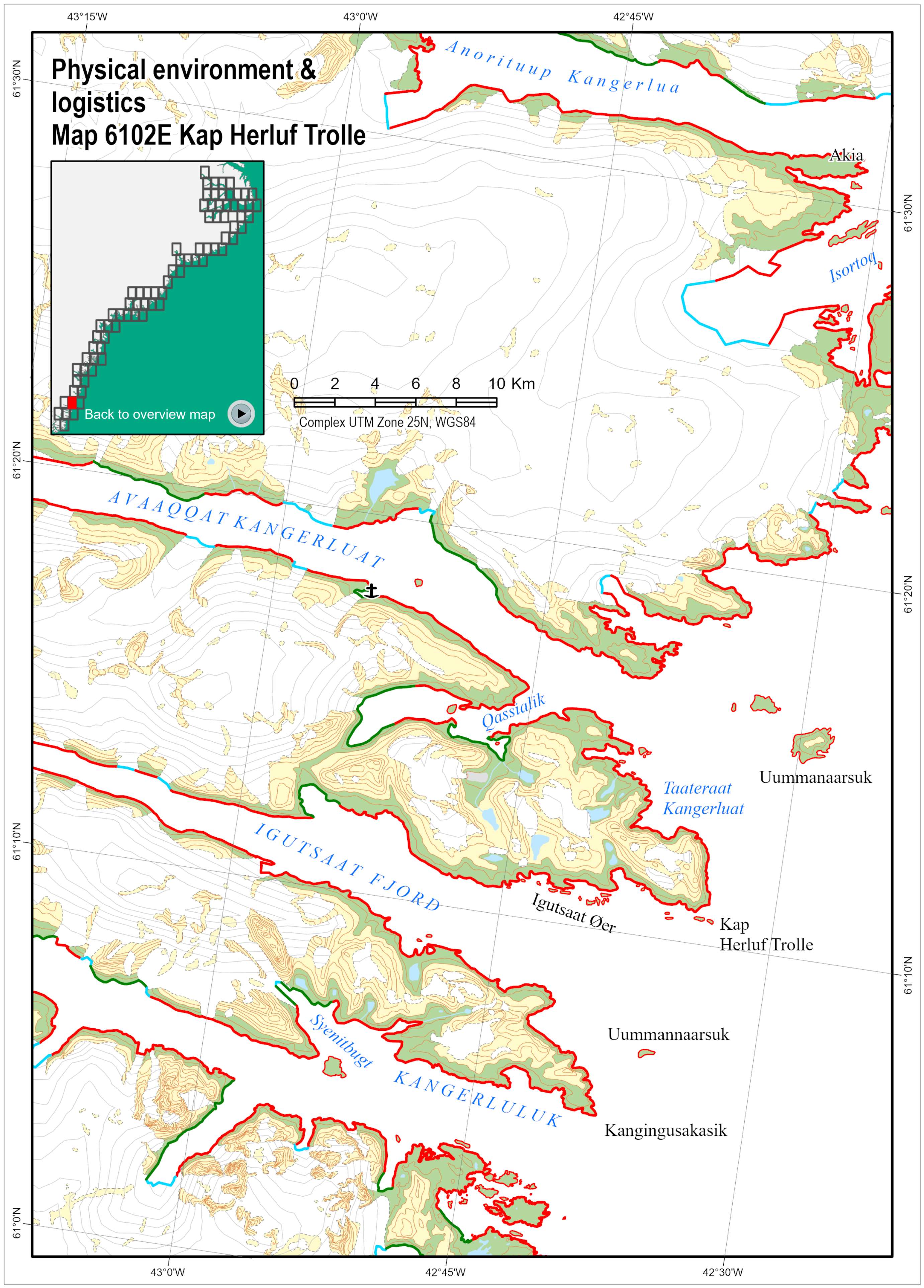
There are few opportunities for nearshore booming along the shorelines described on this map. Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas.

Shorelines shown on this map are predominantly rock, talus, and glacier with high or moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

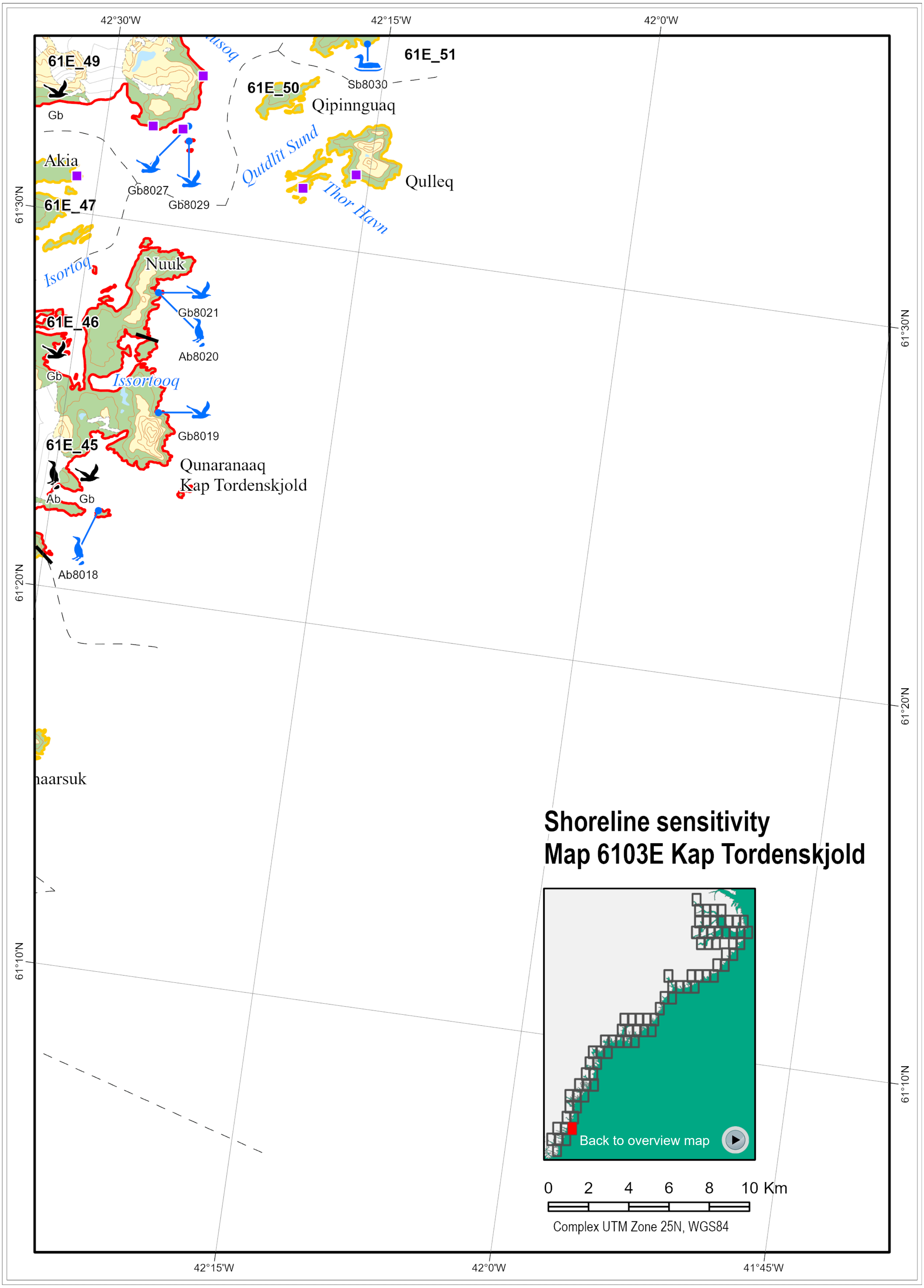
Consideration should be given to flushing operations in the protected waters within the fjords (Anorituup Kangerlua, Avaaqaat Kangerluat, Igutsaat Fjord, and Kangerluluk).

Safe Havens

There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6102E Kap Herluf Trolle
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
43°15'W
43°0'W
42°45'W
42°30'W
61°30'N
61°20'N
61°10'N
61°0'N
Anorituup Kangerlua
Akia
Isortoq
AVAAQQAT KANGERLUAT
Qassialik
Taateraat Kangerluat
Uummanaarsuk
IGUTSAAT FJORD
Igutsaat Øer
Kap Herluf Trolle
Uummannaarsuk
Syenitbugt
KANGERLULUK
Kangingusakasik



Shoreline sensitivity
Map 6103E Kap Tordenskjold

8.7 Map 6103E – Kap Tordenskjold

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

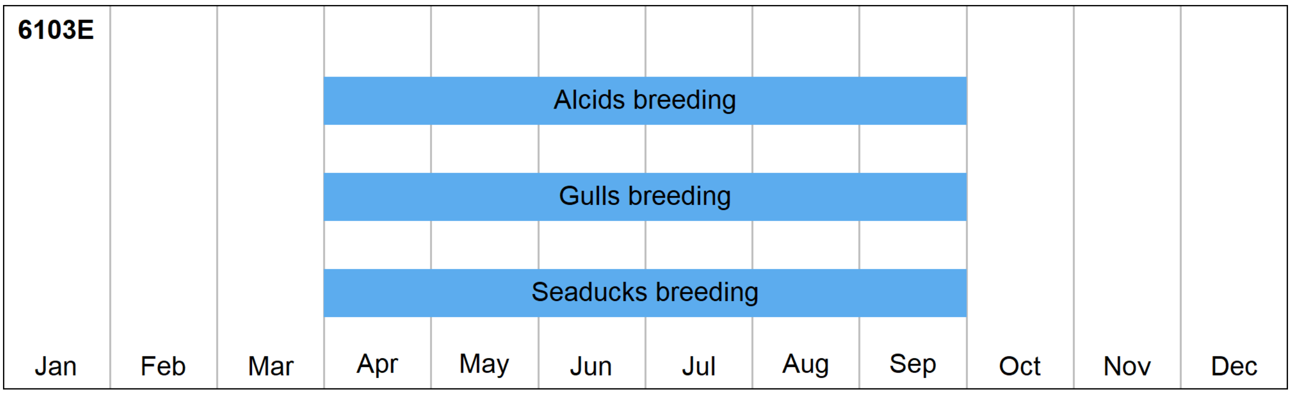
Gb61E_45, Gb61E_46	1 colony of glaucous gulls
Ab61E_45	1 colony of black guillemots
Gb61E_49	3 colonies of Iceland gulls

Site specific occurrence: blue icons

Ab8018, Ab8020	Breeding black guillemots
Gb8019, Gb8021	Breeding glaucous gulls
Gb8027, Gb8029	Breeding Iceland gulls
Sb8030	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
61E_44	11	High
61E_45	22	Extreme
61E_46	16	Extreme
61E_47	11	High
61E_49	19	Extreme
61E_50	11	High
61E_51	15	High



Physical environment and logistics, 6103E – Kap Tordenskjold

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. See also nautical chart 2200.

The ice limit varies from season to season and from year to year; but generally, the fjords remains free of shorefast ice, while drift ice may occur in the offshore waters and in the fjords late winter and spring. Icebergs are also a hazard. It was reported that there is a sheltered boat harbour with a narrow entrance, on the NE side of Kap Tordenskjold (61°25′N, 42°22′W) (Appendix E).

Qulleq (61°31′N, 42°13′W), an island, lies on the N side of the approach to Anoritup Kangerlua. The former site of a Loran station stands on the islands SE end. A large bay, which is usually ice-free, is located on the SW side of this island and forms a sheltered harbour. Vessels, with local knowledge, can anchor within this harbour and secure stern lines to the shore. The bay provides shelter from all winds except from S. Four beacons standing on the shores of the bay assist entry and indicate the anchorage berth. See nautical chart 2250. There is also a helipad here (Appendix F).

Shorelines in this area are predominantly rock allowing little opportunity for marine access.

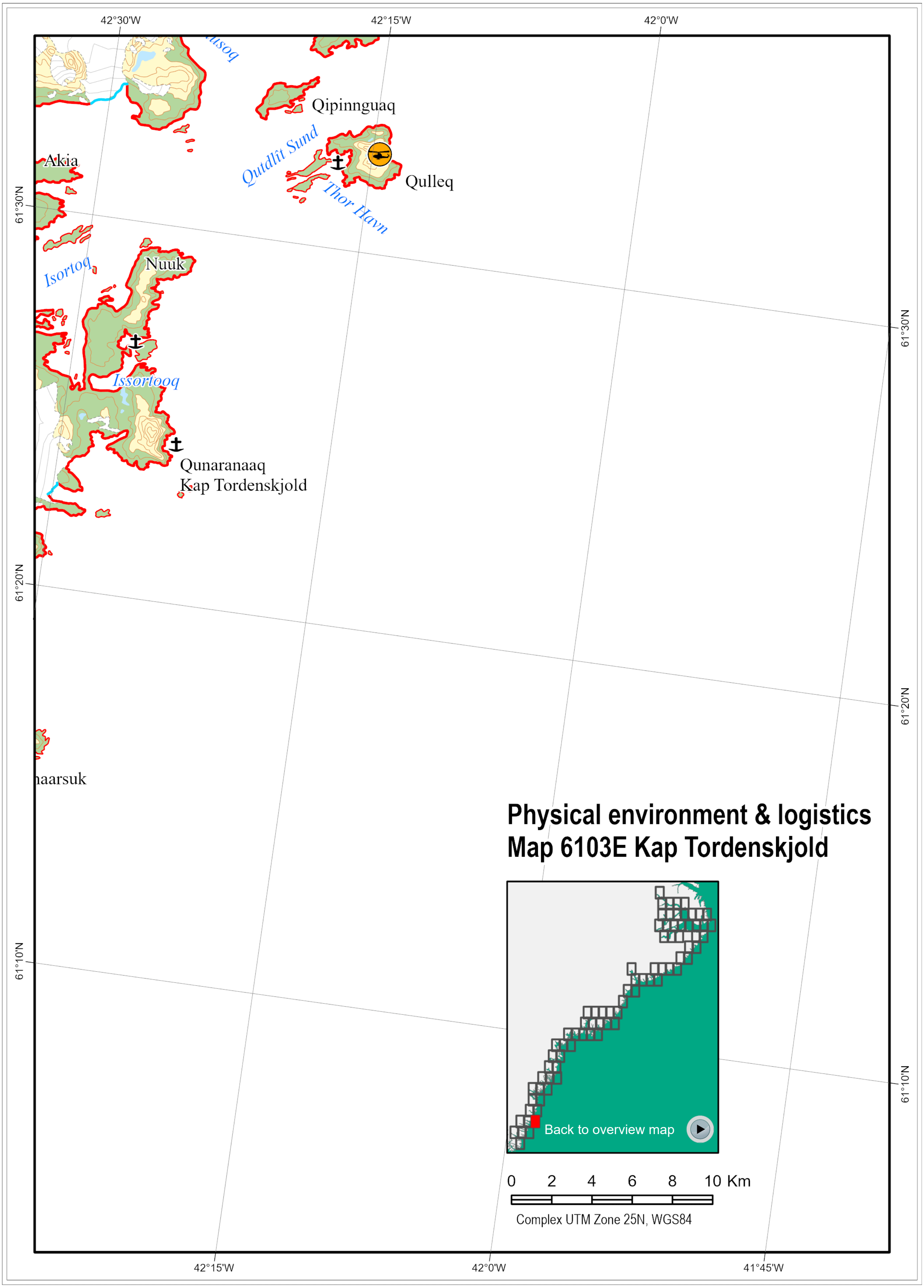
Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

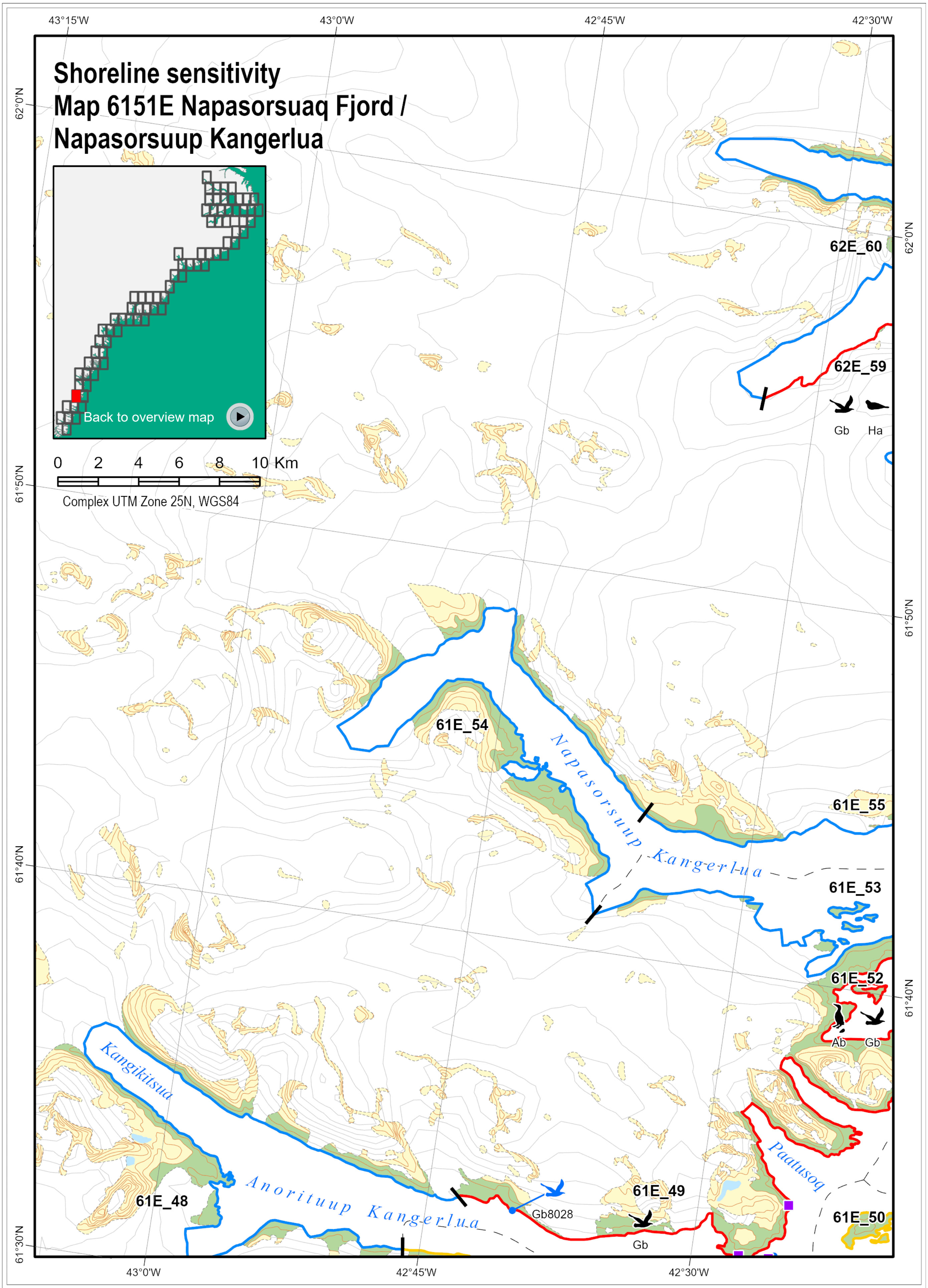
There are no opportunities for nearshore or exclusion booming along the shorelines described on this map.

Shorelines shown on this map are almost exclusively exposed rock, which may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations in the protected waters within the fjords.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6103E Kap Tordenskjold


Shoreline sensitivity
Map 6151E Napasorsuaq Fjord /
Napasorsuup Kangerlua
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
43°15'W
43°0'W
42°45'W
42°30'W
62°0'N
61°50'N
61°40'N
61°30'N
62E_60
62E_59
Gb
Ha
61E_54
Napasorsuup Kangerlua
61E_55
61E_53
61E_52
Ab
Gb
Kangikitsua
Anorituup Kangerlua
Paatusoq
61E_48
Gb8028
61E_49
Gb
61E_50

8.8 Map 6151E – Napasorsuaq Fjord/Napasorsuup

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Ab61E_52	1 colony of black guillemots
Gb61E_52	1 colony of Iceland gulls
Gb61E_49	3 colonies of Iceland gulls
Gb62E_59	1 colony of Arctic terns, 1 colony of Iceland gulls and 1 colony of glaucous gulls
Ha62E_59	Possible harbour seal breeding area

Site specific occurrence: blue icons

Gb8028	Breeding Iceland gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
61E_47	11	High
61E_48	5	Low
61E_49	19	Extreme
61E_50	11	High
61E_52	27	Extreme
61E_53	7	Low
61E_54	6	Low
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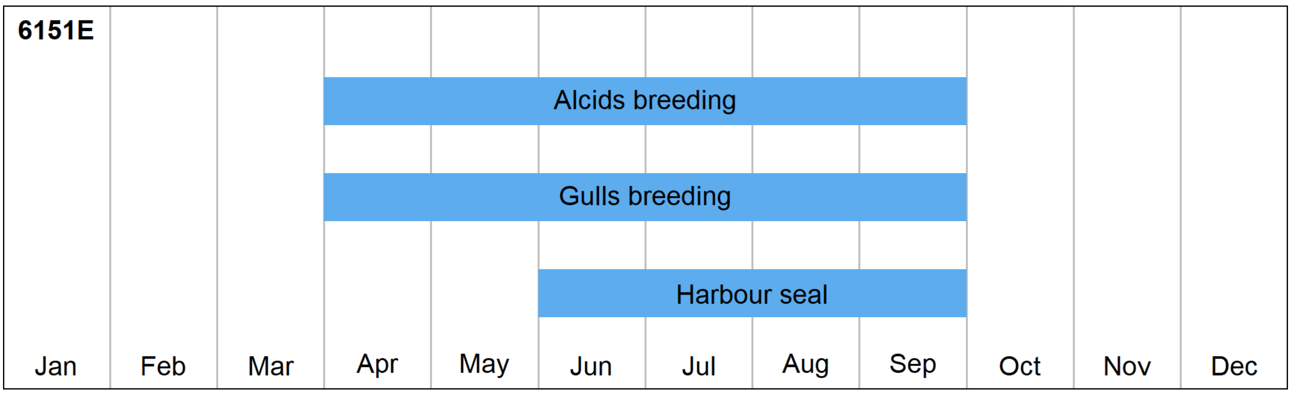
61E_58	8	Low
62E_59	33	Extreme
62E_60	7	Low



Physical environment and logistics, 6151E – Napasorsuaq Fjord/ Napasorsuup

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Generally, these fjords remain free of shorefast ice except for the inner most part. Drift ice may occur especially in late winter and spring. Icebergs are also a hazard.

No anchorages are reported for this map area.

Shorelines within this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

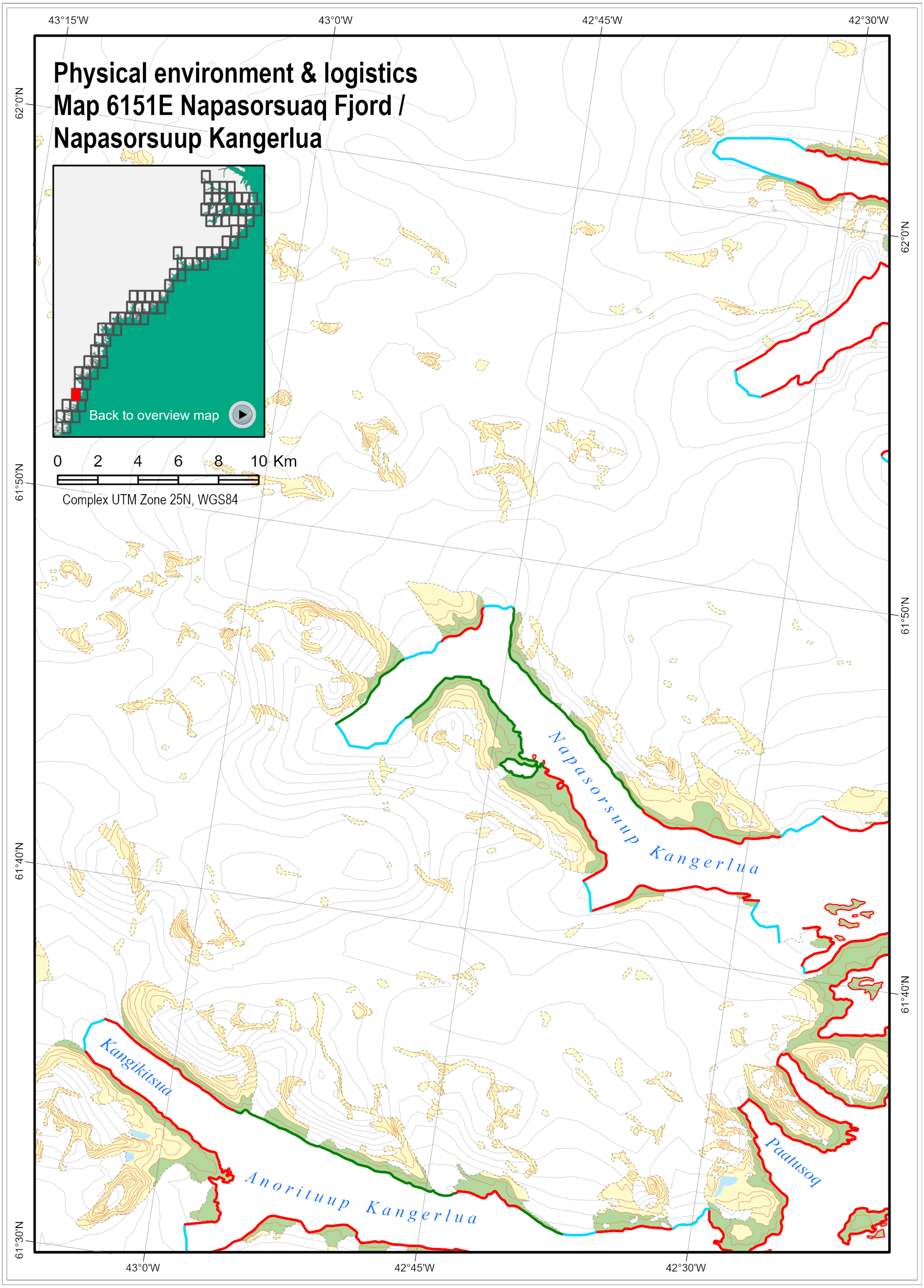
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

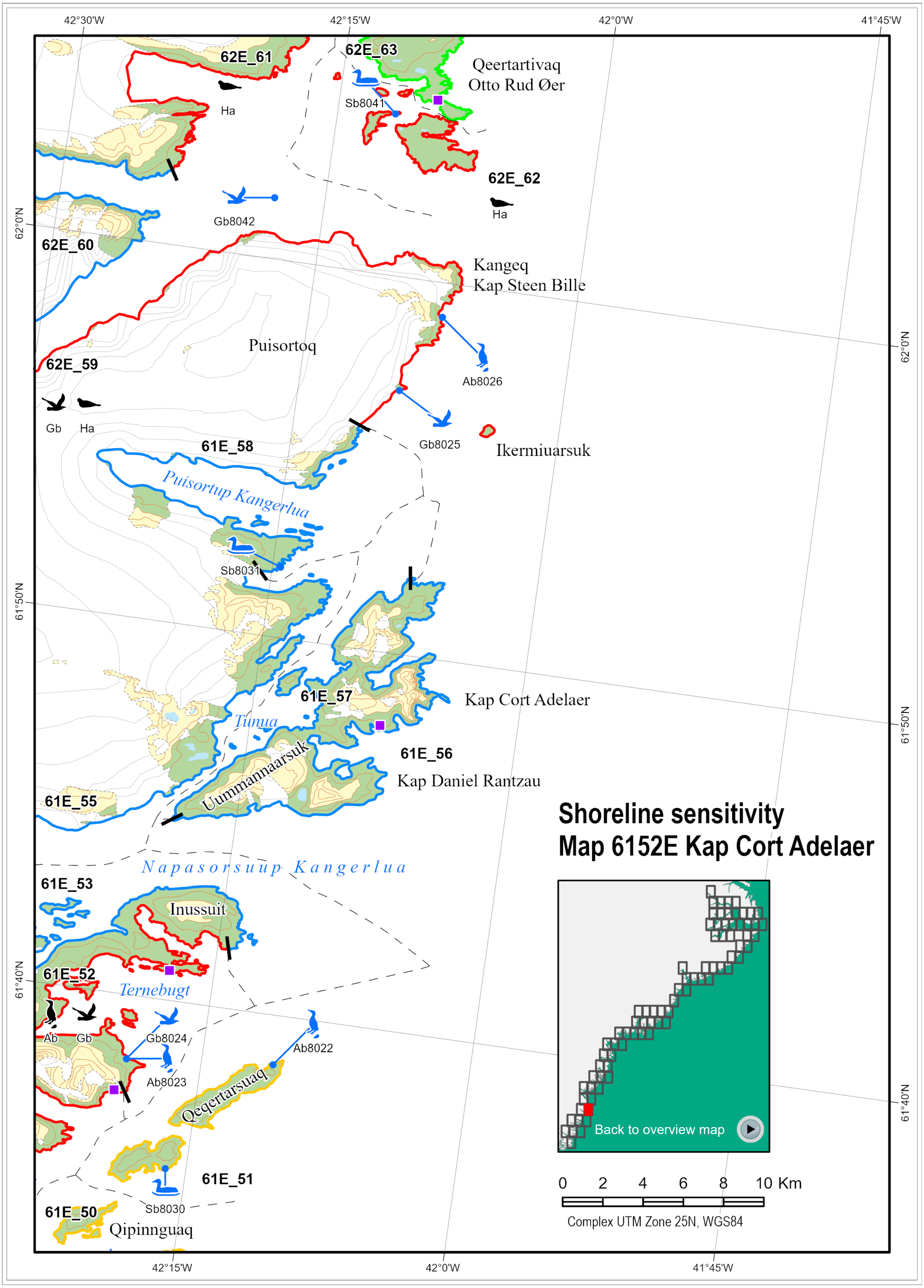
There are no opportunities for nearshore booming along the short section of shoreline described on this map. Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock, talus, and glacier that have moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords, Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6151E Napasorsuaq Fjord /
Napasorsuup Kangerlua
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
43°15'W
43°0'W
42°45'W
42°30'W
62°0'N
61°50'N
61°40'N
61°30'N
Napasorsuup Kangerlua
Kangikitsua
Anorituup Kangerlua
Paatusoq



Shoreline sensitivity
Map 6152E Kap Cort Adelaer
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
42°30'W
42°15'W
42°0'W
41°45'W
62°0'N
61°50'N
61°40'N
62E_61
62E_63
62E_62
62E_60
62E_59
61E_58
61E_57
61E_56
61E_55
61E_53
61E_52
61E_51
61E_50
Qeertartivaq
Otto Rud Øer
Kangeq
Kap Steen Bille
Puisortoq
Ikermiuarsuk
Puisortup Kangerlua
Tunua
Uummannaarsuk
Kap Cort Adelaer
Kap Daniel Rantzau
Napasorsuup Kangerlua
Inussuit
Ternebugt
Qeqertarsuaq
Qipinnguaq
Ha
Gb
Ab
Sb8041
Gb8042
Ab8026
Gb8025
Sb8031
Gb8024
Ab8023
Ab8022
Sb8030

8.9 Map 6152E – Kap Cort Adelaer

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

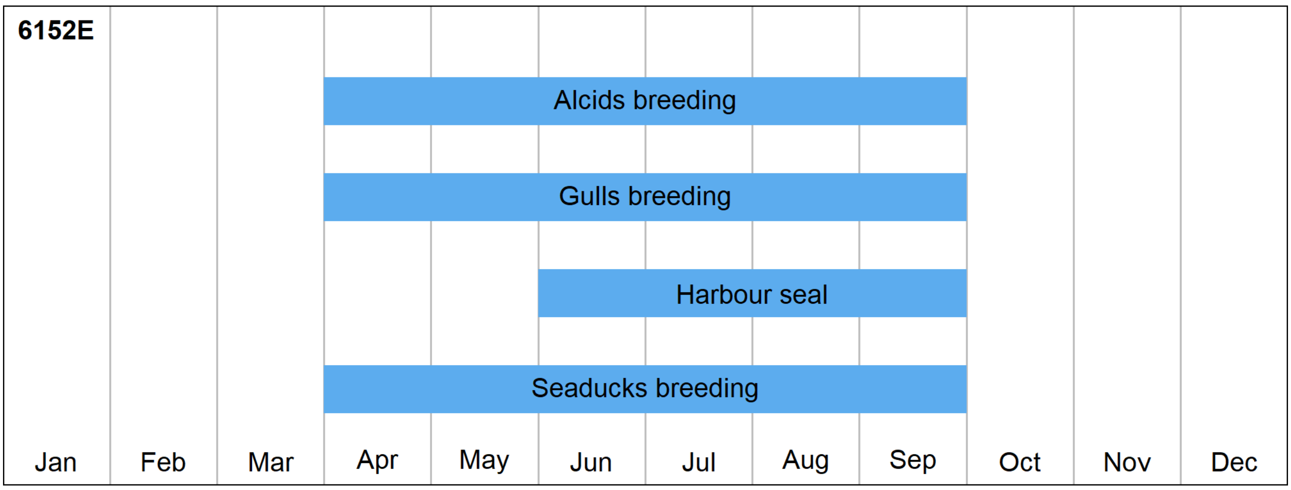
Gb61E_49	3 colonies of Iceland gulls
Gb61E_52	1 colony of Iceland gulls
Gb62E_59	1 colony of Arctic terns, 1 colony of Iceland gulls and 1 colony of glaucous gulls
Ha62E_62, Ha62E_61	Possible harbour seal breeding area
Ha62E_59	Possible harbour seal breeding area

Site specific occurrence: blue icons

Ab8022, Ab8023	Breeding black guillemots
Ab8026	Breeding black guillemots
Gb8024	Breeding Iceland gulls
Gb8025	Breeding Iceland gulls and glaucous gulls
Gb8042	Breeding Arctic terns
Sb8030, Sb8031	Breeding common eiders
Sb8041	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
61E_49	19	Extreme
61E_50	11	High
61E_51	15	High
61E_52	27	Extreme
61E_53	7	Low
61E_55	7	Low
61E_56	8	Low
61E_57	5	Low
61E_58	8	Low
62E_59	33	Extreme
62E_60	7	Low
62E_61	18	Extreme
62E_62	23	Extreme
62E_63	9	Moderate



Physical environment and logistics, 6152E – Kap Cort Adelaer

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. See also nautical chart 2200. Local knowledge is essential for navigation.

The ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the icebergs.

Kap Cort Adelaer (61°50'N, 42°05'W), 707 m high, lies 4 km NNE of Kap Daniel Rantzau. A harbour, located on the S side of a bay which indents the coast between Kap Daniel Rantzau and Kap Cort Adelaer, is reported to be well-sheltered and frequently ice-free; however, it is subject to occasional heavy swells. On the W side of the same island another anchor site is located (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

Shorelines within this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

Countermeasures

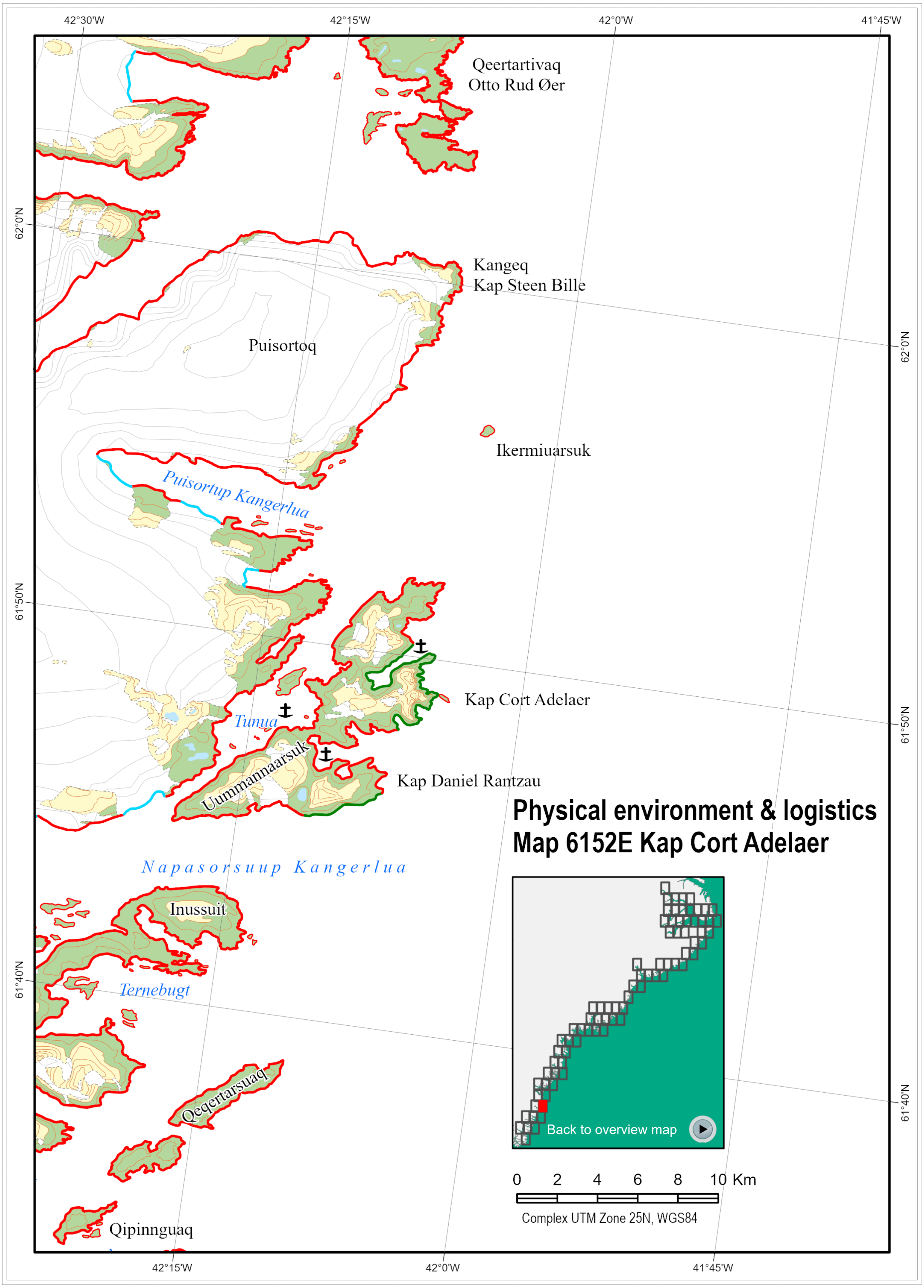
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming along the shorelines described on this map. Should oil enter the waters W of Kap Cort Adelaer, consideration should be given to trapping the oil within that area at its SW entrance (500 m).

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly exposed rock, talus, and glacier, which may not require active cleaning efforts unless heavily contaminated with heavy oils.


42°30'W
42°15'W
42°0'W
41°45'W
62°0'N
61°50'N
61°40'N
Qeertartivaq
Otto Rud Øer
Kangeq
Kap Steen Bille
Puisortoq
Ikermiuarsuk
Puisortup Kangerlua
Kap Cort Adelaer
Tunua
Uummannaarsuk
Kap Daniel Rantzau
Physical environment & logistics
Map 6152E Kap Cort Adelaer
Napasorsuup Kangerlua
Inussuit
Ternebugt
Qeqertarsuaq
Qipinnguaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Consideration should be given to flushing operations in the protected waters within the fjords, noted as high sensitivity. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

A potential *safe haven* may exist at the anchorage near Kap Cort Adelaer; as the bay is of low sensitivity and affording good natural protection. As its depths are unknown site surveys would be required at the time of an incident.

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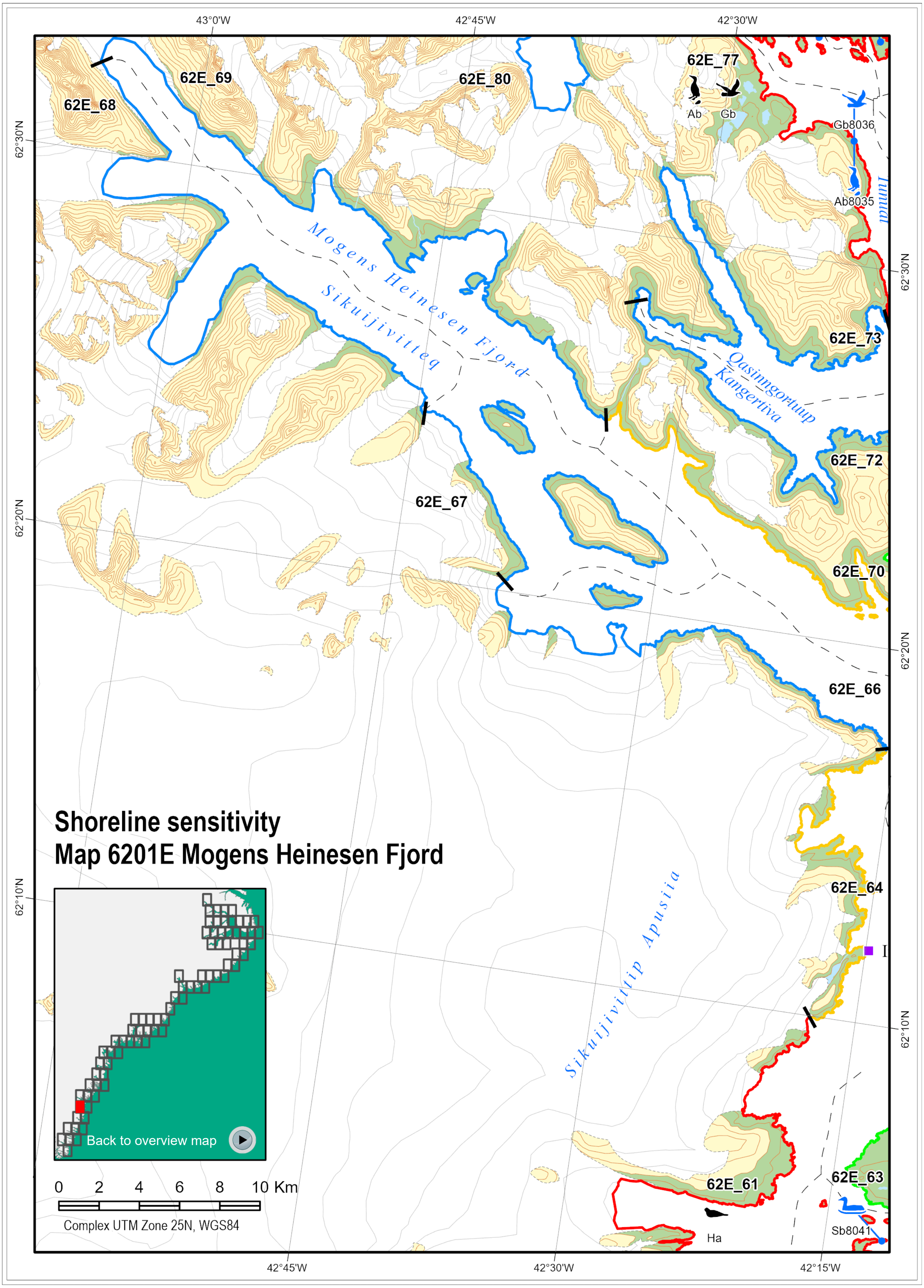
Shoreline sensitivity
Map 6201E Mogens Heinesen Fjord
43°0'W
42°45'W
42°30'W
42°15'W
62°30'N
62°20'N
62°10'N
62E_68
62E_69
62E_80
62E_77
62E_73
62E_72
62E_70
62E_67
62E_66
62E_64
62E_63
62E_61
Ab
Gb
Gb8036
Ab8035
Ha
Sb8041
Mogens Heinesen Fjord
Sikuijivitteq
Qasinngortuup Kangertiva
Sikuijivitiip Apusiia
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.10 Map 6201E – Mogens Heinesen Fjord

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Ab62E_77	1 colony of black guillemots
Gb62E_77	1 colony of Iceland gulls
Ha62E_61, Ha62E_62	Possible harbour seal breeding area
Sb62E_79, Sb62E_78	1 colony of common eiders

Site specific occurrence: blue icons

Ab8035	Breeding black guillemots
Gb8036	Breeding Iceland gulls
Sb8041, Sb8047	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
62E_61	18	Extreme
62E_62	23	Extreme
62E_63	9	Moderate
62E_64	11	High
62E_66	7	Low
62E_67	8	Low
62E_68	8	Low
62E_69	7	Low
62E_70	11	High
62E_71	9	Moderate
62E_72	8	Low
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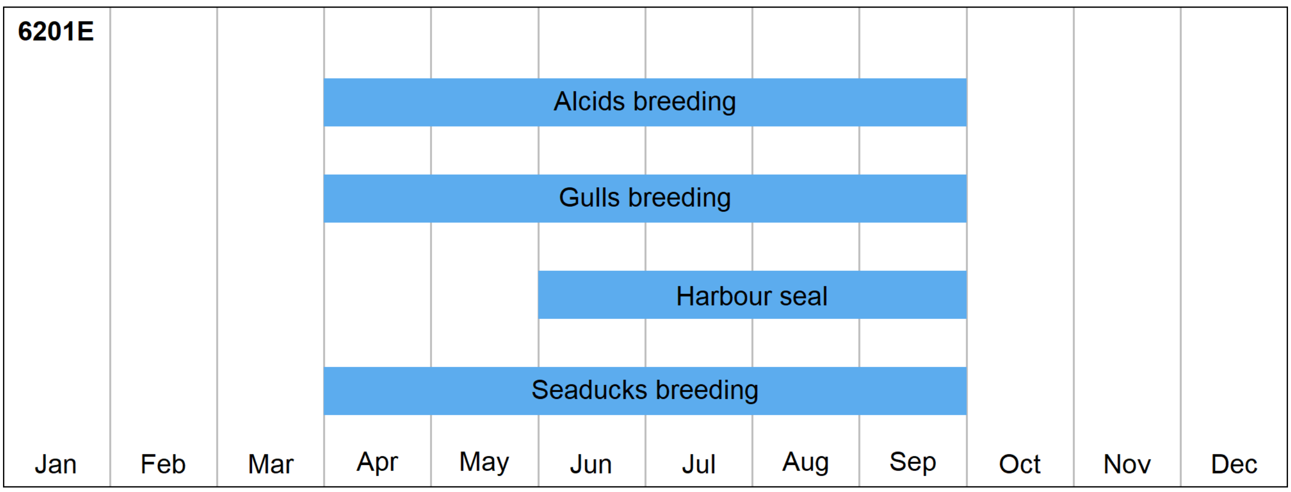
62E_77	19	Extreme
62E_78	17	Extreme
62E_79	24	Extreme
62E_80	7	Low



Physical environment and logistics, 6201E – Mogens Heinesen Fjord

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Shorefast ice cover the fjords in winter until May/June, while drift ice occur to a varying extension winter and spring. Additional dangers to navigation are icebergs.

No anchorages are reported for this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this or adjoining maps.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

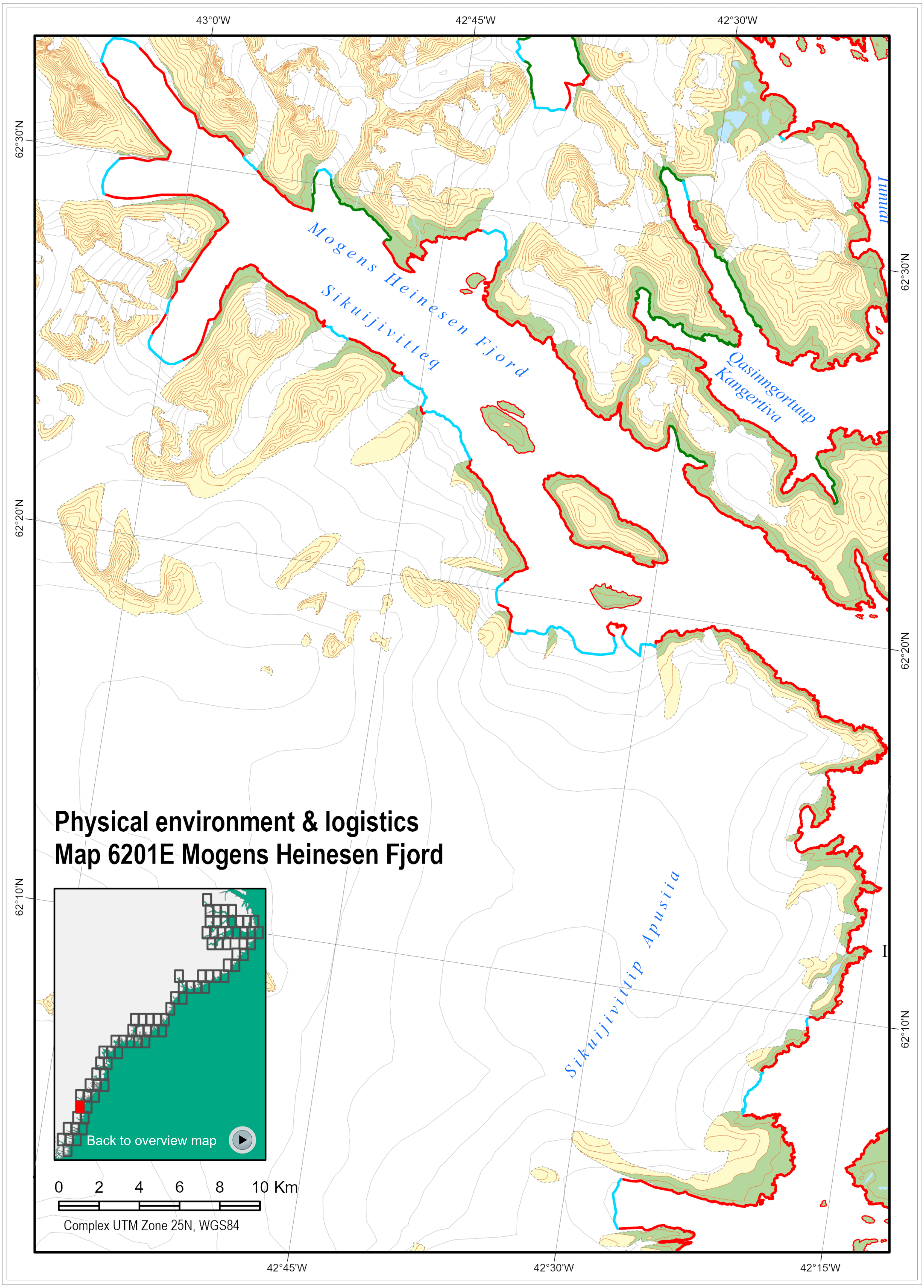
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

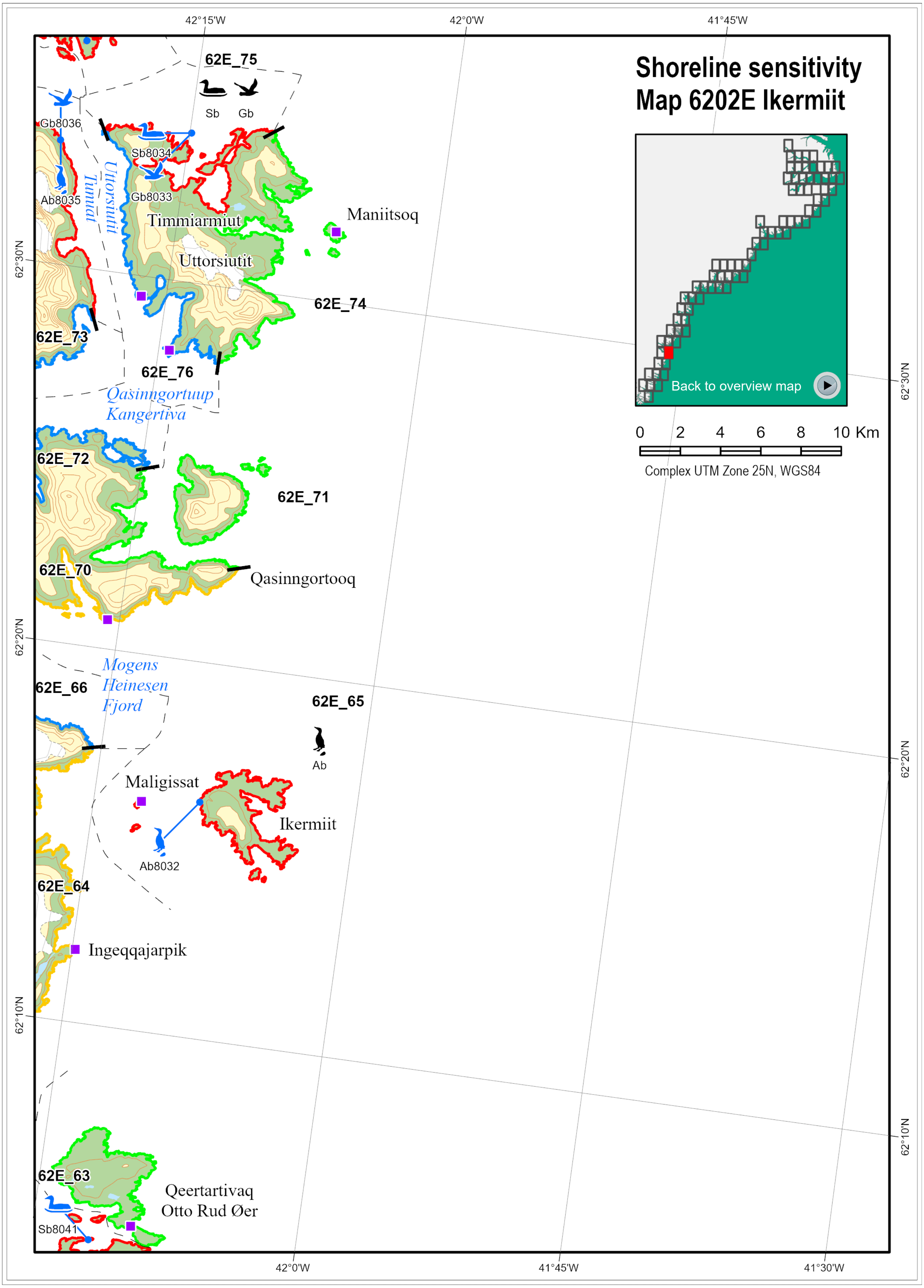
Shorelines shown on this map are predominantly rock, talus, and glacier, with moderate to full exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords, noted as high sensitivity. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



43°0'W
42°45'W
42°30'W
42°15'W
62°30'N
62°20'N
62°10'N
Mogens Heinesen Fjord
Sikuijivitteq
Qasinngortuup Kangertiva
Sikuijivitip Apusiia
Physical environment & logistics
Map 6201E Mogens Heinesen Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84


Shoreline sensitivity
Map 6202E Ikermiit
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
42°15'W
42°0'W
41°45'W
41°30'W
62°30'N
62°20'N
62°10'N
62E_75
Sb
Gb
Gb8036
Sb8034
Gb8033
Ab8035
Uttorsiutit
Timiat
Timmiarmiut
Uttorsiutit
Maniitsoq
62E_74
62E_73
62E_76
Qasinngortuup
Kangertiva
62E_72
62E_71
62E_70
Qasinngortooq
Mogens
Heinesen
Fjord
62E_66
62E_65
Ab
Maligissat
Ikermiit
Ab8032
62E_64
Ingeqqajarpik
62E_63
Qeertartivaq
Otto Rud Øer
Sb8041

8.11 Map 6202E – Ikermiit

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

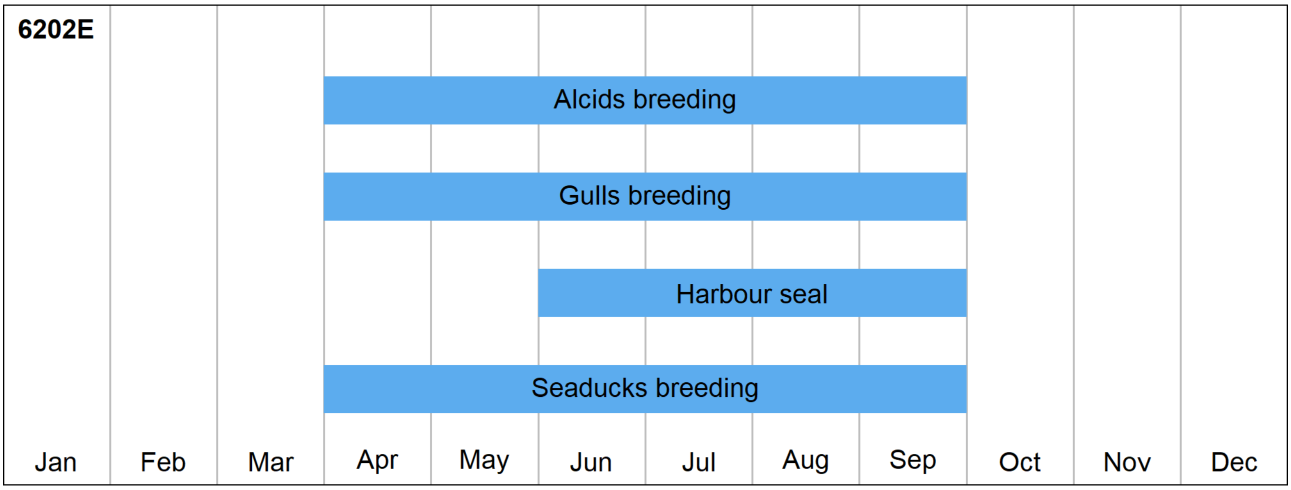
Ab62E_77, Ab62E_65	1 colony of black guillemots
Gb62E_75	1 colony of Arctic terns
Gb62E_77	1 colony of Iceland gulls
Ha62E_62	Possible harbour seal breeding area
Sb62E_75, Sb62E_78	1 colony of common eiders
Sb62E_79	1 colony of common eiders

Site specific occurrence: blue icons

Ab8032, Ab8035	Breeding black guillemots
Gb8033	Breeding Arctic terns
Gb8036	Breeding Iceland gulls
Sb8034	Breeding common eiders
Sb8041, Sb8047	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
62E_62	23	Extreme
62E_63	9	Moderate
62E_64	11	High
62E_65	17	Extreme
62E_66	7	Low
62E_70	11	High
62E_71	9	Moderate
62E_72	8	Low
62E_73	8	Low
62E_74	9	Moderate
62E_75	24	Extreme
62E_76	7	Low
62E_77	19	Extreme
62E_78	17	Extreme
62E_79	24	Extreme



Physical environment and logistics, 6202E – Ikermiit

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. See nautical chart 2200. Local knowledge is essential for navigation.

The ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the icebergs.

Ingeqqajarpik, located 5 km NNW of the N end of Otto Rud Øer, is a cleft in the rocky coast where there is just enough room to haul up boats. Mogens Heinesen Fjord (62°23′N, 42°30′W) is entered N of a point lying 27 km N of Kap Steen Bille. Qasinngortooq, located 3 M E of the N entrance point of Mogens Heinesen Fjord, is a low, narrow, and precipitous point, bare of snow. It is reported that the narrow channel lying between this island and the mainland affords good shelter.

Uttorsiutit (Uvtorsiutit) is an island with an abandoned weather station (Timmiarmiut) 62°30′N, 42°09′W). It lies with its S extremity located 4.5 km N of Nattoralik. Qasinngortuup Kangertiva, a fjord, is approached between these two islands and extends W and NW for 19 km. Inlets indent the N and E coasts of Uttorsiutit and anchorage is obtainable, with local knowledge, at their heads. The approach through the N inlet has a least depth of 10 m while the approach through the E inlet has a least depth of 12 m; the latter inlet is normally used. Vessels have taken anchorage in a bay located close N of the SW extremity of Uttorsiutit, off some islets near its S shore. See nautical chart 2250.

Shorelines within this area are exclusively rock, allowing little opportunity for marine access.

There is a helipad at Uttorsiutit (Appendix F).

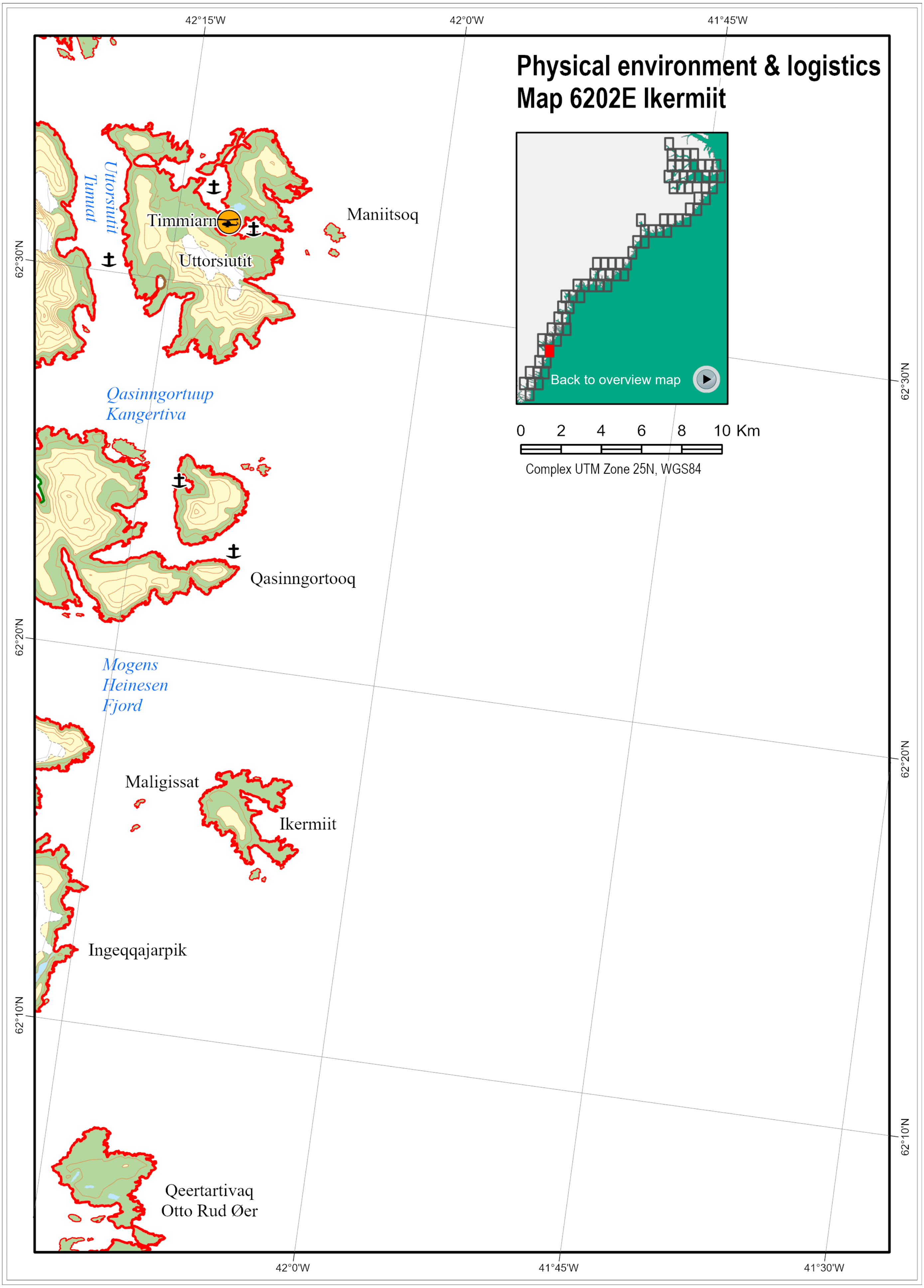
Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas.

Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.



Physical environment & logistics
Map 6202E Ikermiit
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
42°15'W
42°0'W
41°45'W
41°30'W
62°30'N
62°20'N
62°10'N
Uttorsiutit Tunua
Timmiarmiut
Uttorsiutit
Maniitsoq
Qasinngortuup Kangertiva
Qasinngortooq
Mogens Heinesen Fjord
Maligissat
Ikermiit
Ingeqqajarpik
Qeertartivaq
Otto Rud Øer

Shorelines shown on this map are exclusively exposed rock, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the several inlets. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

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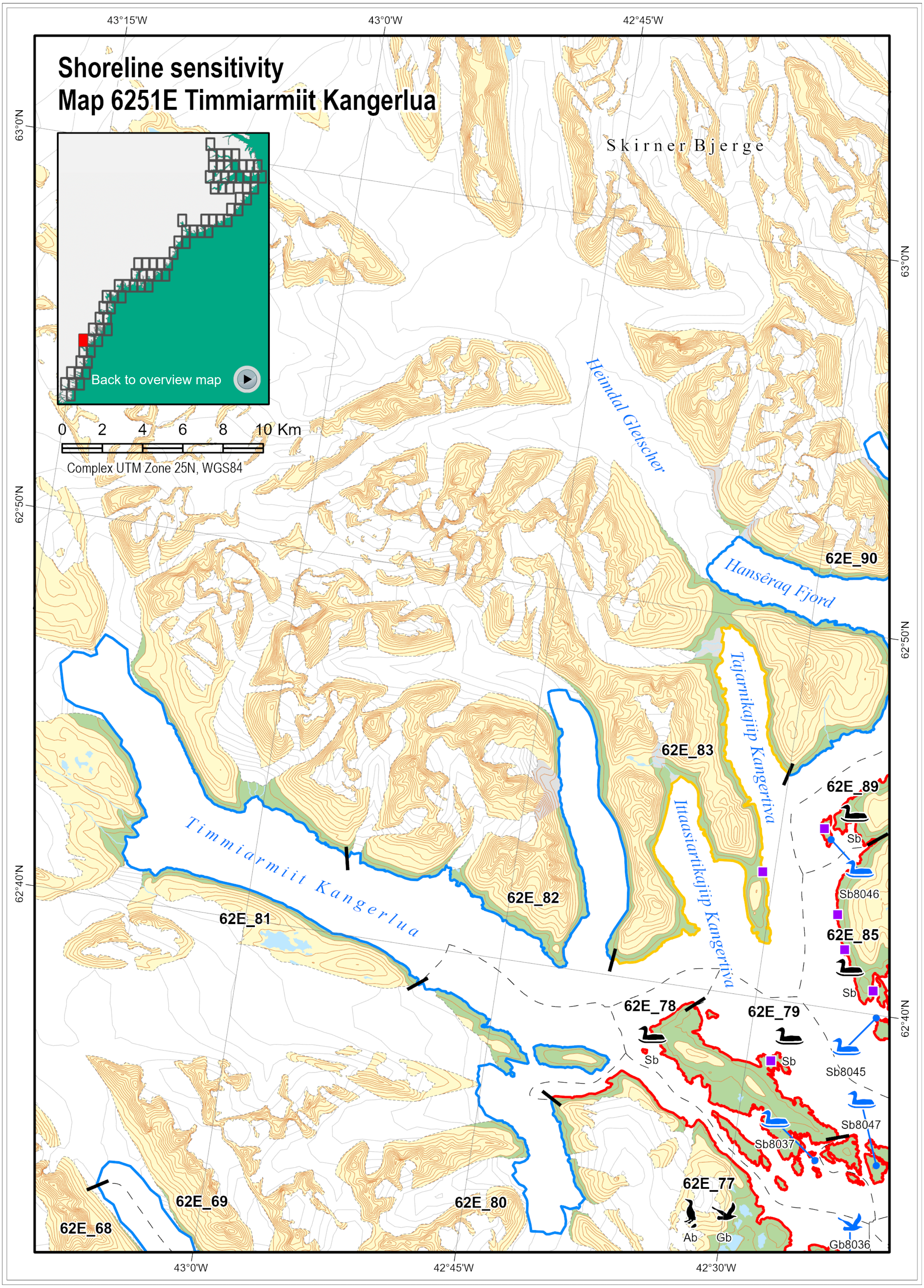


Shoreline sensitivity
Map 6251E Timmiarmiit Kangerlua
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
43°15'W
43°0'W
42°45'W
42°30'W
63°0'N
62°50'N
62°40'N
Skirner Bjerge
Heimdal Gletscher
Hansêraq Fjord
Tajarnikajiip Kangertiva
Ittaasiartikajiip Kangertiva
Timmiarmiit Kangerlua
62E_90
62E_89
62E_85
62E_83
62E_82
62E_81
62E_80
62E_79
62E_78
62E_77
62E_69
62E_68
Sb
Sb8046
Sb8045
Sb8047
Sb8037
Gb8036
Ab
Gb

8.12 Map 6251E – Timmiarmiit Kangerlua

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

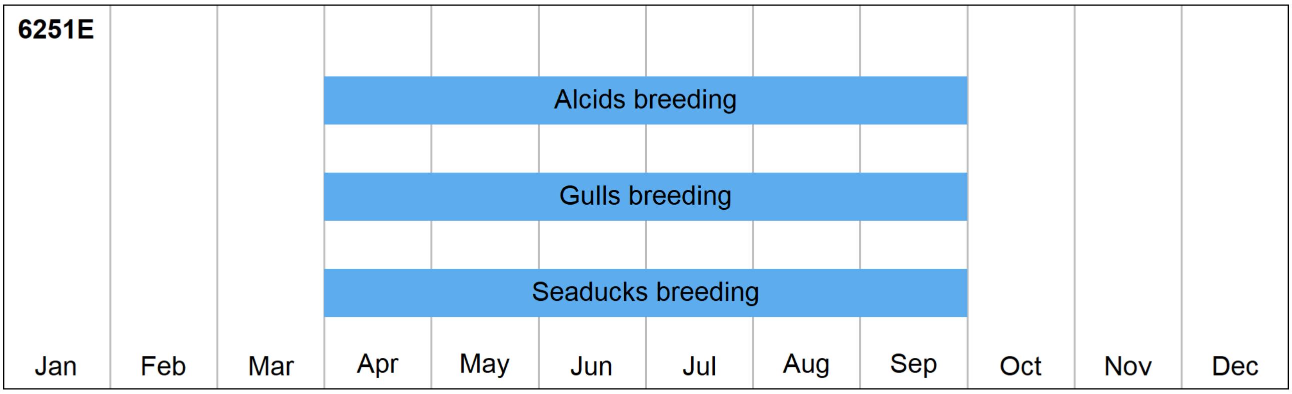
Ab62E_77	1 colony of black guillemots
Gb62E_77	1 colony of Iceland gulls
Sb62E_78, Sb62E_79	1 colony of common eiders
Sb62E_85, Sb62E_89	1 colony of common eiders

Site specific occurrence: blue icons

Sb8037	Breeding common eiders
Sb8045 – Sb8047	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
62E_68	8	Low
62E_69	7	Low
62E_77	19	Extreme
62E_78	17	Extreme
62E_79	24	Extreme
62E_80	7	Low
62E_81	7	Low
62E_82	7	Low
62E_83	11	High
62E_85	21	Extreme
62E_89	17	Extreme
62E_90	7	Low



Physical environment and logistics, 6251E – Timmiarmiit Kangerlua

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Shorefast ice cover the fjords in winter until May/June, while drift ice occur to a varying extension winter and spring.

Timmiarmiit Kangerlua 62°39’N, 42°43’W) is entered between the N end of Uttorsiutit and Aaluik, an island 220 m high, lying 6 km N (see map area 6202 and 6252). Its inner part narrows and is often blocked by icebergs that are discharged from the glaciers at the head. A number of islets lie off its S side. Anchorage is reported to be obtained W of the islet in a depth of 18 m at an abandoned settlement (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.There are no airports or airstrips on this or adjoining maps.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

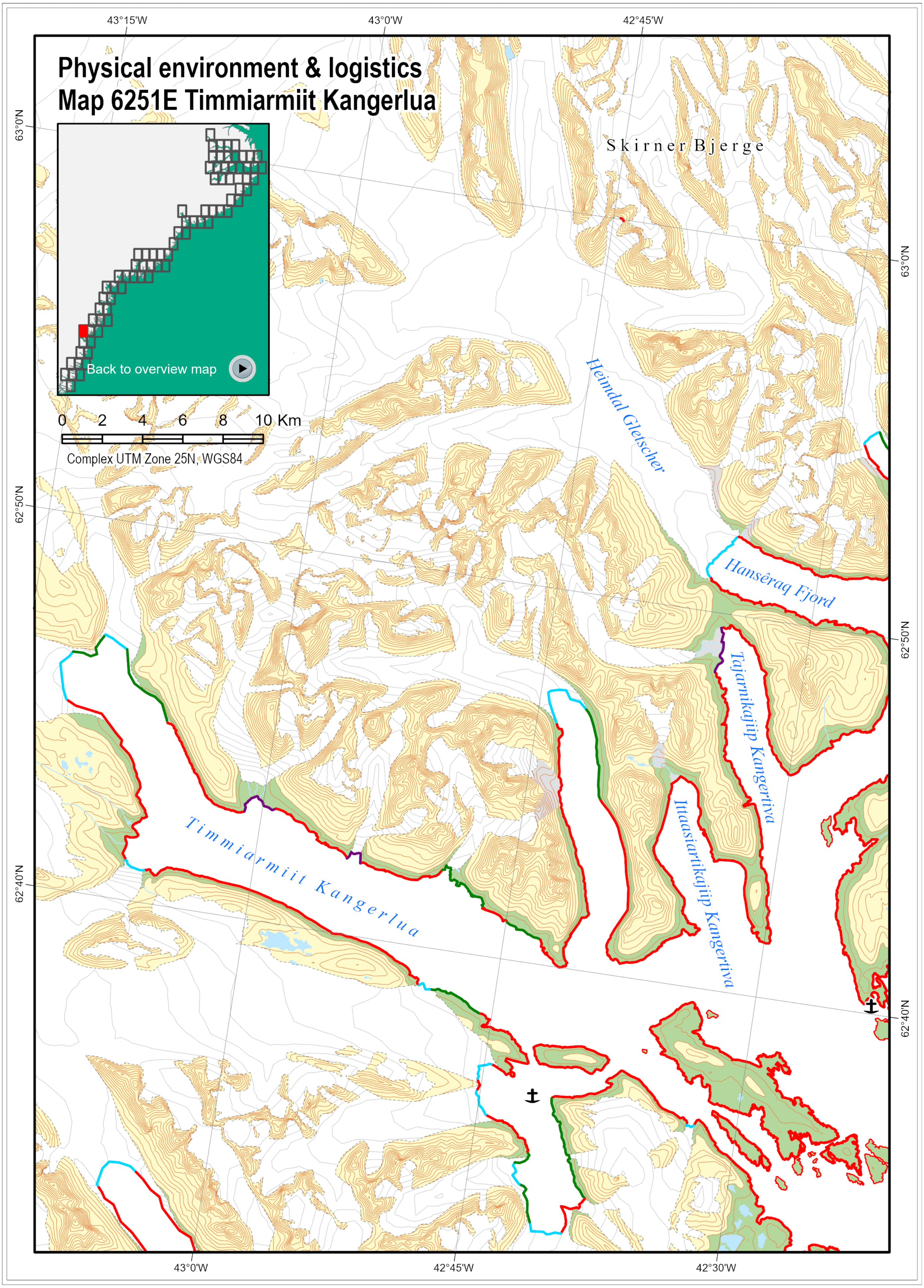
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

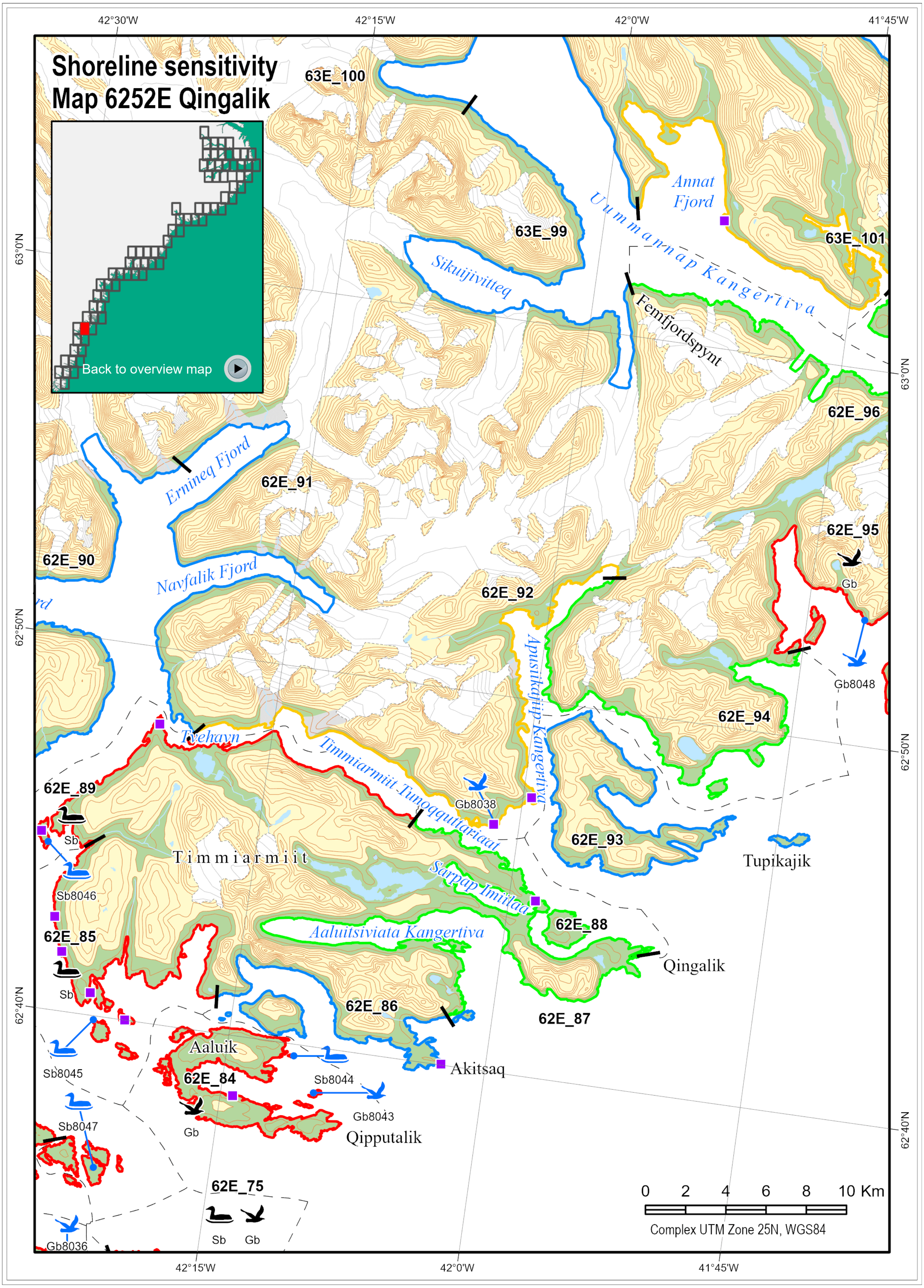
Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock, talus, and glacier, with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
A potential *safe haven* exists in the inlet on the south side of the entrance to Timmiarmiit Kangerlua, where the inlet widths are 500 m and 800 m. Exclusion booming could be used to contain any further release of oil. Depths are unknown and would require reconnaissance at the time of a spill.


Physical environment & logistics
Map 6251E Timmiarmiit Kangerlua
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
43°15'W
43°0'W
42°45'W
42°30'W
63°0'N
62°50'N
62°40'N
Skirner Bjerge
Heimdal Gletscher
Hansêraq Fjord
Tajarnikajiip Kangertiva
Ittaasiartikajiip Kangertiva
Timmiarmiit Kangerlua


Shoreline sensitivity
Map 6252E Qingalik
Back to overview map
42°30'W
42°15'W
42°0'W
41°45'W
63°0'N
62°50'N
62°40'N
63E_100
63E_99
63E_101
62E_96
62E_95
62E_94
62E_93
62E_92
62E_91
62E_90
62E_89
62E_88
62E_87
62E_86
62E_85
62E_84
62E_75
Annat Fjord
Uummannap Kangertiva
Femfjordspynt
Sikuijivitteq
Ernineq Fjord
Navfalik Fjord
Apusiikajiip Kangertiva
Tvehavn
Timmiarmiit Tunoqquttariaat
Timmiarmiit
Sarpap Imiilaa
Aaluitsiviata Kangertiva
Tupikajik
Qingalik
Aaluik
Akitsaq
Qipputalik
Gb
Gb8048
Gb8038
Sb
Sb8046
Sb8045
Sb8044
Gb8043
Sb8047
Gb8036
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.13 Map 6252E – Qingalik

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Gb62E_84	1 colony of Iceland gulls
Gb62E_95	1 colony of glaucous gulls
Sb62E_78, Sb62E_79	1 colony of common eiders
Sb62E_85, Sb62E_89	1 colony of common eiders

Site specific occurrence: blue icons

Gb8038, Gb8043	Breeding Iceland gulls
Gb8048	Breeding glaucous gulls
Sb8044 – Sb8047	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
62E_78	17	Extreme
62E_79	24	Extreme
62E_84	20	Extreme
62E_85	21	Extreme
62E_86	8	Low
62E_87	9	Moderate
62E_88	9	Moderate
62E_89	17	Extreme
62E_90	7	Low
62E_91	7	Low
62E_92	11	High
62E_93	8	Low
62E_94	9	Moderate
62E_95	17	Extreme
62E_96	9	Moderate
63E_99	6	Low
63E_100	7	Low
63E_101	11	High
63E_102	10	Moderate
63E_103	7	Low

6252E											
			Gulls breeding	Gulls breeding	Gulls breeding	Gulls breeding	Gulls breeding	Gulls breeding			
			Seaducks breeding	Seaducks breeding	Seaducks breeding	Seaducks breeding	Seaducks breeding	Seaducks breeding			
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 6252E – Qingalik

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

Shorefast ice cover the fjords in winter until May/June, while drift ice occur to a varying extension winter and spring. Additional dangers to navigation are icebergs.

Three anchorages have been reported for this map area (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this or adjoining maps.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

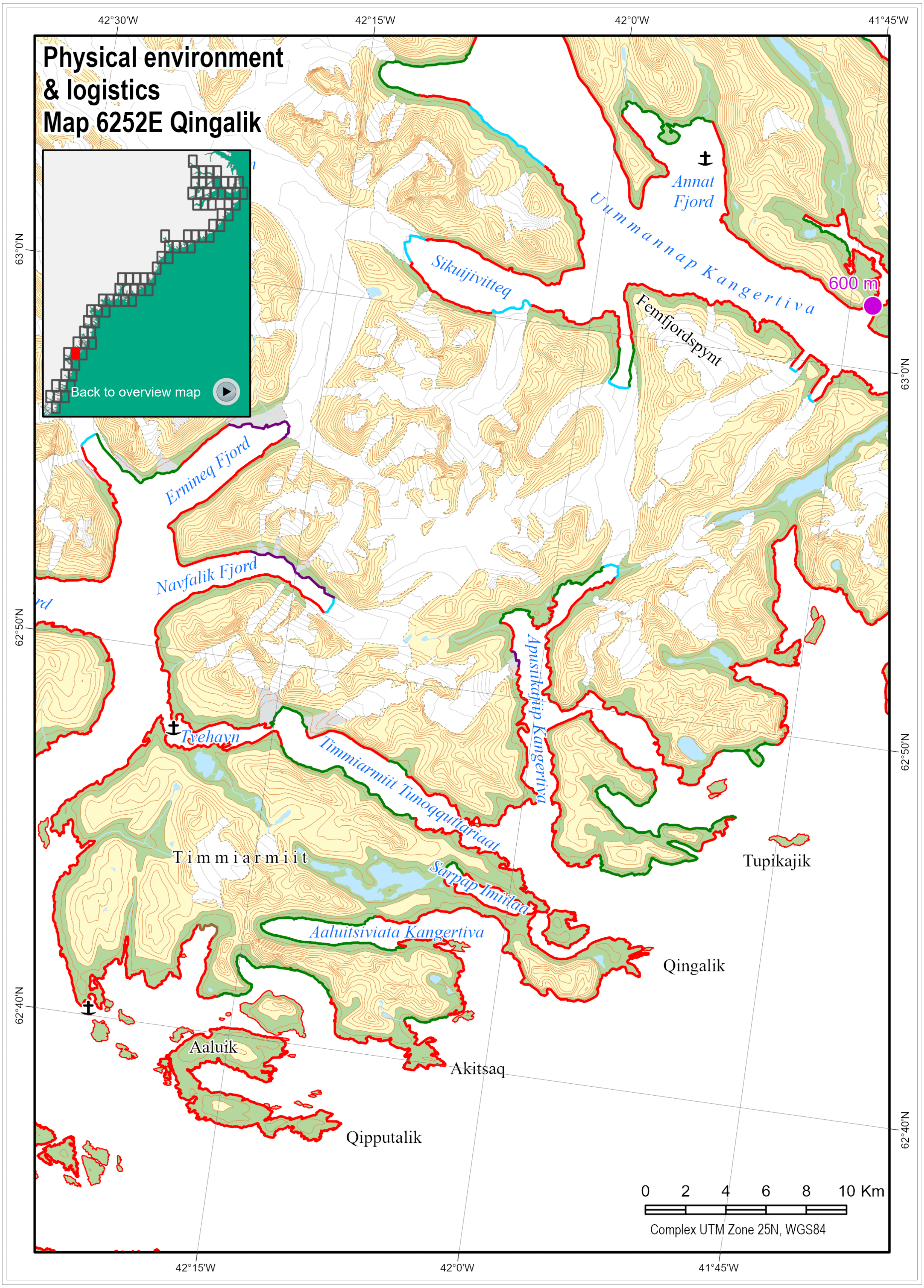
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

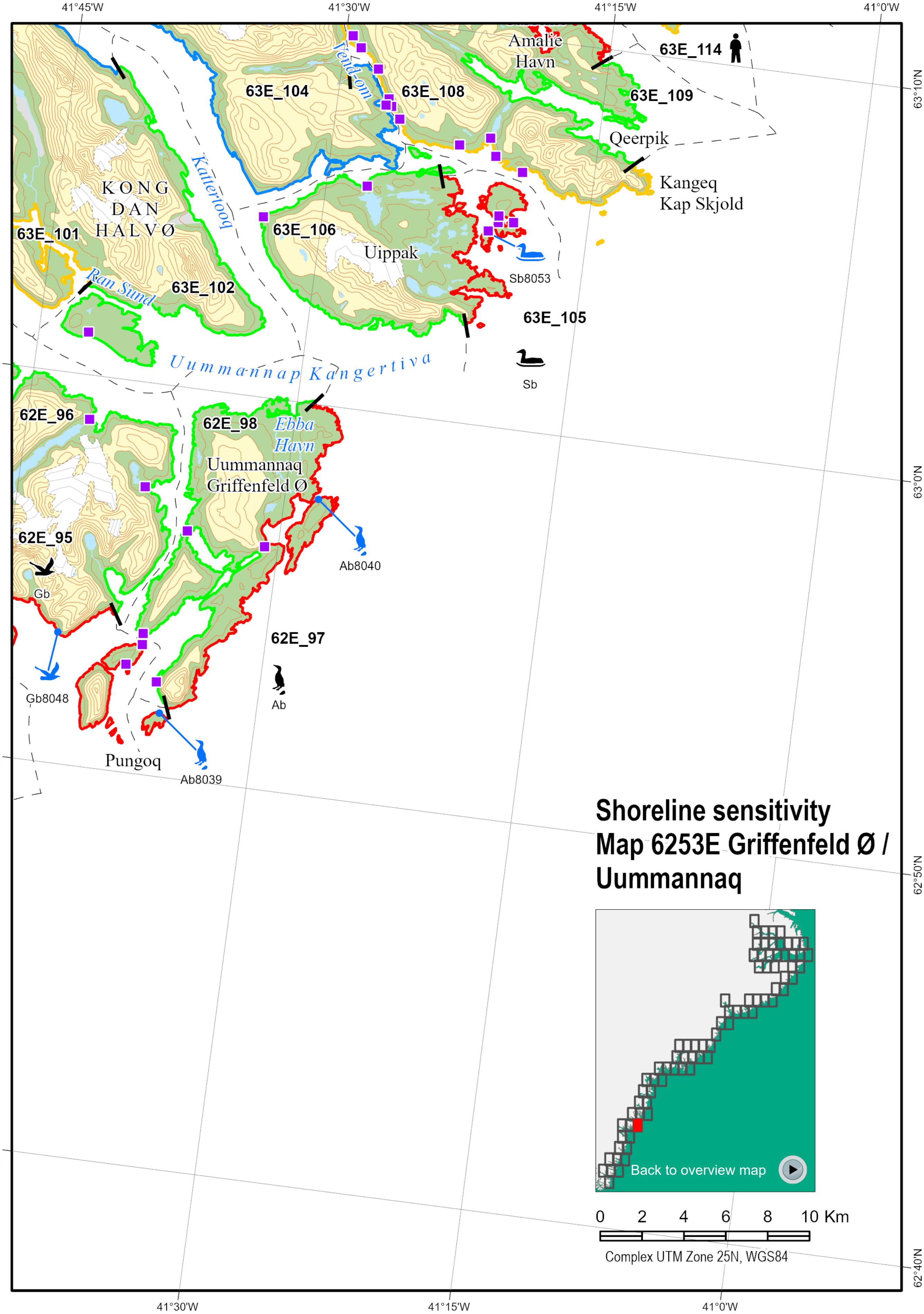
Oil approaching the fjord Uummannap Kangertiva could be prevented from an entering by an exclusion boom at the entrance. A modest length of exclusion boom could be used at the entrance (est. 600 m) to protect a large and highly sensitive inshore area.

Shorelines shown on this map are predominantly rock, talus, and glacier, with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment
& logistics
Map 6252E Qingalik
Back to overview map
42°30'W
42°15'W
42°0'W
41°45'W
63°0'N
62°50'N
62°40'N
Annat Fjord
Uummannap Kangertiva
600 m
Sikuijivitteq
Femfjordspynt
Ermineq Fjord
Navfalik Fjord
Apusiikajiip Kangertiva
Tyrehavn
Timmiarmiit Tunoqqutariaat
Timmiarmiit
Sarpap Imilaa
Tupikajik
Aaluitsiviata Kangertiva
Qingalik
Aaluik
Akitsaq
Qipputalik
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 6253E Griffenfeld Ø / Uummannaq

8.14 Map 6253E – Griffenfeld Ø/Uummannaq

Shoreline sensitivity map

Human use

63E_107, 63E_110	Occasional stays in the Skjoldungen area by hunters from the Tasiilaq area, and presumably hunting of a range of different species during these visits.
63E_114	Occasional stays in the Skjoldungen area by hunters from the Tasiilaq area, and presumably hunting of a range of different species during these visits.

Species occurrence

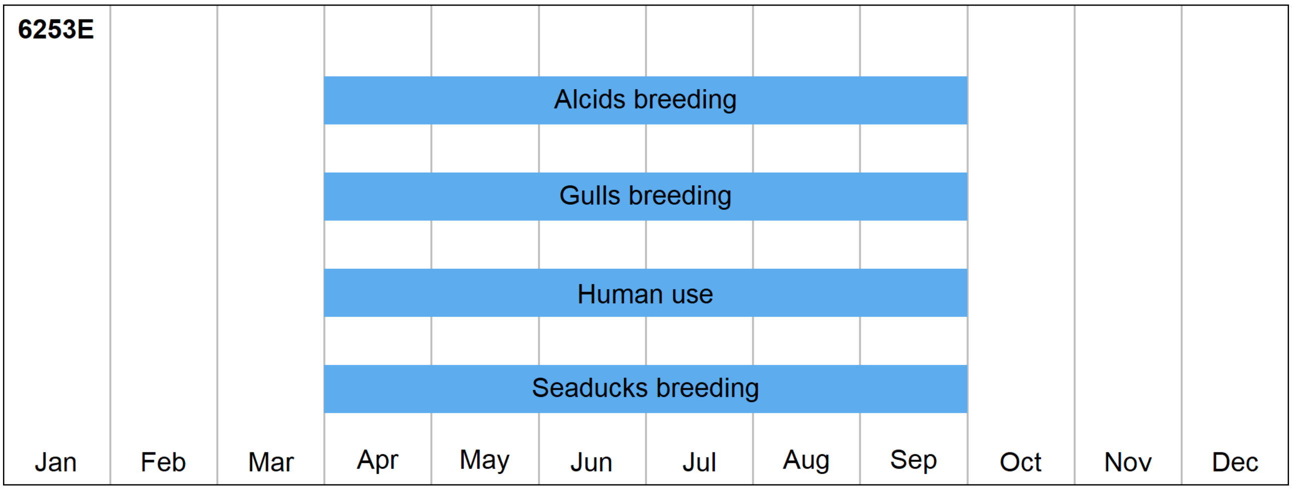
Ab62E_97	2 colonies of black guillemots
Gb62E_95	1 colony of glaucous gulls
Sb63E_105	1 colony of common eiders

Site specific occurrence: blue icons

Ab8039, Ab8040	Breeding black guillemots
Gb8048	Breeding glaucous gulls
Sb8053	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
62E_95	17	Extreme
62E_96	9	Moderate
62E_97	17	Extreme
62E_98	9	Moderate
63E_101	11	High
63E_102	10	Moderate
63E_103	7	Low
63E_104	8	Low
63E_105	19	Extreme
63E_106	9	Moderate
63E_107	14	High
63E_108	15	High
63E_109	9	Moderate
63E_110	18	Extreme
63E_114	15	High



Physical environment and logistics, 6253E – Griffenfeld Ø/Uummannaq

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Shorefast ice cover most of the fjords in winter until May/June, while drift ice occur to a varying extension winter and spring. Additional dangers to navigation are icebergs.

The channel separating Uummannaq/Griffenfeld Ø from the mainland is bounded on either side by lofty mountains. It is reported to be deep and free of dangers; a passage through is possible when the state of the ice permits.

Uummannap Kangertiva/Sehested Fjord is entered between Griffenfeld Ø and Uiippak a large island 3 km N. It extends 37 km NW and has several branches. Ran Sund, a narrow inlet, lies on the N side of this fjord 11 km within the entrance. It is reported to afford good anchorage for small craft. Annat Fjord, an inlet, is located on the N side of the fiord 22 km within the entrance. It is also reported to afford sheltered anchorage for small crafts. Ebba Havn is also usuable for small crafts (Appendix E).

Shorelines in this area are almost exclusively rock, glacier allowing little opportunity for marine access.

There are no airports or airstrips on this maps.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas.

Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

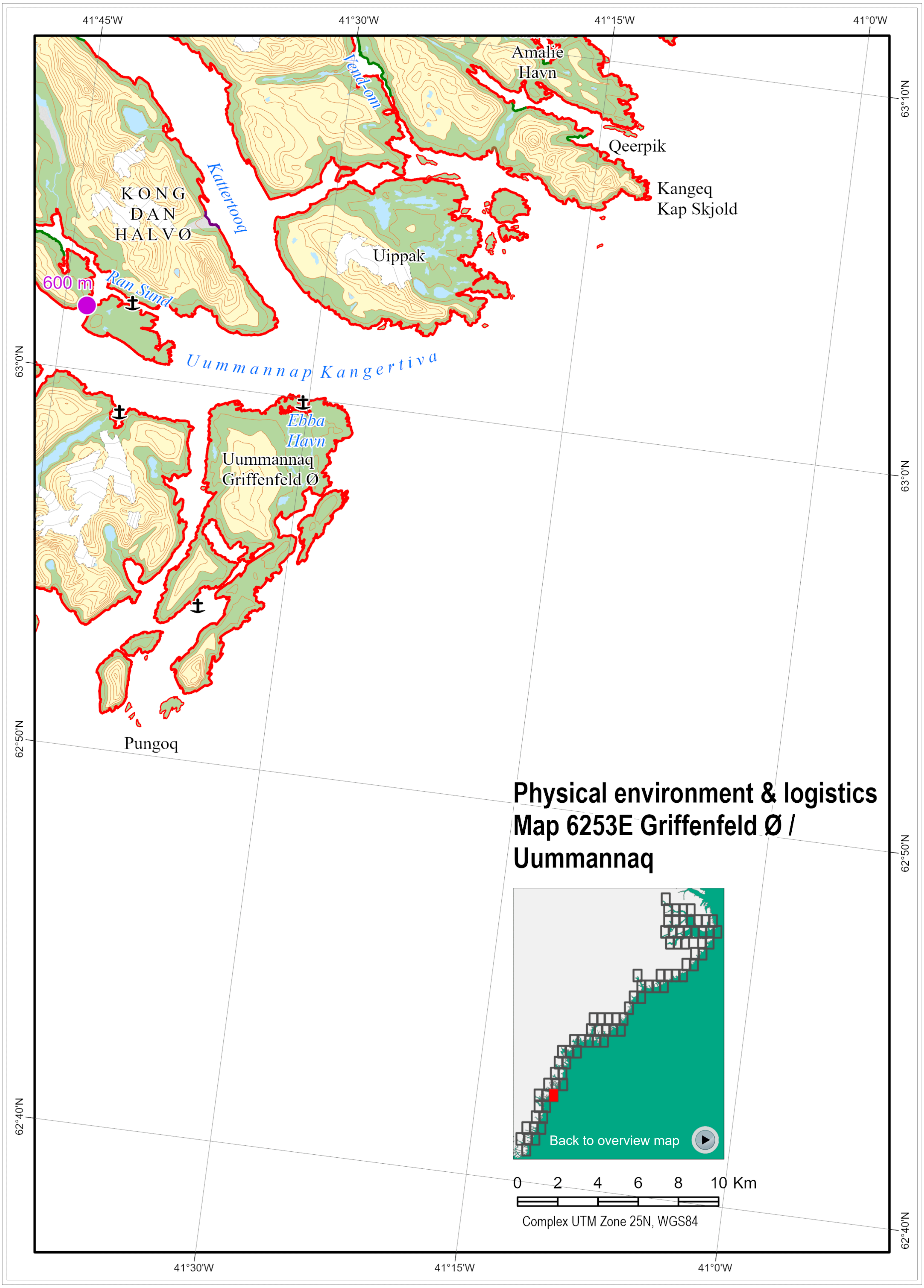
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

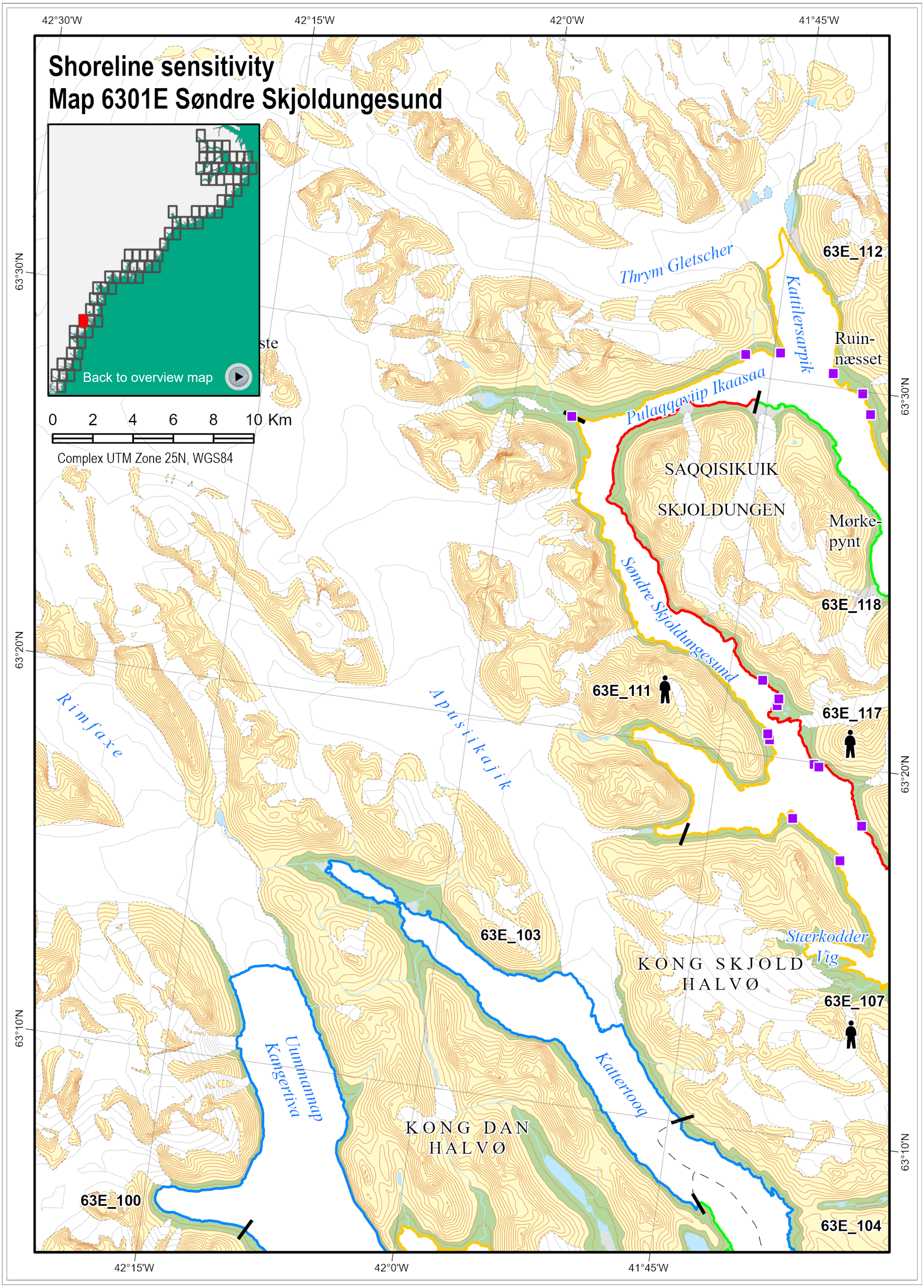
Shorelines shown on this map are almost exclusively exposed rock, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

Physical environment & logistics Map 6253E Griffenfeld Ø / Uummannaq




Shoreline sensitivity
Map 6301E Søndre Skjoldungesund
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
42°30'W
42°15'W
42°0'W
41°45'W
63°30'N
63°20'N
63°10'N
Thrym Gletscher
Kattilersarpik
Ruin-
næsset
Pulaqqaviip Ikaasaa
SAQQISIKUIK
SKJOLDUNGEN
Mørke-
pynt
Søndre Skjoldungesund
Apusiikajik
Rimfaxe
Stærkodder
Vig
KONG SKJOLD
HALVØ
KONG DAN
HALVØ
Ummannap
Kangertiva
Kattertooq
63E_112
63E_118
63E_111
63E_117
63E_103
63E_107
63E_100
63E_104

8.15 Map 6301E – Søndre Skjoldungesund

Shoreline sensitivity map

Human use

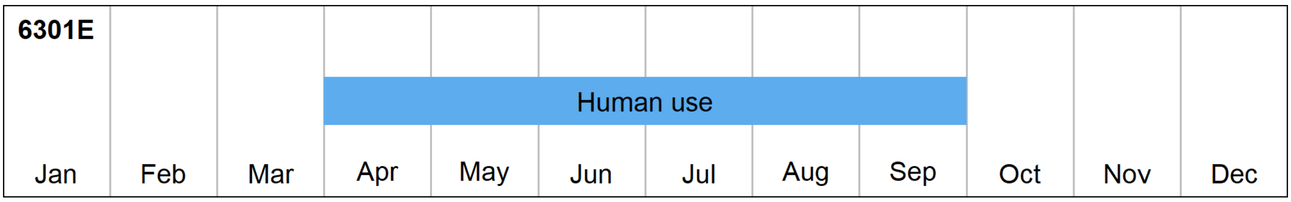
63E_107, 63E_111	Occasional stays in the Skjoldungen area by hunters from the Tasiilaq area, and presumably hunting of a range of different species during these visits.
63E_117	Occasional stays in the Skjoldungen area by hunters from the Tasiilaq area, and presumably hunting of a range of different species during these visits.

Species occurrence

Very little species occurrence is registrered on this map, however some capelin may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
63E_99	6	Low
63E_100	7	Low
63E_101	11	High
63E_102	10	Moderate
63E_103	7	Low
63E_104	8	Low
63E_107	14	High
63E_111	14	High
63E_112	15	High
63E_117	17	Extreme
63E_118	10	Moderate



Physical environment and logistics, 6301E – Søndre Skjoldungesund

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. See also nautical chart 2200. Large parts of the fjords are covered by shorefast ice in winter. Additional dangers to navigation are present here due to icebergs.

Stærkodder Vig is a good anchor site (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a STOL-airstrip in the head of Kattertoog (Apendix F).

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

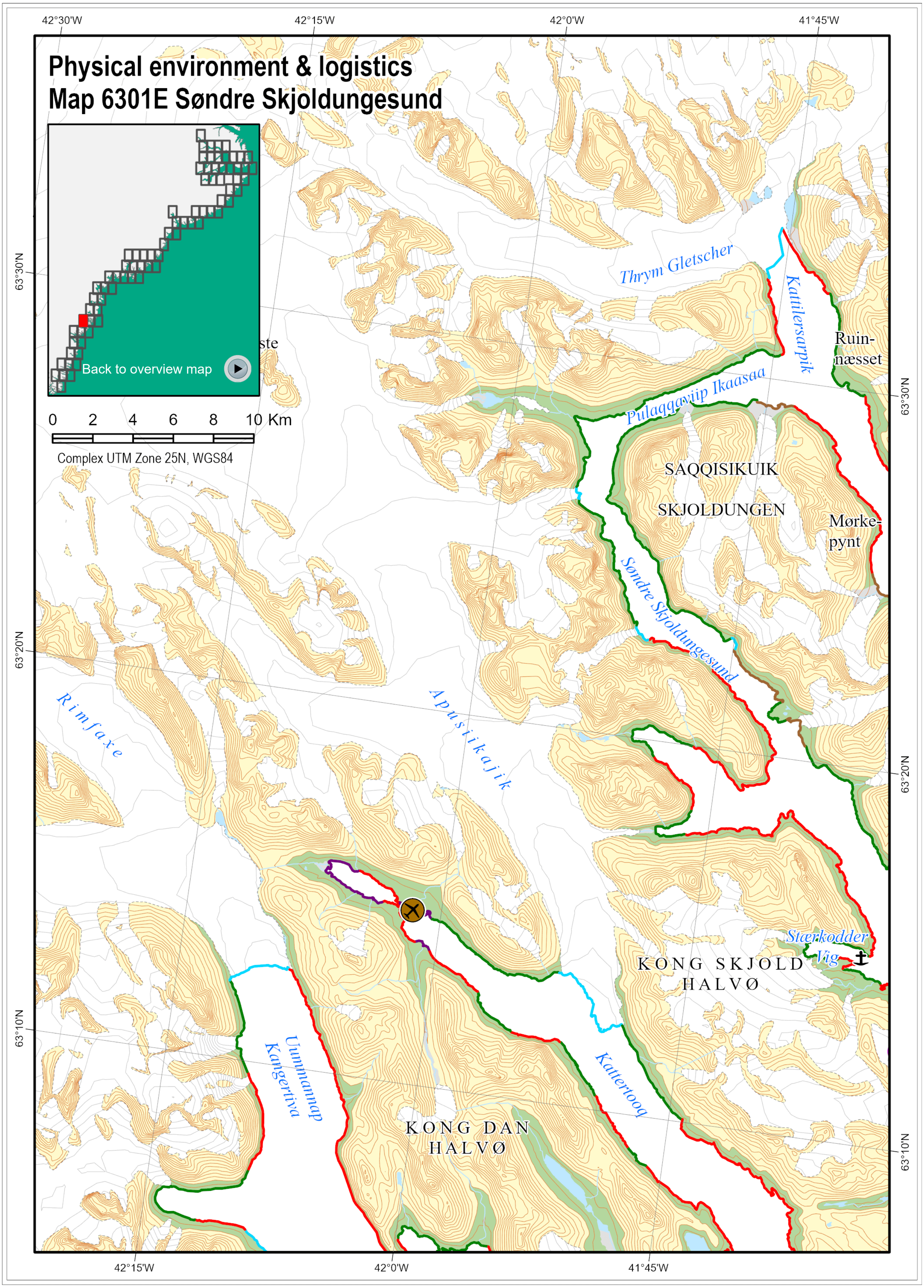
There are no opportunities for nearshore booming along the shoreline described on this map.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

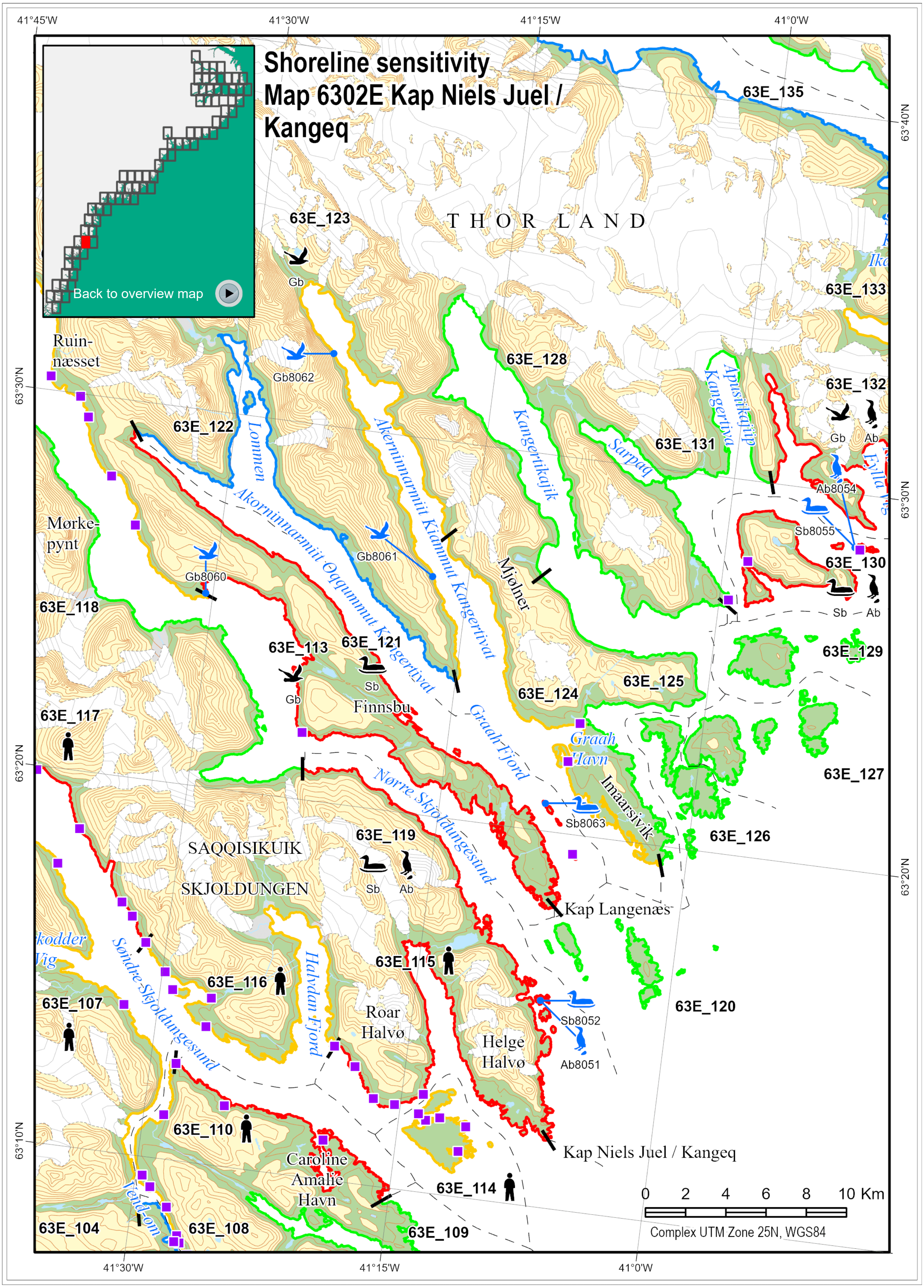
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6301E Søndre Skjoldungesund
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
42°30'W
42°15'W
42°0'W
41°45'W
63°30'N
63°20'N
63°10'N
Thrym Gletscher
Kattilersarpik
Ruin-
næsset
Pulaqqavijip Ikaasaa
SAQQISIKUIK
SKJOLDUNGEN
Mørke-
pynt
Søndre Skjoldungesund
Apusiikajik
Rimfaxe
Stærkodder
Vig
KONG SKJOLD
HALVØ
Kattertooq
Ummannap
Kangertiva
KONG DAN
HALVØ



Shoreline sensitivity
Map 6302E Kap Niels Juel / Kangeq
Back to overview map
THOR LAND
SAQQISIKUIK
SKJOLDUNGEN
Ruin-
næsset
Mørke-
pynt
Finnsbu
Roar
Halvø
Helge
Halvø
Caroline
Amalie
Havn
Kap Langenæs
Kap Niels Juel / Kangeq
Lommen
Akorninnarmiit Qaqqummut Kangertivat
Akerninnarmiit Kiammut Kangertivat
Kangertikajik
Kangertiva
Apusiikajiip
Sarpaq
Mjølner
Graah Fjord
Graah
Havn
Imaarsivik
Nørre Skjoldungesund
Søndre Skjoldungesund
Halvdan Fjord
Vendom
63E_104
63E_107
63E_108
63E_109
63E_110
63E_113
63E_114
63E_115
63E_116
63E_117
63E_118
63E_119
63E_120
63E_121
63E_122
63E_123
63E_124
63E_125
63E_126
63E_127
63E_128
63E_129
63E_130
63E_131
63E_132
63E_133
63E_135
Gb
Gb8062
Gb8061
Gb8060
Sb
Ab
Ab8054
Sb8055
Sb8063
Sb8052
Ab8051
41°45'W
41°30'W
41°15'W
41°0'W
63°40'N
63°30'N
63°20'N
63°10'N
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.16 Map 6302E – Kap Niels Juel

Shoreline sensitivity map

Human use

63E_107, 63E_110	Occasional stays in the Skjoldungen area by hunters from the Tasiilaq area, and presumably hunting of a range of different species during these visits.
63E_114 – 63E_117	Occasional stays in the Skjoldungen area by hunters from the Tasiilaq area, and presumably hunting of a range of different species during these visits.

Species occurrence

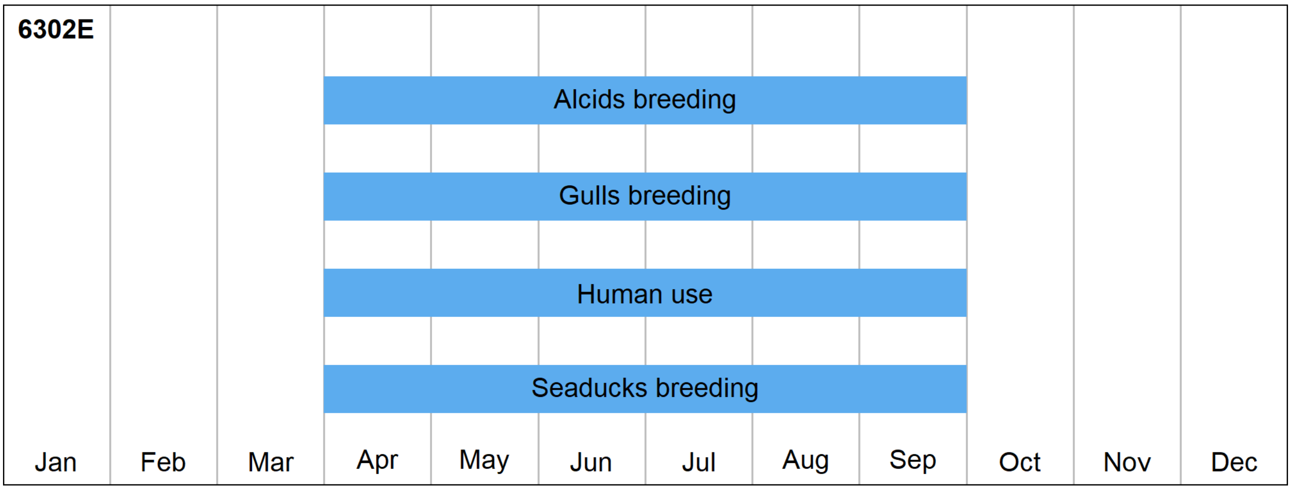
Ab63E_132, Ab63E_119	1 colony of black guillemots
Ab63E_130	1 colony of black guillemots
Gb63E_123	2 colonies of Iceland gulls
Gb63E_132	1 colony of black-legged kittiwakes, 1 colony of Iceland gulls and 1 colony of Iceland gulls
Gb63E_113	1 colony of Iceland gulls
Sb63E_121, Sb63E_119	1 colony of common eiders
Sb63E_130	1 colony of common eiders

Site specific occurrence: blue icons

Ab8051, Ab8054	Breeding black guillemots
Gb8060 – Gb8062	Breeding Iceland gulls
Sb8052, Sb8055	Breeding common eiders
Sb8063	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
63E_104	8	Low
63E_107	14	High
63E_108	15	High
63E_109	9	Moderate
63E_110	18	Extreme
63E_112	15	High
63E_113	21	Extreme
63E_114	15	High
63E_115	19	Extreme
63E_116	15	High
63E_117	17	Extreme
63E_118	10	Moderate
63E_119	26	Extreme
63E_120	10	Moderate
63E_121	27	Extreme
63E_122	9	Low
63E_123	15	High
63E_124	13	High
63E_125	10	Moderate
63E_126	11	Moderate
63E_127	10	Moderate
63E_128	11	Moderate
63E_129	11	Moderate
63E_130	27	Extreme
63E_131	11	Moderate
63E_132	28	Extreme
63E_133	16	High
63E_135	9	Low
63E_140	11	Moderate



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Physical environment and logistics, 6302E – Kap Niels Juel

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. See nautical map 2200. Local knowledge is essential for navigation.

Large parts of the fjords are covered by landfast ice in winter until May, and driftice occur in varying density and extension late winter and spring. Additional dangers to navigation are present here due to icebergs.

Saqqisikuik/Skjoldungen (63°20'N, 41°30'W), a large island over stretches 43 km in a NE/SW direction. It is separated from the mainland by Sønder Skjoldungesund, to the SW, and Nordre Skjoldungesund, to the NE. Sønder Skjoldungesund is entered between Kap Skjold and Kap Niels Juel. A submerged rock, position doubtful, lies in the entrance to the sound, about 6 km NNW of Kap Skjold (map area 6263). Caroline Amalie Havn lies on the SW shore of the sound, 10 km within its entrance. It is a small but excellent harbour with depths of 5.5 to 9 m, sand. The entrance is protected by rocks and islets.

Halvdan Fjord (63°14'N, 41°20'W) is located on the N side of Sønder Skjoldungesund, 11 km W of Kap Niels Juel. It is a sheltered harbour that is accessible as a refuge for fairly large vessels. From is entrance, the fiord extends 2 miles N, then mms W and opens into a broad basin in which there are depths of 18 to 64 m, soft bottom.

Graah Fjord (63°24'N, 41°17'W) is entered between Kap Langenæs and Immarsivik, an island, 300 m high, 3.6 km NE. Graah Havn, a good but small harbour, lies on the W side of this island and is formed by a deep and narrow inlet leading into an inner basin.

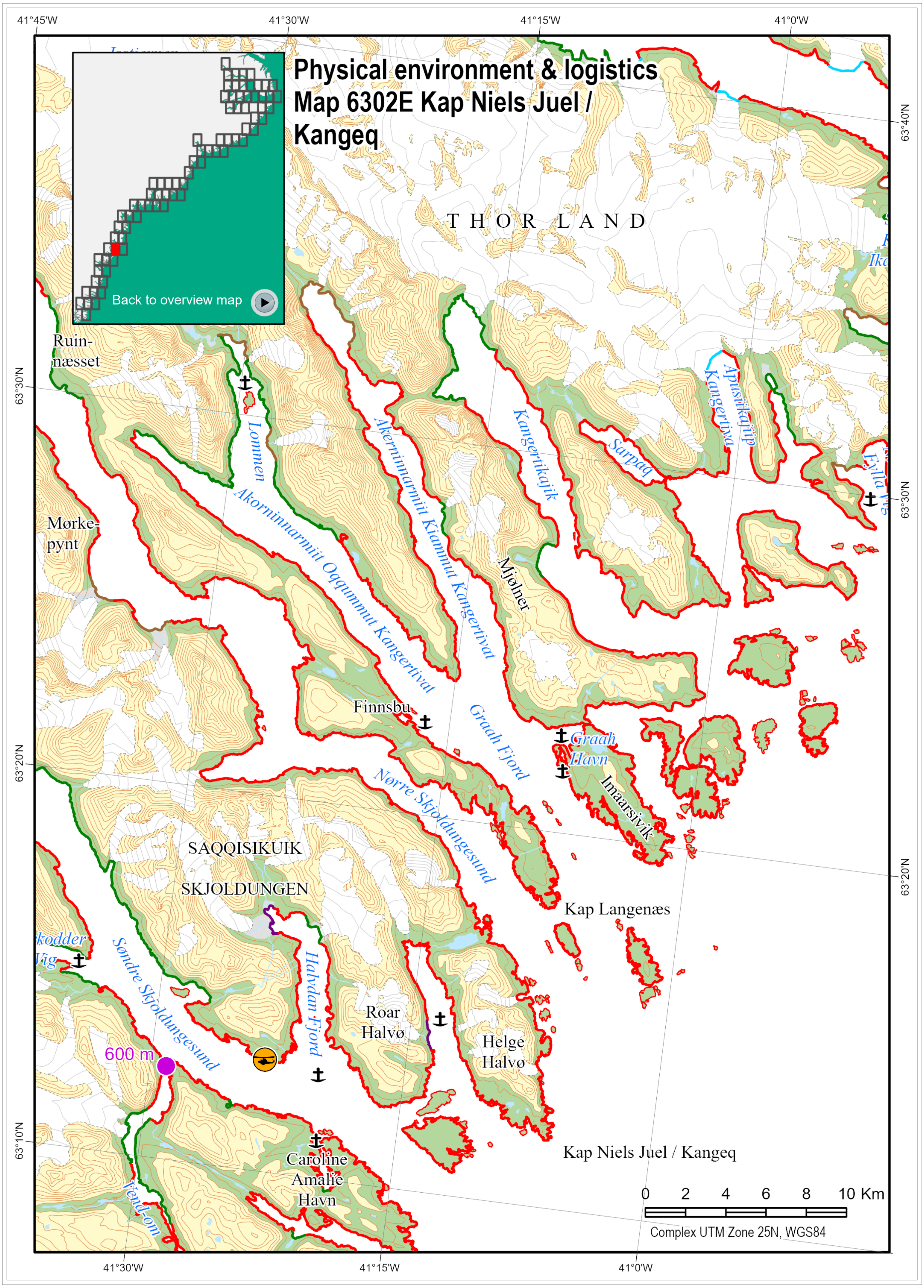
Finnsbu, the site of a former temporary meteorological radio station, is situated on the SW shore of the fjord, 11 km NW of Kap Langenæs. The main fjord extends 19 km NW and branches into two arms at its head. In the north branch Lommen, there is a group of islet in mid-channel. Good anchorage for ocean-going vessels was reported to be obtained N of these islets in a basin at the head of Lommen.

Skjoldungen is a former settlement and fishery station, see nautical chart 2250.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a helipad at Skjoldungen.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.


Physical environment & logistics
Map 6302E Kap Niels Juel / Kangeq
Back to overview map
41°45'W
41°30'W
41°15'W
41°0'W
63°40'N
63°30'N
63°20'N
63°10'N
THOR LAND
Ruin-
næsset
Mørke-
pynt
Lommen
Akorninnarmiit Oqqummut Kangertivat
Akerninnarmiit Kiammut Kangertivat
Kangertikajik
Mjølner
Sarpaq
Apusiikajiip Kangerliva
Finnsbu
Graah Fjord
Graah Havn
Imaarsivik
Nørre Skjoldungesund
SAQQISIKUIK
SKJOLDUNGEN
Kap Langenæs
Halvdan Fjord
Roar
Halvø
Helge
Halvø
Søndre Skjoldungesund
600 m
Caroline
Amalie
Havn
Kap Niels Juel / Kangeq
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

An opportunity for nearshore booming exists at the entrance to a fjord on the S side of Sønder Skjoldungesund, 16 km from its entrance, where a modest length of exclusion boom could be used at the entrance (est. 600 m) to protect a large and highly sensitive inshore area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

Halvdan Fjord would be a candidate with good shelter and holding but for its designation of extreme sensitivity. Surveys at the time of an incident should be carried out to determine if the seasonality is of concern.

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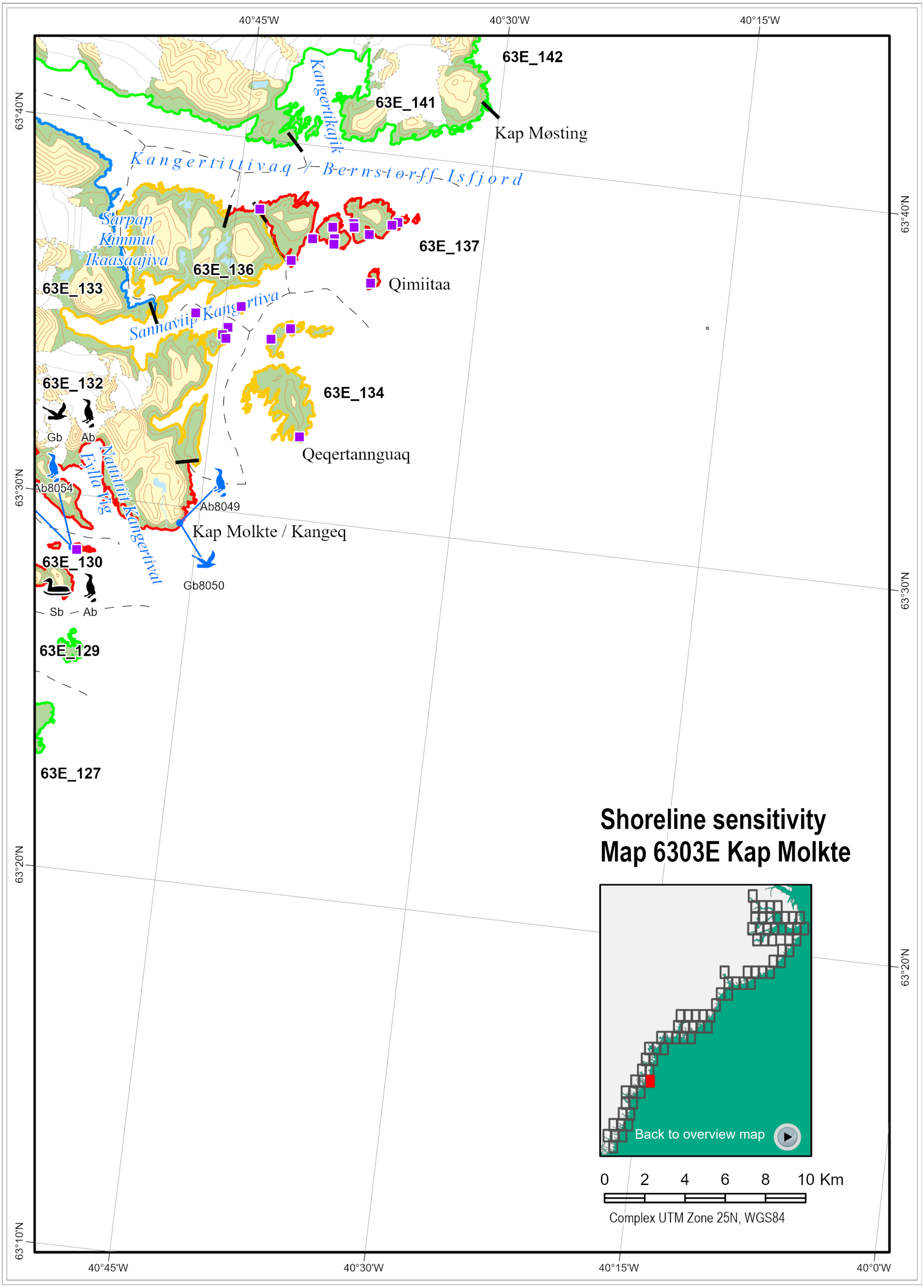

40°45'W
40°30'W
40°15'W
63°40'N
63°30'N
63°20'N
63°10'N
40°0'W
63E_142
63E_141
Kangertikajik
Kap Møsting
Kangertittivaq / Bernstorff Isfjord
Sarpap
Kimmut
Ikaasaajiva
63E_136
63E_137
Qimiitaa
63E_133
Sannaviip Kangertiva
63E_132
63E_134
Gb
Ab
Qeqertannguaq
Ab8054
Eylla Vig
Natiitiit Kangertivat
Ab8049
Kap Molkte / Kangeq
63E_130
Gb8050
Sb
Ab
63E_129
63E_127
Shoreline sensitivity
Map 6303E Kap Molkte
Back to overview map
0
2
4
6
8
10 Km
Complex UTM Zone 25N, WGS84

8.17 Map 6303E – Kap Molkte

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

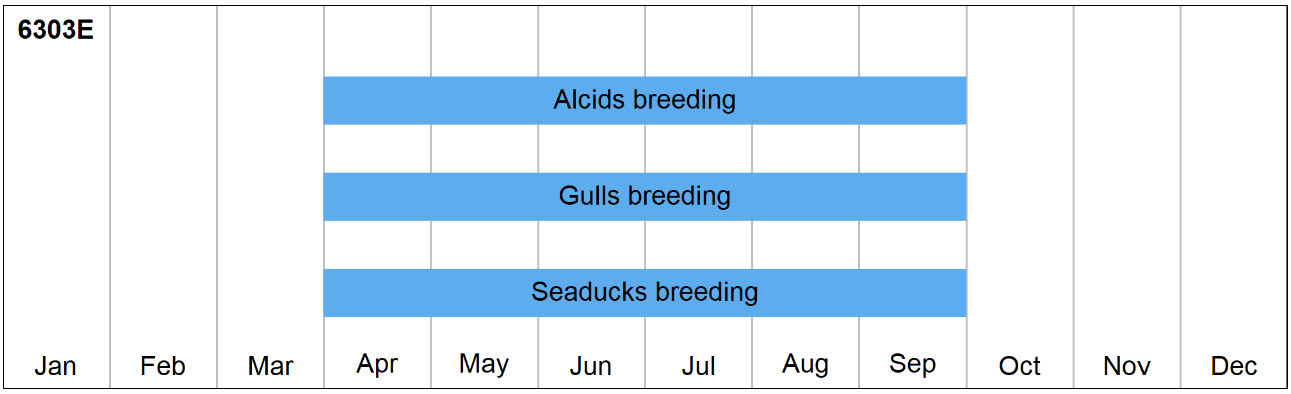
Ab63E_132, Ab63E_130	1 colony of black guillemots
Gb63E_132	1 colony of black-legged kittiwakes, 1 colony of Iceland gulls and 1 colony of Iceland gulls
Sb63E_130	1 colony of common eiders

Site specific occurrence: blue icons

Ab8049, Ab8054	Breeding black guillemots
Gb8050	Breeding Iceland gulls, black-legged kittiwakes and glaucous gulls
Sb8055	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
63E_127	10	Moderate
63E_129	11	Moderate
63E_130	27	Extreme
63E_132	28	Extreme
63E_133	16	High
63E_134	13	High
63E_135	9	Low
63E_136	13	High
63E_137	21	Extreme
63E_140	11	Moderate
63E_141	9	Moderate
63E_142	10	Moderate



Physical environment and logistics, 6303E – Kap Molkte

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Large parts of the fjords are covered by landfast ice in winter until May, and driftice occur in varying density and extension late winter and spring. Additional dangers to navigation are present here due to icebergs especially in Bernstorff Isfjord.

Fylla Vig W of Kap Molkte is reported as an anchor site (Appendix E).

Shorelines in this area are predominantly rock and talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this maps.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

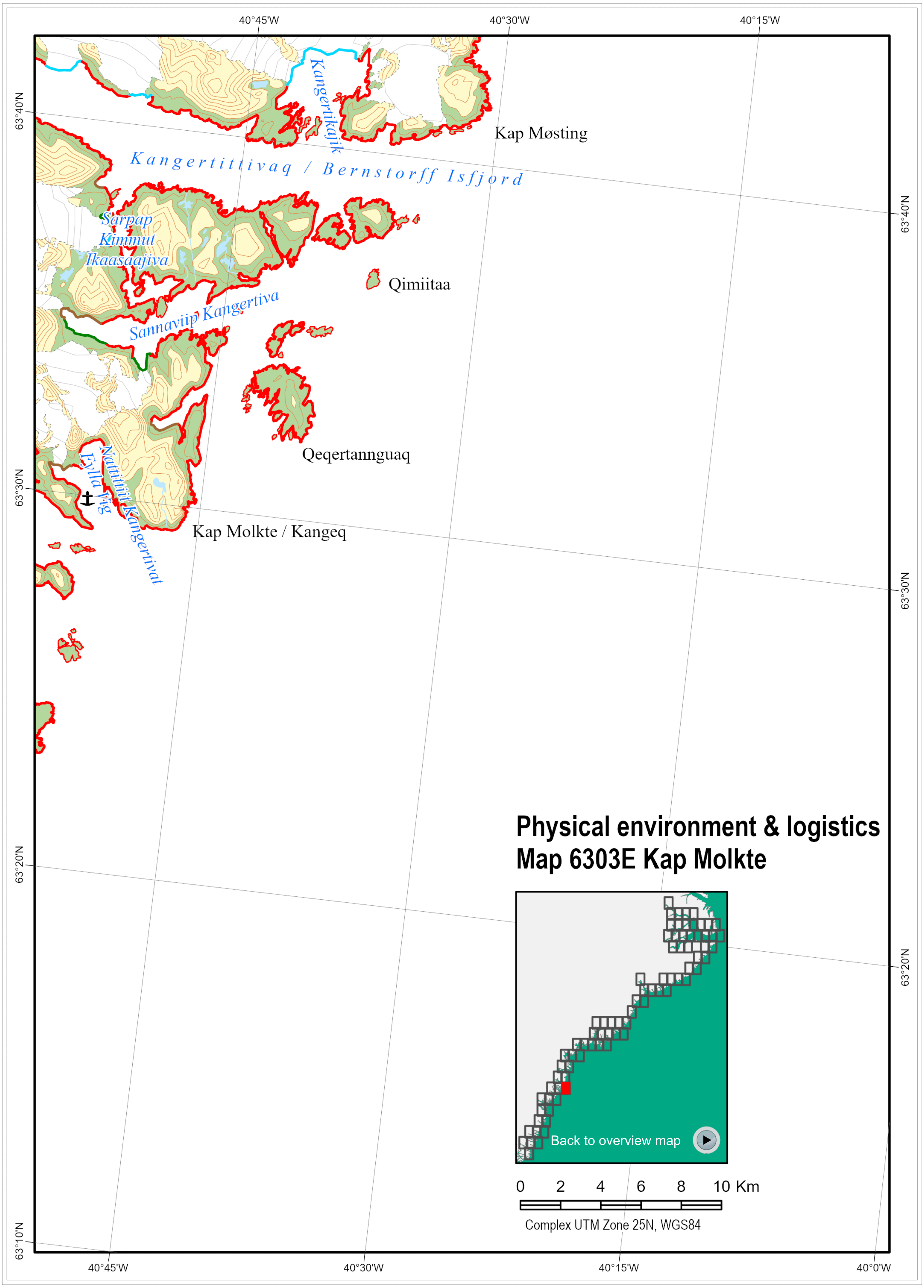
There are no opportunities for nearshore booming along the shoreline described on this map.

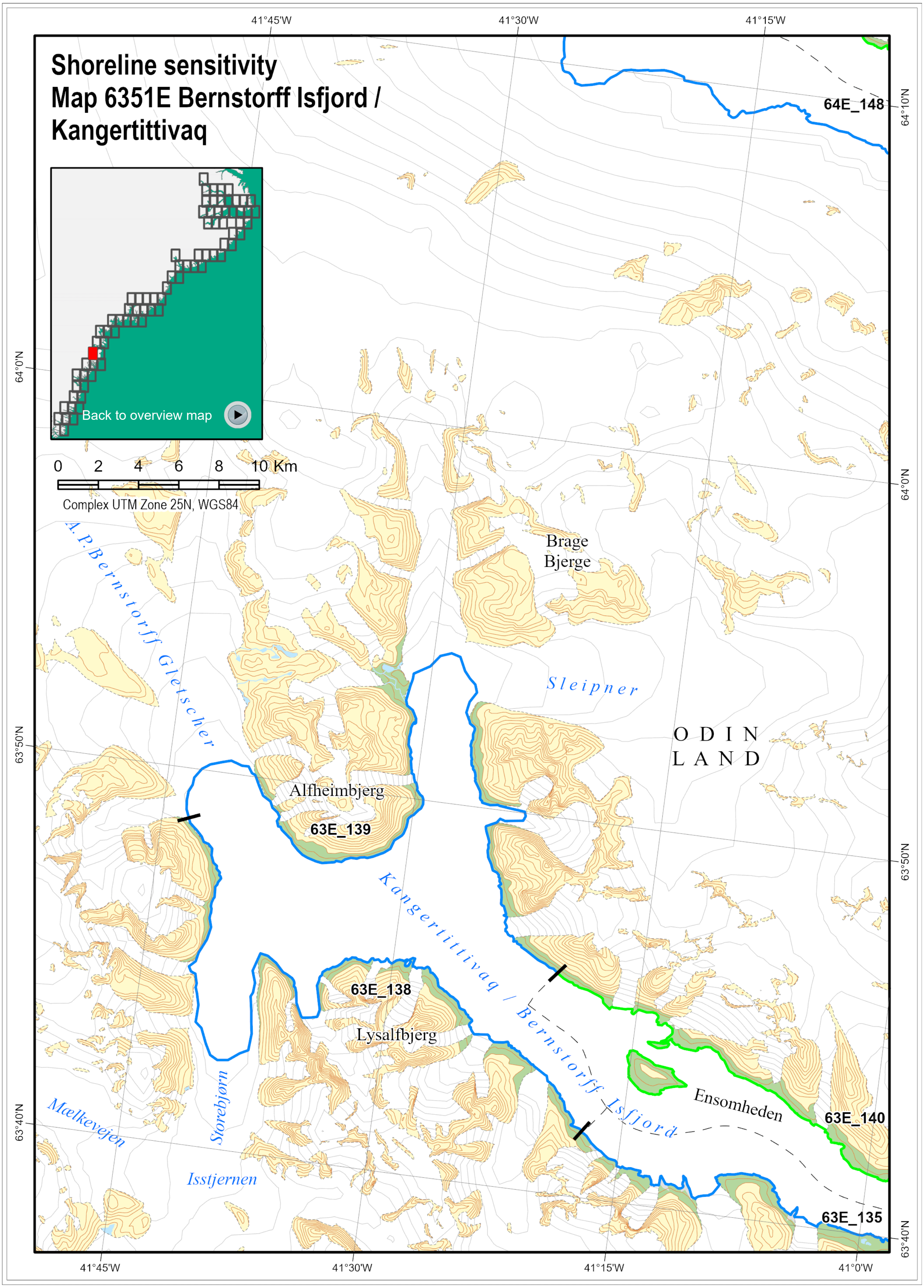
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and talus with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map


40°45'W
40°30'W
40°15'W
40°0'W
63°40'N
63°30'N
63°20'N
63°10'N
Kangertikajik
Kap Møsting
Kangertittivaq / Bernstorff Isfjord
Sarpap
Kimmut
Ikaasaajiva
Qimiitaa
Sannaviip Kangertiva
Qeqertannguaq
Eylla Vig
Natittiit Kangertivat
Kap Molkte / Kangeq
Physical environment & logistics
Map 6303E Kap Molkte
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 6351E Bernstorff Isfjord / Kangertittivaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
41°45'W
41°30'W
41°15'W
41°0'W
64°10'N
64°0'N
63°50'N
63°40'N
64E_148
A.P. Bernstorff Gletscher
Brage Bjerge
Sleipner
ODIN LAND
Alfheimbjerg
63E_139
Kangertittivaq / Bernstorff Isfjord
63E_138
Lysalfbjerg
Ensomheden
63E_140
63E_135
Mælkevejen
Storebjørn
Isstjernen

8.18 Map 6351E – Bernstorff Isfjord/Kangertittivaq

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

Very little species occurrence is registrered on this map, however some capelin may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
63E_135	9	Low
63E_138	8	Low
63E_139	8	Low
63E_140	11	Moderate
64E_148	9	Low
64E_153	11	Moderate

Physical environment and logistics, 6351E – Bernstorff Isfjord/ Kangertittivaq

Access

The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation, however, the fjords are usually inaccessible due to glacier ice.

No anchorages are reported for this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this or adjoining maps.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming along the shoreline described on this map.

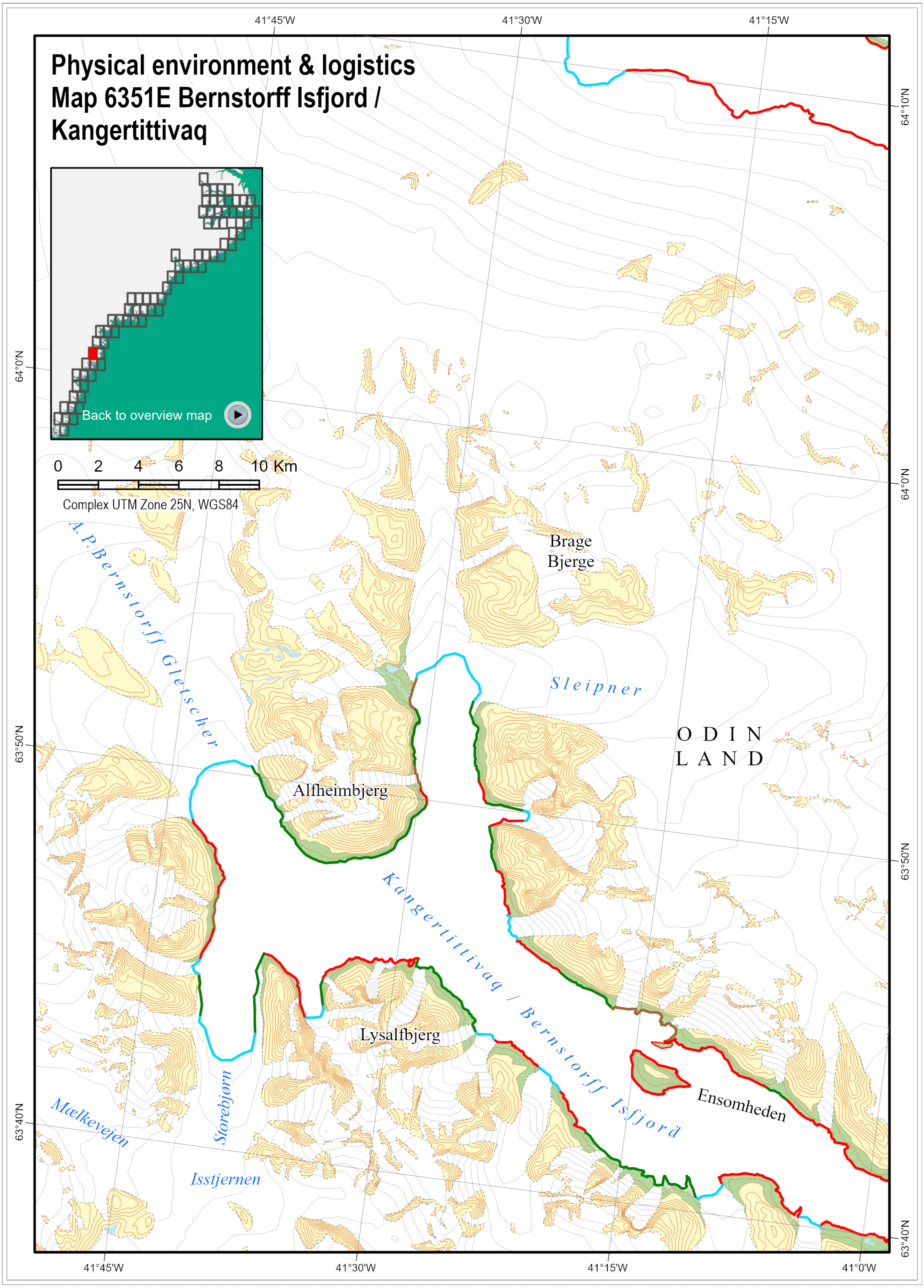
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

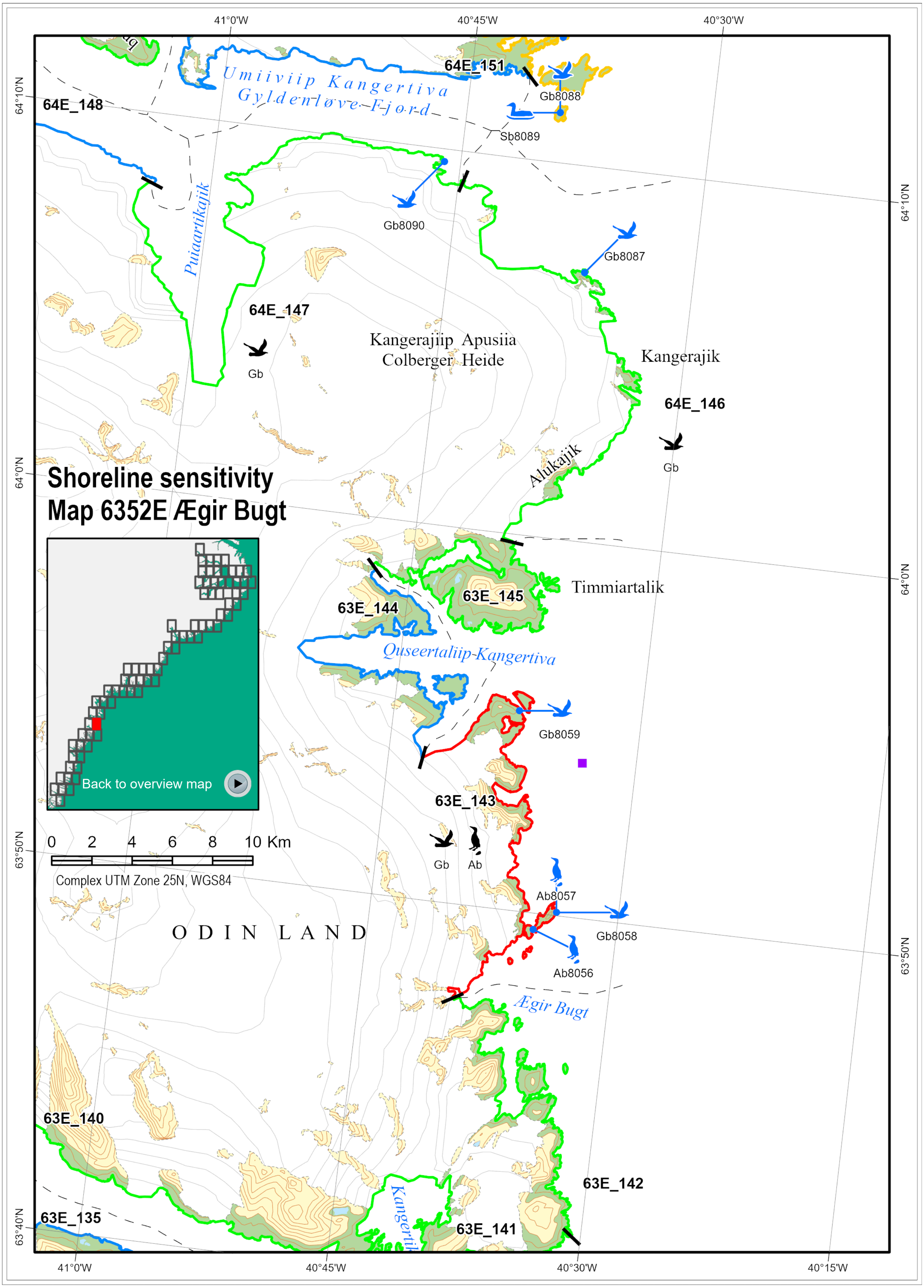
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6351E Bernstorff Isfjord /
Kangertittivaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
41°45'W
41°30'W
41°15'W
41°0'W
64°10'N
64°0'N
63°50'N
63°40'N
A.P. Bernstorff Gletscher
Brage
Bjerge
Sleipner
ODIN
LAND
Alfheimbjerg
Kangertittivaq / Bernstorff Isfjord
Lysalfbjerg
Ensomheden
Mælkevejen
Storebjørn
Isstjernen



Shoreline sensitivity
Map 6352E Ægir Bugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
41°0'W
40°45'W
40°30'W
40°15'W
64°10'N
64°0'N
63°50'N
63°40'N
Umiiviip Kangertiva
Gyldenløve Fjord
64E_151
Gb8088
Sb8089
64E_148
Puiaartikajik
Gb8090
Gb8087
64E_147
Gb
Kangerajiip Apusiia
Colberger Heide
Kangerajik
64E_146
Alukajik
Timmiartalik
63E_145
63E_144
Quseertaliip Kangertiva
Gb8059
63E_143
Ab
Ab8057
Gb8058
Ab8056
ODIN LAND
Ægir Bugt
63E_140
63E_142
63E_135
63E_141

8.19 Map 6352E – Ægir Bugt

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

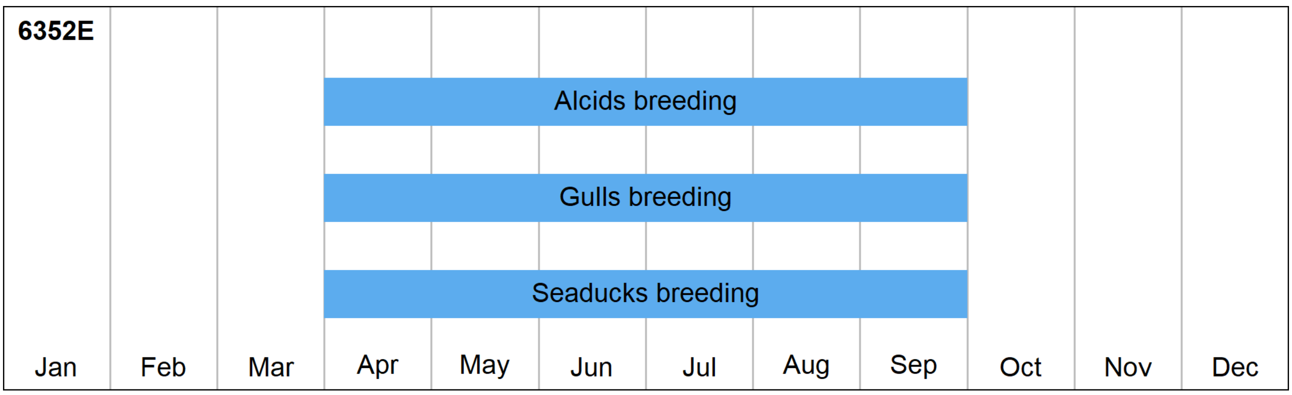
Gb64E_150	1 colony of Arctic terns
Ab63E_143	2 colonies of black guillemots
Gb63E_146	1 colony of black-legged kittiwakes and 1 colony of Iceland gulls
Gb63E_143	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb64E_147	1 colony of Arctic terns
Sb64E_150	2 colonies of common eiders

Site specific occurrence: blue icons

Ab8056, Ab8057	Breeding black guillemots
Gb8058	Breeding glaucous gulls
Gb8059	Breeding Iceland gulls and glaucous gulls
Gb8087	Breeding Iceland gulls and black-legged kittiwakes
Gb8088, Gb8090	Breeding Arctic terns
Sb8089	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
63E_135	9	Low
63E_140	11	Moderate
63E_141	9	Moderate
63E_142	10	Moderate
63E_143	30	Extreme
63E_144	9	Low
63E_145	11	Moderate
64E_146	12	Moderate
64E_147	11	Moderate
64E_148	9	Low
64E_150	26	High
64E_151	10	Low
64E_153	11	Moderate



Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation. The fjords NE and S are generally inaccessible due to glacier ice.

The ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

No anchorages are reported for this map area.

Shorelines in this area are predominantly rock and glacier, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airstrips on this map.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

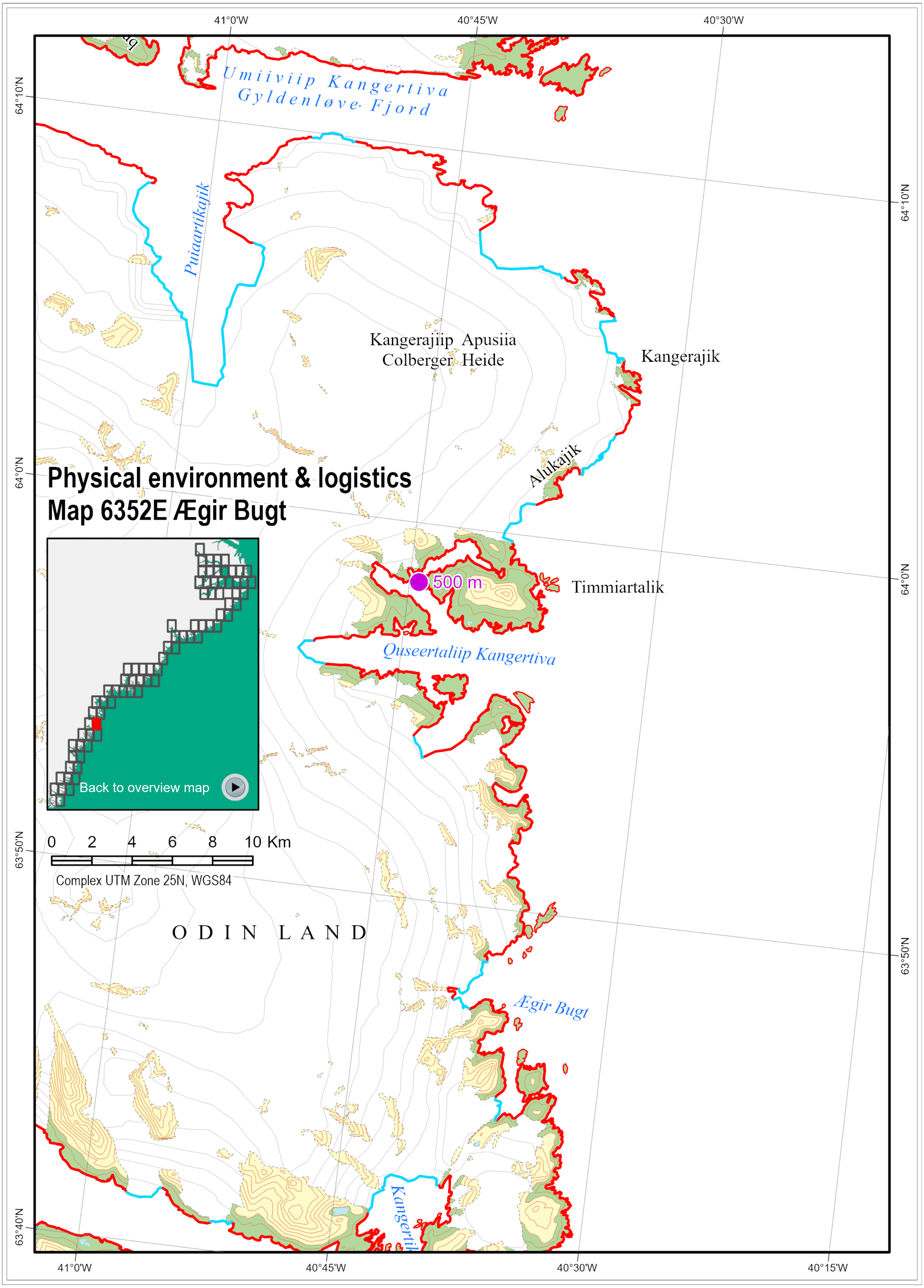
An opportunity for nearshore booming may exist at the entrance to the small fjord on the N side of Quseertaliip Kangertiva, where a modest length of exclusion boom could be used at the entrance (est. to be less than 500 m) to protect a protected and highly sensitive inshore area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

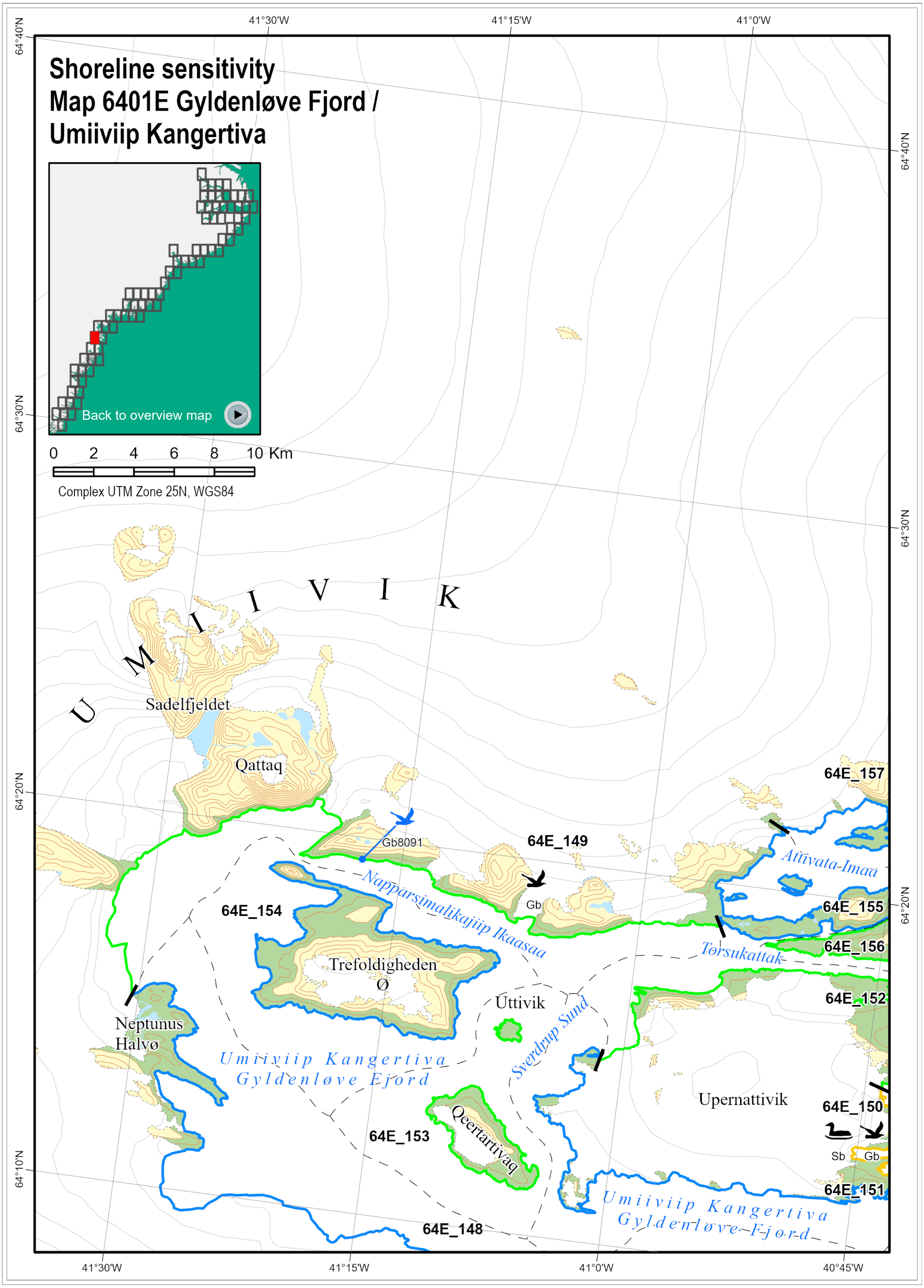
Shorelines shown on this map are exclusively rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6352E Ægir Bugt
Umiiviip Kangertiva
Gyldenløve Fjord
Puiaartikajik
Kangerajiip Apusiia
Colberger Heide
Kangerajik
Alukajik
500 m
Timmiartalik
Quseertaliip Kangertiva
ODIN LAND
Ægir Bugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
41°0'W
40°45'W
40°30'W
40°15'W
64°10'N
64°0'N
63°50'N
63°40'N


Shoreline sensitivity
Map 6401E Gyldenløve Fjord /
Umiiviip Kangertiva
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
41°30'W
41°15'W
41°0'W
40°45'W
64°40'N
64°30'N
64°20'N
64°10'N
U M I I V I K
Sadelfjeldet
Qattaq
Gb8091
64E_149
64E_157
Attivata-Imaa
64E_155
64E_156
64E_154
Napparsimalikajiip Ikaasaa
Gb
Torsukattak
Trefoldigheden Ø
Uttivik
64E_152
Neptunus Halvø
Sverdrup Sund
Umiiviip Kangertiva
Gyldenløve Fjord
Upernattivik
64E_150
Sb
Gb
64E_153
Qeertartivaq
64E_151
64E_148

8.20 Map 6401E – Gyldenløve Fjord/Umiiviip Kangertiva

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

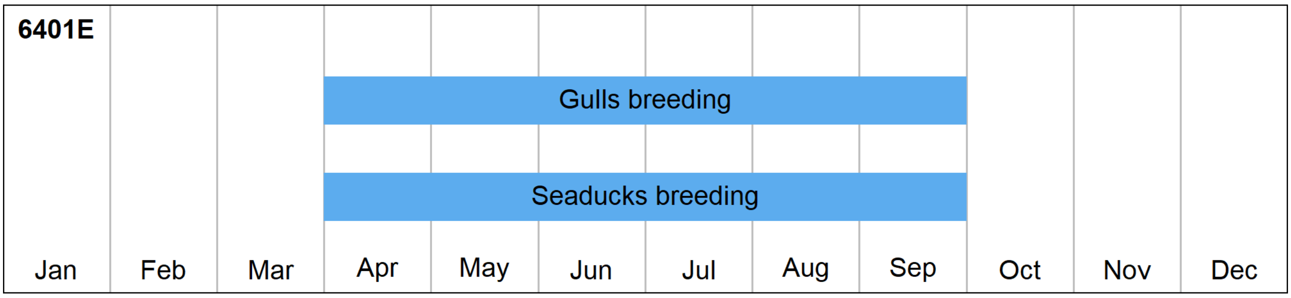
Gb64E_149	1 colony of Iceland gulls
Gb64E_150	1 colony of Arctic terns
Sb64E_150	2 colonies of common eiders

Site specific occurrence: blue icons

Gb8091	Breeding Iceland gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
64E_148	9	Low
64E_149	12	Moderate
64E_150	26	High
64E_151	10	Low
64E_152	11	Moderate
64E_153	11	Moderate
64E_154	10	Low
64E_155	10	Low
64E_156	12	Moderate
64E_157	10	Low



Physical environment and logistics, Map 6401E – Gyldenløve Fjord/ Umiiviip Kangertiva

Access

The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation. The Gyldenløve Fjord is often inaccessible due to glacier ice.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to June. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

No anchorages are reported for this map area.

Shorelines in this area are exclusively rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this or adjoining maps. There are five heliports/stops and one airport to the NE on map areas 6502, 6504, and 6505.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming along the shoreline described on this map.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

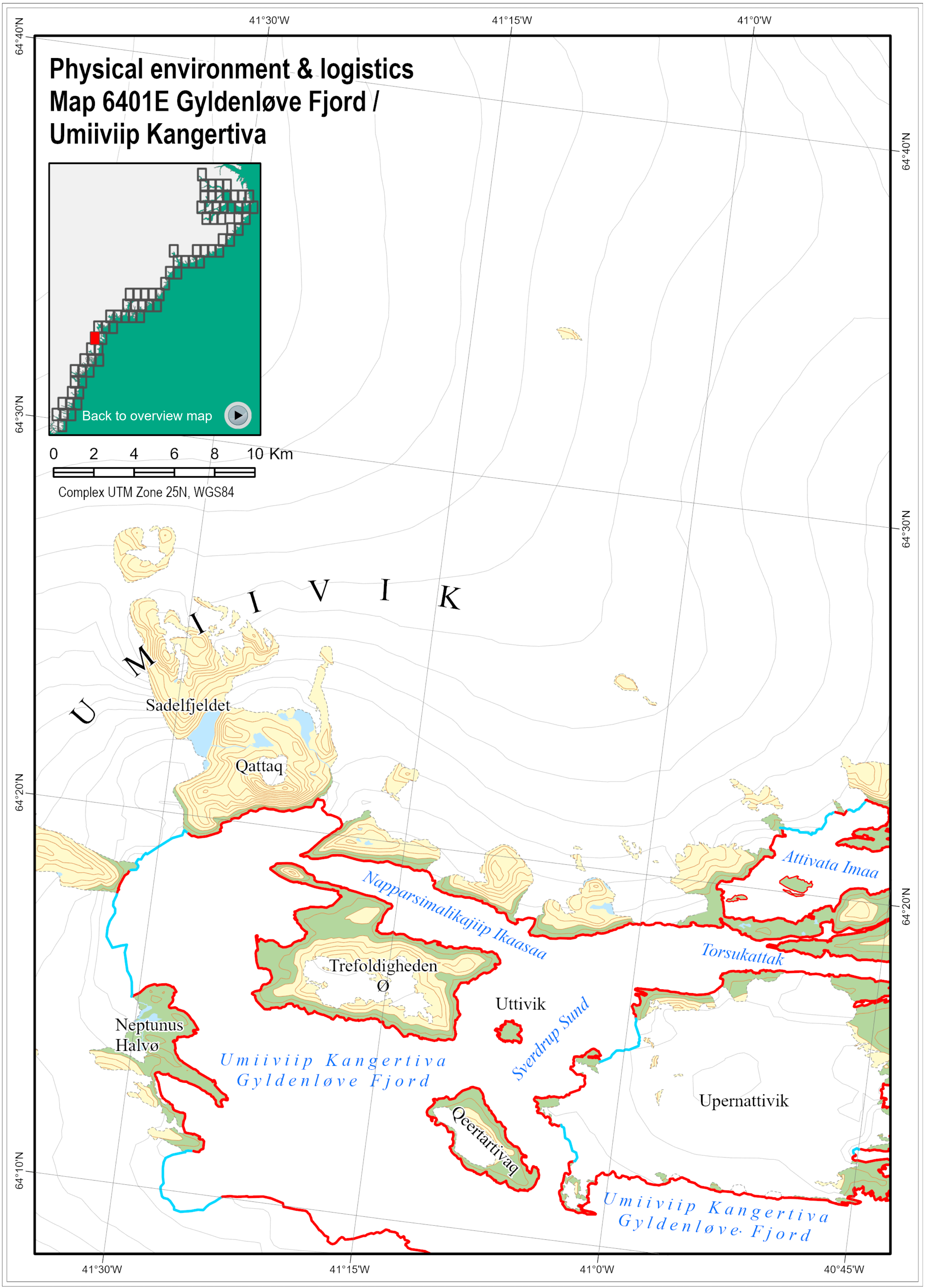
Shorelines shown on this map are exclusively rock and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

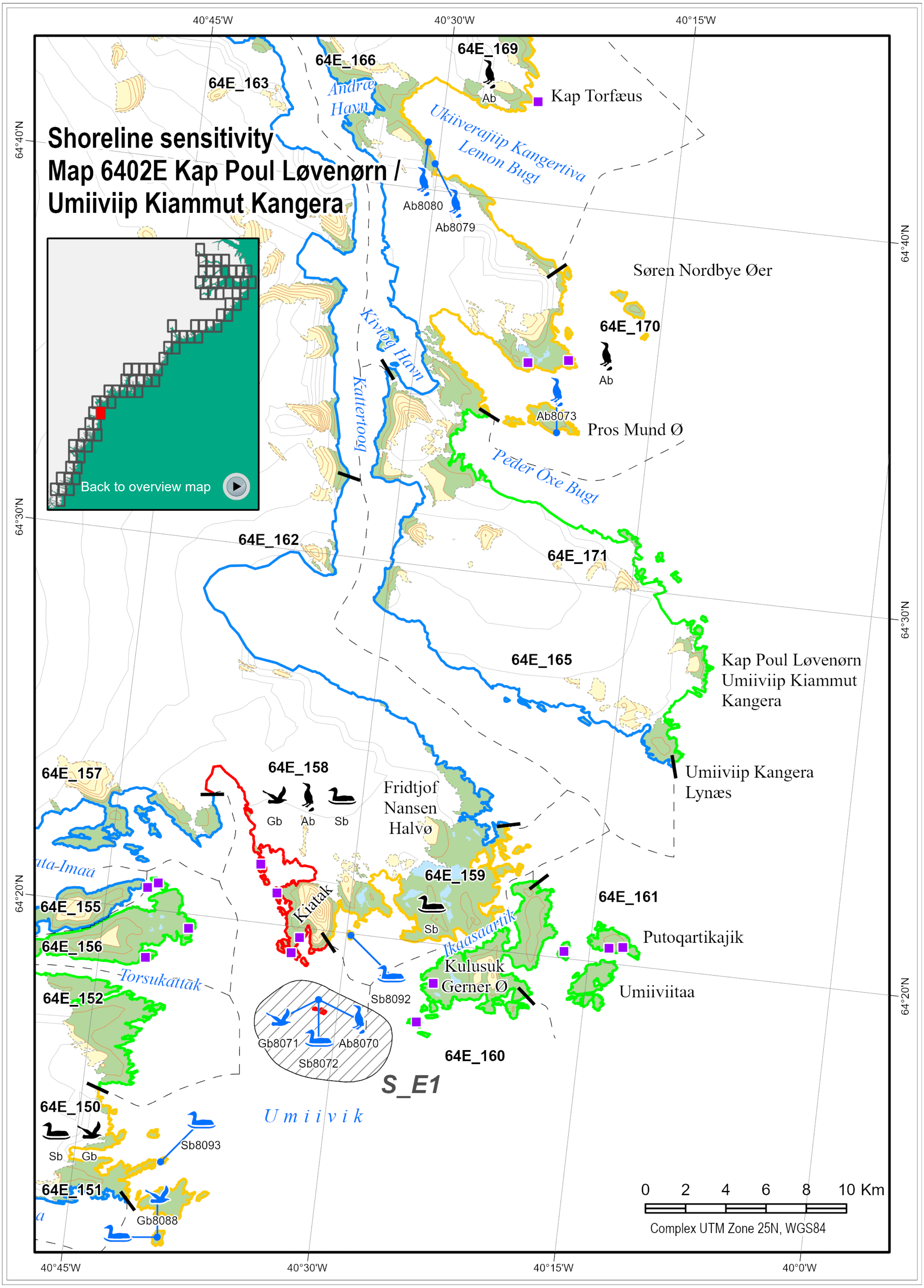
Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

Physical environment & logistics Map 6401E Gyldenløve Fjord / Umiiviip Kangertiva




Shoreline sensitivity
Map 6402E Kap Poul Løvenørn /
Umiiviip Kiammut Kangera
Back to overview map
40°45'W
40°30'W
40°15'W
40°0'W
64°40'N
64°30'N
64°20'N
64E_163
64E_166
64E_169
64E_170
64E_162
64E_171
64E_165
64E_157
64E_158
64E_159
64E_161
64E_155
64E_156
64E_152
64E_160
64E_150
64E_151
S_E1
Andrée Havn
Kap Torfæus
Ukiiverajiip Kangertiva
Lemon Bugt
Søren Nordbye Øer
Kiviog Havn
Kattertooq
Pros Mund Ø
Peder Oxe Bugt
Kap Poul Løvenørn
Umiiviip Kiammut
Kangera
Umiiviip Kangera
Lynæs
Fridtjof
Nansen
Halvø
Kiatak
Ikaasaartik
Kulusuk
Gerner Ø
Putoqartikajik
Umiiviitaa
Torsukáttak
Umiivik
Ab
Gb
Sb
Ab8080
Ab8079
Ab8073
Sb8092
Gb8071
Ab8070
Sb8072
Sb8093
Gb8088
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.21 Map 6402E – Kap Poul Løvenørn/Umiiviip

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

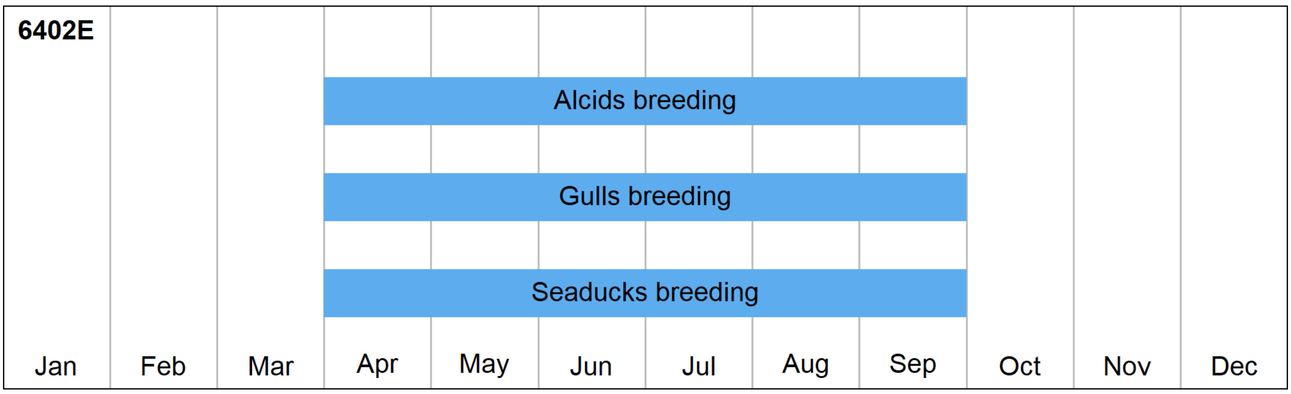
Gb64E_150	1 colony of Arctic terns
Sb64E_158,Sb64E_159	1 colony of common eiders
Ab64E_170	1 colony of black guillemots
Ab64E_169	2 colonies of black guillemots
Ab64E_158	1 colony of black guillemots
Gb64E_158	1 colony of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Sb64E_150	2 colonies of common eiders

Site specific occurrence: blue icons

Ab8070 **(SE_1)**, Ab8073	Breeding black guillemots
Ab8079, Ab8080	Breeding black guillemots
Gb8071**(SE_1)**	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls
Gb8088	Breeding Arctic terns
Sb8072 **(SE_1)**, Sb8089	Breeding common eiders
Sb8092, Sb8093	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
64E_150	26	High
64E_151	10	Low
64E_152	11	Moderate
64E_155	10	Low
64E_156	12	Moderate
64E_157	10	Low
64E_158	34	Extreme
64E_159	17	High
64E_160	11	Moderate
64E_161	11	Moderate
64E_162	8	Low
64E_163	8	Low
64E_165	9	Low
64E_166	11	Low
64E_169	20	High
64E_170	20	High
64E_171	11	Moderate



Physical environment and logistics, Map 6402E – Kap Poul Løvenørn/ Umiiviip

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

The inshore waters are covered by shorefast ice until July, and drift ice occur in late winter, spring and early summer. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Umiiviitaa (64°20'N, 40°12'W) is the NE islet of a group of islets, islands, and rocks. Kulusuk/Gerner Ø, the largest island of the group, lies 2.5 km W of Umiiviitaa and attains a height of 369 m; a cairn stands on its summit. Ikaasaartik, the narrow channel between Kulusuk/Gerner Ø and the mainland, is foul at its SW entrance, but was reported to afford sheltered anchorage at its NE entrance.

Shorelines in this area are exclusively rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this or adjoining maps. There are five heliports/stops and one airport to the NE on map areas 6502, 6504, and 6505.

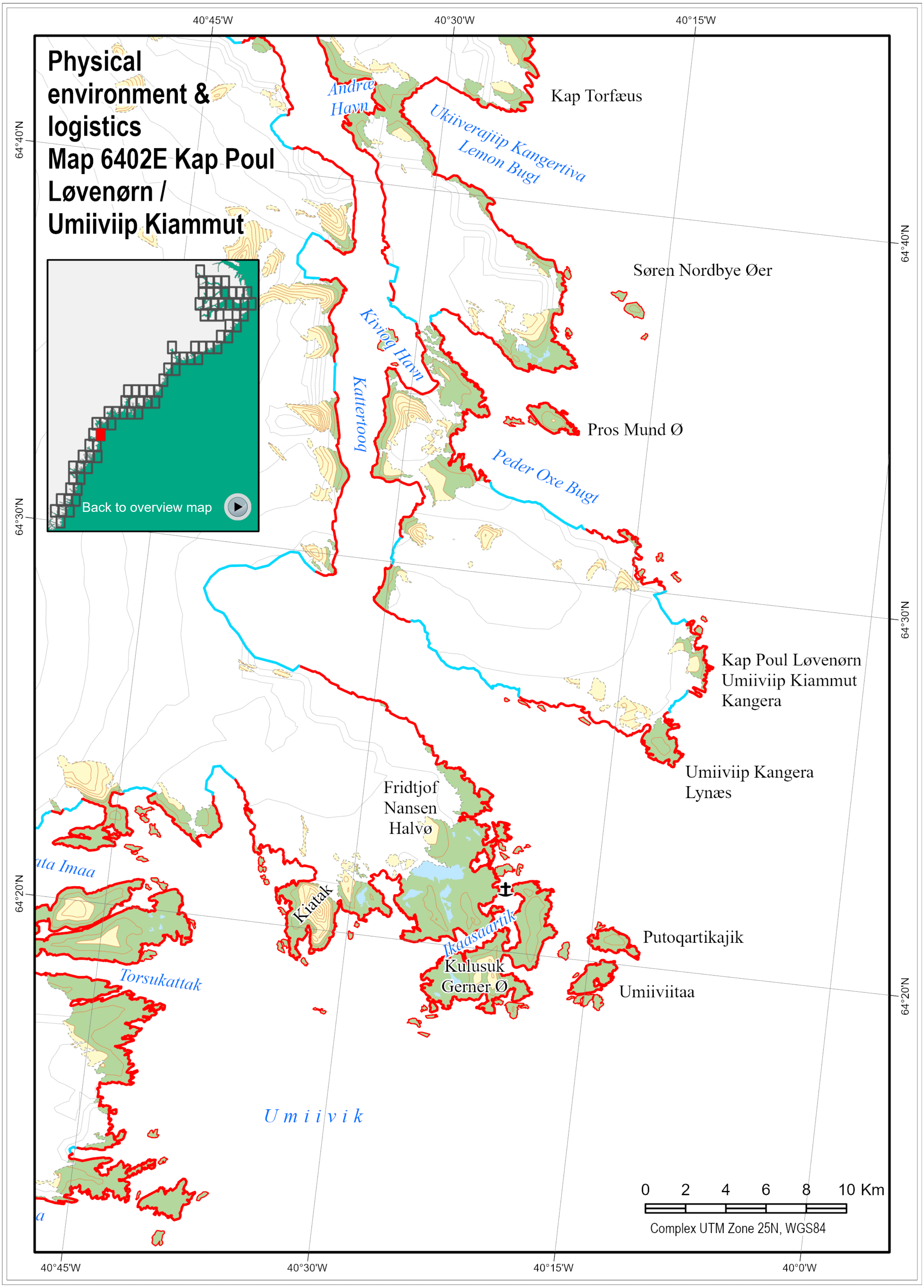
Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are few opportunities for nearshore booming along the shoreline described on this map. Potential exists at Ikaasaartik, the narrow channel between Kulusuk/Gerner Ø and the mainland (500 m).

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are exclusively rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.



Physical environment & logistics
Map 6402E Kap Poul Løvenørn / Umiiviip Kiammut
Back to overview map
40°45'W
40°30'W
40°15'W
40°0'W
64°40'N
64°30'N
64°20'N
Kap Torfæus
Andræ Havn
Ukiiverajiip Kangertiva
Lemon Bugt
Søren Nordbye Øer
Kivioq Havn
Kattertooq
Pros Mund Ø
Peder Oxe Bugt
Kap Poul Løvenørn
Umiiviip Kiammut
Kangera
Umiiviip Kangera
Lynæs
Fridtjof
Nansen
Halvø
Kiatak
Ikaasaartik
Kulusuk
Gerner Ø
Putoqartikajik
Umiiviitaa
Torsukattak
Umiivik
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

There is a potential *safe haven* at Ikaasaartik, the narrow channel between Kulusuk/Gerner Ø and the mainland except for the extreme sensitivity rating in this area. Site surveys should be performed at the time of an incident to confirm the sensitivities.

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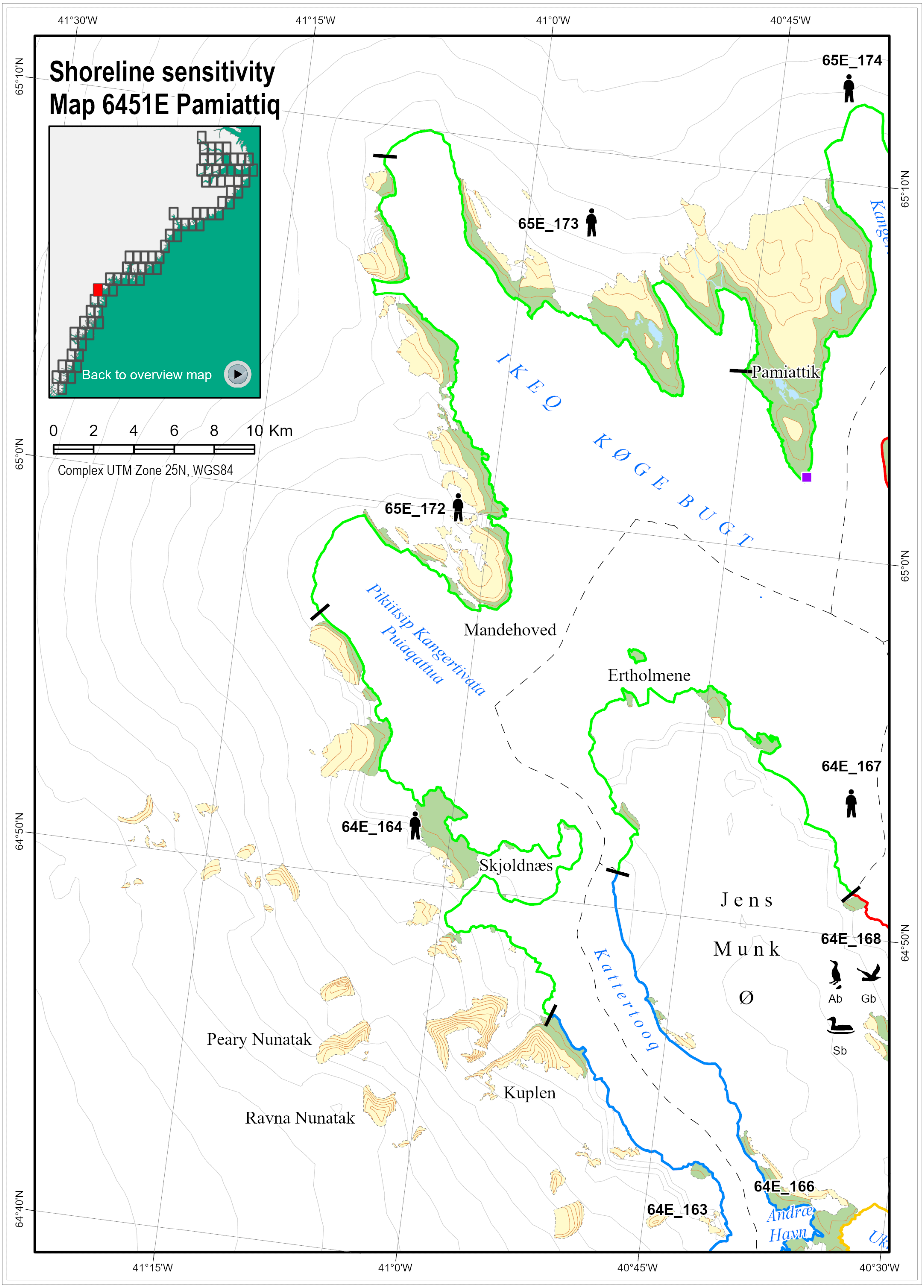


41°30'W
41°15'W
41°0'W
40°45'W
65°10'N
Shoreline sensitivity
Map 6451E Pamiattiq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
65°0'N
64°50'N
64°40'N
65E_174
65E_173
65E_172
64E_164
64E_167
64E_168
64E_166
64E_163
IKEQ
KØGE BUGT
Pamiattik
Kanger
Pikiitsip Kangertivata
Puiaqattua
Mandehoved
Ertholmene
Skjoldnæs
Jens
Munk
Ø
Katterloog
Peary Nunatak
Ravna Nunatak
Kuplen
Andræ
Havn
Ab
Gb
Sb
41°15'W
41°0'W
40°45'W
40°30'W

8.22 Map 6451E – Pamiattiq

Shoreline sensitivity map

Human use

64E_164	Highly important narwhal hunting area during Jun-Sep.
64E_167	Occasional use of the area by hunters from the Tasiilaq area on long range huntings trips as far south as Skjol-dungen, primarily targetting polar bear during spring/early summer
65E_172 – 65E_176	Highly important narwhal hunting area during Jun-Sep.

Species occurrence

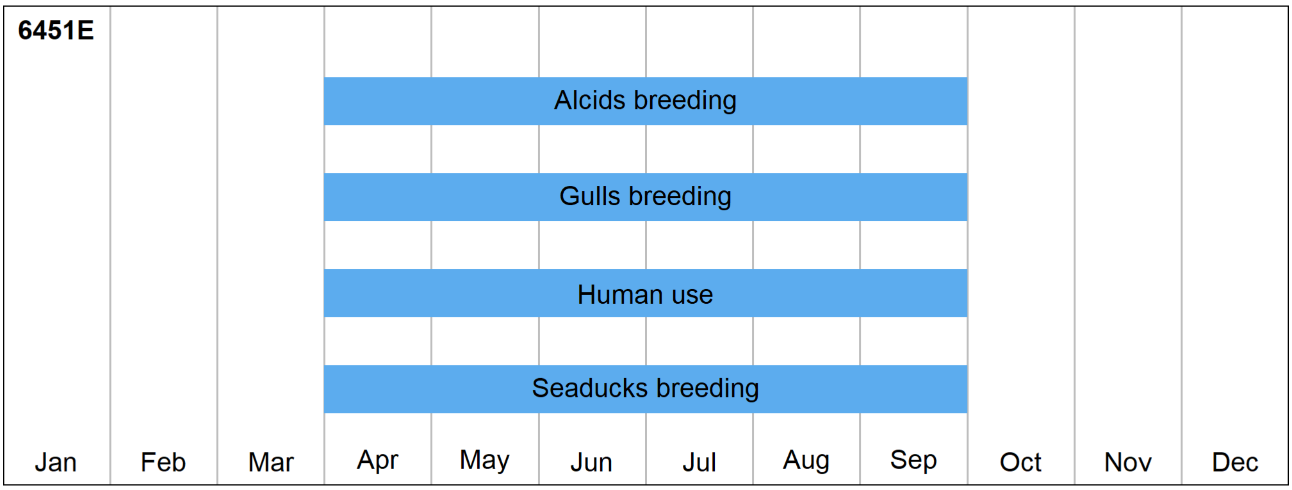
Ab64E_168	1 colony of black guillemots
Ab64E_169	2 colonies of black guillemots
Gb64E_168	1 colony of Arctic terns and 1 colony of Iceland gulls
Sb64E_168	1 colony of common eiders

Site specific occurrence: blue icons

Very little species occurrence is registrered on this map, however some capelin may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
64E_163	8	Low
64E_164	14	Moderate
64E_166	11	Low
64E_167	12	Moderate
64E_168	32	Extreme
64E_169	20	High
65E_172	15	Moderate
65E_173	14	Moderate
65E_174	15	Moderate
65E_176	30	Extreme



Physical environment and logistics, 6451E – Pamiattiq

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

The Ikeq is usually free of shorefast ice, while drift ice occur winter to early summer, and glacier ice icebergs are also a hazard to navigation.

No anchorages are reported for this map area.

Shorelines in this area are exclusively rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map. There are five heliports/stops and one airport to the NE on map areas 6502, 6504, and 6505.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

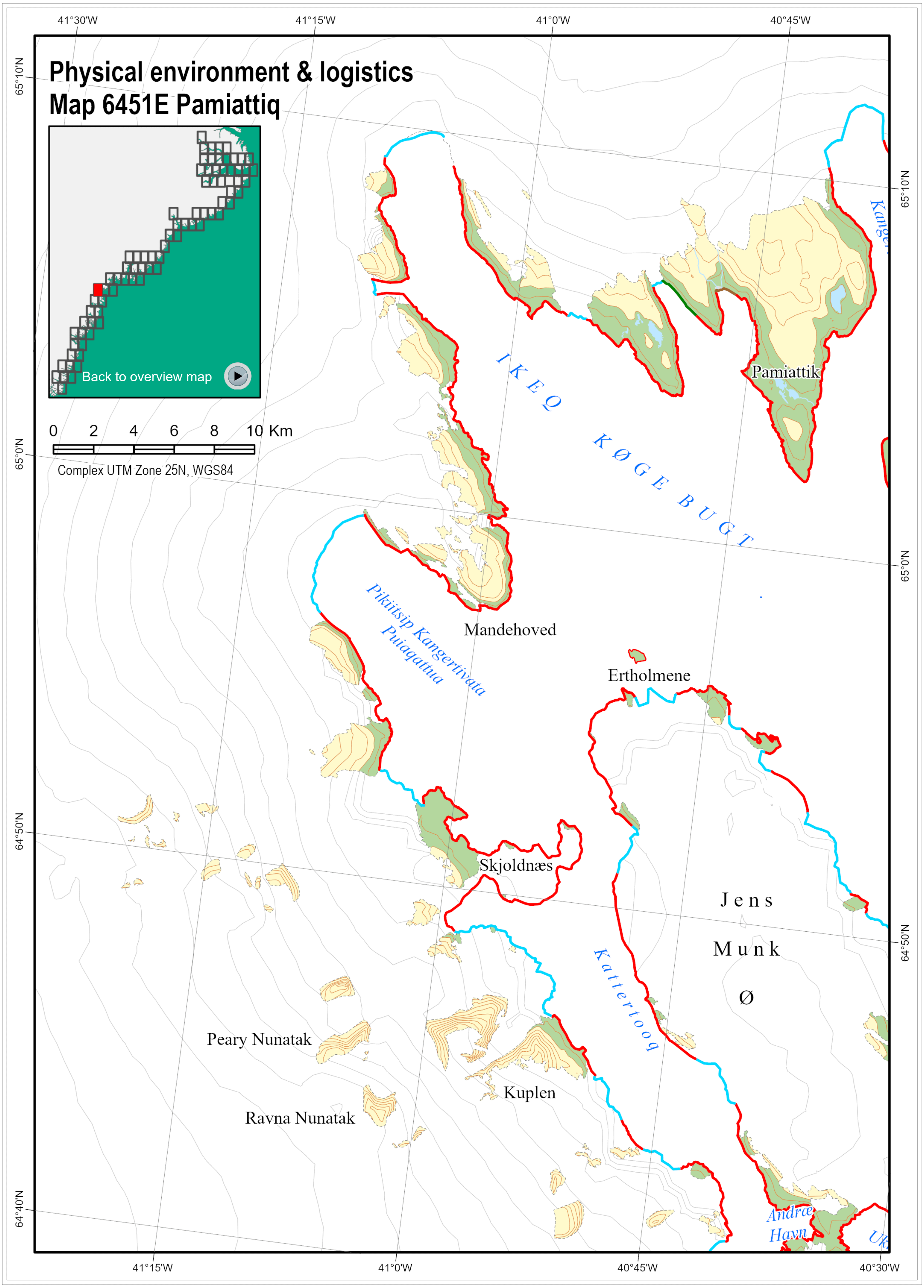
There are no opportunities for nearshore booming along the shoreline described on this map.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

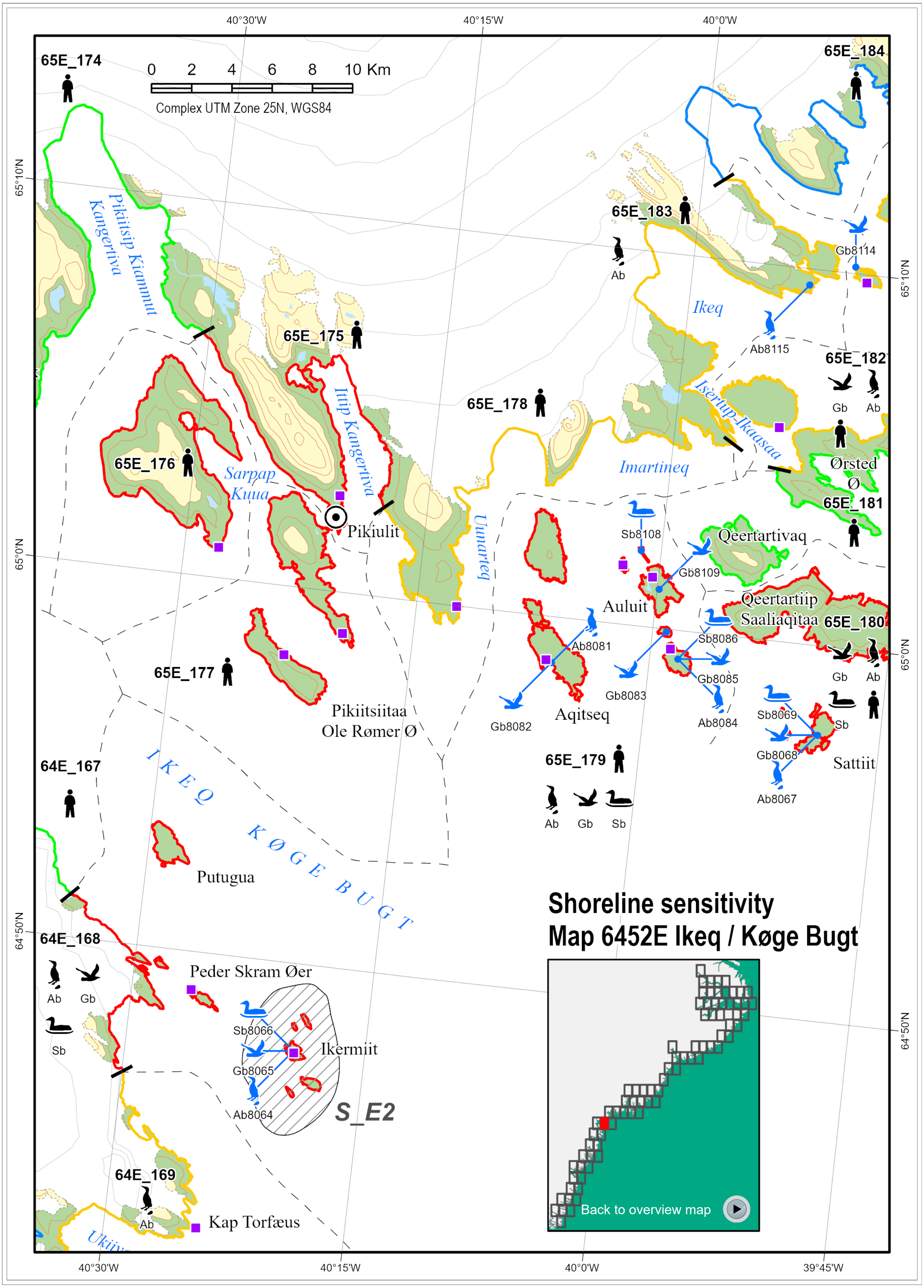
Shorelines shown on this map are exclusively rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6451E Pamiattiq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
41°30'W
41°15'W
41°0'W
40°45'W
40°30'W
65°10'N
65°0'N
64°50'N
64°40'N
IKEQ
KØGE BUGT
Kanger
Pamiattik
Pikiitsip Kangertivata
Puiaqattua
Mandehoved
Ertholmene
Skjoldnæs
Jens Munk Ø
Katterlooq
Peary Nunatak
Ravna Nunatak
Kuplen
Andræ Havn
Uk



Shoreline sensitivity
Map 6452E Ikeq / Køge Bugt
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
65E_174
65E_175
65E_176
65E_177
65E_178
65E_179
65E_180
65E_181
65E_182
65E_183
65E_184
64E_167
64E_168
64E_169
Pikiitsip Kiammut Kangertiva
Ittip Kangertiva
Sarpap Kuua
Pikiulit
Uunarteq
Ikeq
Imartineq
Isertup-Ikaasaa
Ørsted Ø
Qeertartivaq
Qeertartiip Saaliaqitaa
Auluit
Aqitseq
Sattiit
Pikiitsiitaa Ole Rømer Ø
IKEQ
KØGE BUGT
Putugua
Peder Skram Øer
Ikermiit
S_E2
Kap Torfæus
Ab
Gb
Sb
Gb8114
Ab8115
Sb8108
Gb8109
Ab8081
Gb8082
Gb8083
Sb8086
Gb8085
Ab8084
Sb8069
Gb8068
Ab8067
Sb8066
Gb8065
Ab8064
40°30'W
40°15'W
40°0'W
39°45'W
65°10'N
65°0'N
64°50'N
Back to overview map

8.23 Map 6452E – Ikeq/Køge Bugt

Shoreline sensitivity map

Human use

64E_167	Occasional use of the area by hunters from the Tasiilaq area on long range huntings trips as far south as Skjoldungen, primarily targetting polar bear during spring/early summer
65E_174 – 65E_177	Highly important narwhal hunting area during Jun-Sep.
65E_178 – 65E_185	Traffic through and occasional use of the area by hunters en-route to the southern narwhal hunting ground in Ikeq during Jun-Sep.

Species occurrence

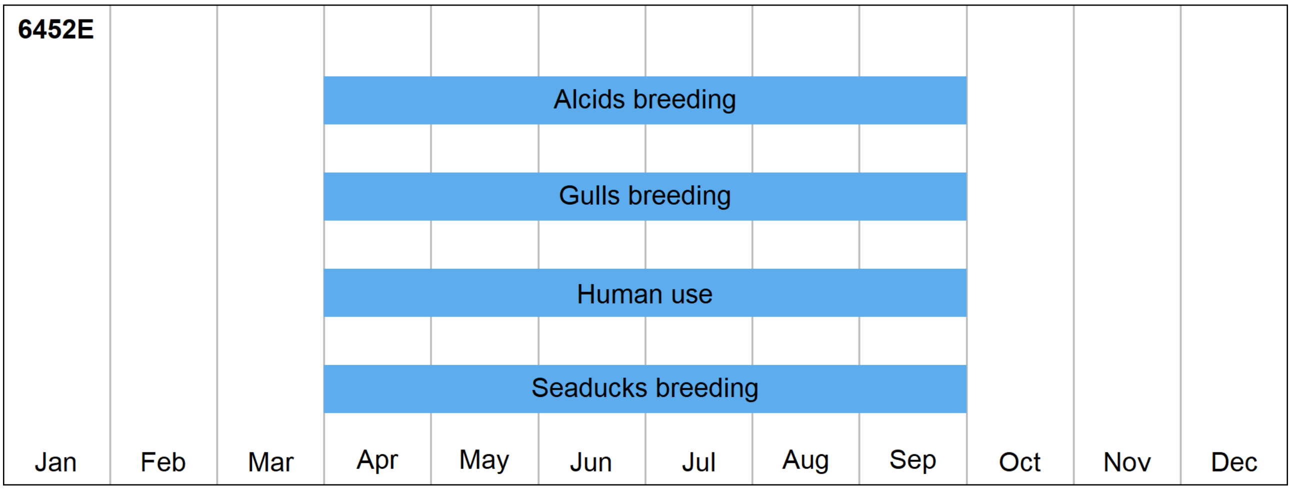
Ab64E_168, Ab65E_183	1 colony of black guillemots
Ab64E_169, Ab65E_179	2 colonies of black guillemots
Ab65E_180, Ab65E_182	2 colonies of black guillemots
Gb64E_168	1 colony of Arctic terns and 1 colony of Iceland gulls
Gb65E_179	3 colonies of Arctic terns, 1 colony of Iceland gulls and 2 colonies of glaucous gulls
Gb65E_182	1 colony of black-legged kittiwakes and 1 colony of glaucous gulls
Gb65E_185	1 colony of Arctic terns and 1 colony of glaucous gulls
Gb65E_180	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Sb64E_168, Sb65E_180	1 colony of common eiders
Sb65E_179	2 colonies of common eiders

Site specific occurrence: blue icons

Ab8064 **(SE_2)**, Ab8067	Breeding black guillemots
Ab8081, Ab8084	Breeding black guillemots
Ab8115	Breeding black guillemots
Gb8065	Breeding Iceland gulls and Arctic terns
Gb8068	Breeding glaucous gulls
Gb8082	Breeding Iceland gulls and glaucous gulls
Gb8083	Breeding Arctic terns
Gb8085 **(SE_2)**	Breeding glaucous gulls and Arctic terns
Gb8109	Breeding Arctic terns
Gb8114	Breeding Arctic terns
Sb8066 **(SE_2)**, Sb8069	Breeding common eiders
Sb8086, Sb8102	Breeding common eiders
Sb8108	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
64E_166	11	Low
64E_167	12	Moderate
64E_168	32	Extreme
64E_169	20	High
65E_174	15	Moderate
65E_175	35	Extreme
65E_176	30	Extreme
65E_177	36	Extreme
65E_178	23	High
65E_179	50	Extreme
65E_180	40	Extreme
65E_181	13	Moderate
65E_182	29	High
65E_183	20	High
65E_184	11	Low
65E_185	23	High



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Physical environment and logistics, 6452E – Ikeq/Køge Bugt

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2300). Local knowledge is essential for navigation.

The ice situation varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Ittip Kangertiva (65°02'N, 40°18'W), entered between Pikiitsiitaa/Ole Rømer Ø and Aqitseq, 8 km miles E, is a narrow inlet. An abandoned settlement is situated on the shore of a small cove on the E side of the inlet, 9 km N of the E extremity of Pikiitsiitaa/Ole Rømer Ø. Vessels can anchor in this cove, in a depth of 46 m, with a beacon, standing on the S side, bearing 106° and another beacon, standing on the N side, bearing 060°. Vessels can also anchor, in a depth of 66 m, with the beacon, standing on the S side, bearing 075° and the beacon, standing on the N side, bearing 021°.

Qeertartiip Saaliaqitaa (65°00'N, 39°50'W), surrounded by numerous smaller islands and islets, is the largest island in the S part of Graah Øer (see map area 6252). Shorelines in this area are exclusively rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

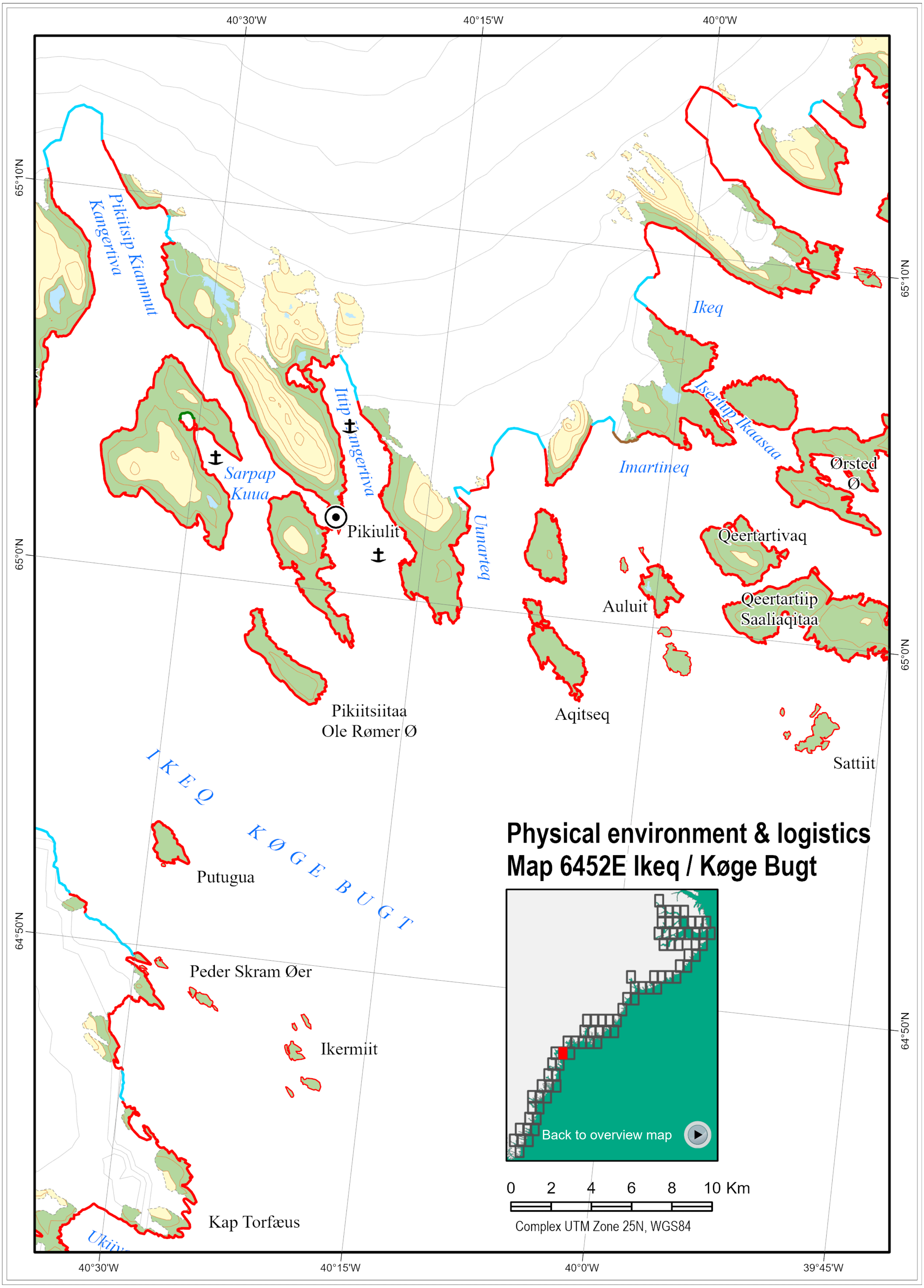
There are no airports or airstrips on this map. There are five heliports/stops and one airport to the NE on map areas 6502, 6504, and 6505.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming along the shoreline described on this map.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.


Physical environment & logistics
Map 6452E Ikeq / Køge Bugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
40°30'W
40°15'W
40°0'W
39°45'W
65°10'N
65°0'N
64°50'N
Pikiitsip Kiammut Kangertiva
Sarpap Kuua
Iitip Kangertiva
Pikiulit
Uumarteq
Ikeq
Iserttup Ikaasaa
Imartineq
Ørsted Ø
Qeertartivaq
Qeertartiip Saaliaqitaa
Auluit
Aqitseq
Pikiitsiitaa
Ole Rømer Ø
Sattiit
IKEQ
KØGE BUGT
Putugua
Peder Skram Øer
Ikermiit
Kap Torfæus
Ukiiv

Shorelines shown on this map are exclusively rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

There is a potential *safe haven* at the anchorage noted above if not for the extreme sensitivity rating in this area. Site surveys should be performed at the time of an incident to confirm the sensitivities.

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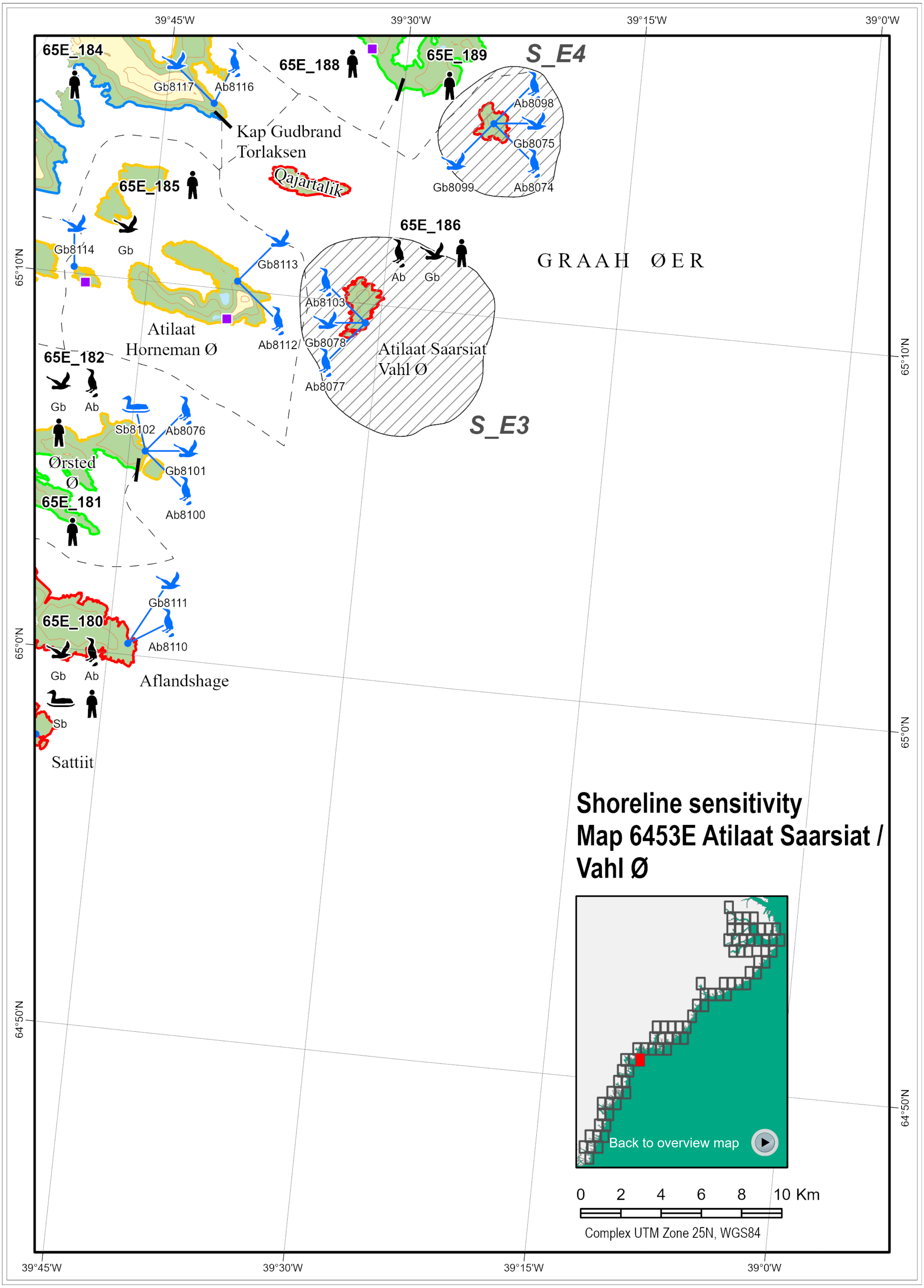

Shoreline sensitivity
Map 6453E Atilaat Saarsiat / Vahl Ø
39°45'W
39°30'W
39°15'W
39°0'W
65°10'N
65°0'N
64°50'N
65E_184
Gb8117
Ab8116
65E_188
65E_189
S_E4
Ab8098
Gb8075
Gb8099
Ab8074
Kap Gudbrand
Torlaksen
Qajartalik
65E_185
Gb8114
Gb
Gb8113
65E_186
Ab
Gb
GRAAH ØER
Ab8103
Gb8078
Ab8077
Ab8112
Atilaat
Horneman Ø
Atilaat Saarsiat
Vahl Ø
S_E3
65E_182
Gb
Ab
Sb8102
Ab8076
Gb8101
Ab8100
Ørsted
Ø
65E_181
Gb8111
Ab8110
65E_180
Gb
Ab
Sb
Aflandshage
Sattiit
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.24 Map 6453E – Atilaat Saarsiat/Vahl Ø

Shoreline sensitivity map

Human use

65E_180 – 65E_186	Traffic through and occasional use of the area by hunters en-route to the southern narwhal hunting ground in Ikeq during Jun-Sep.
65E_187 – 65E_189	According to hunters, Ikertivaq is used for catching seals by hunters from Isertoq.

Species occurrence

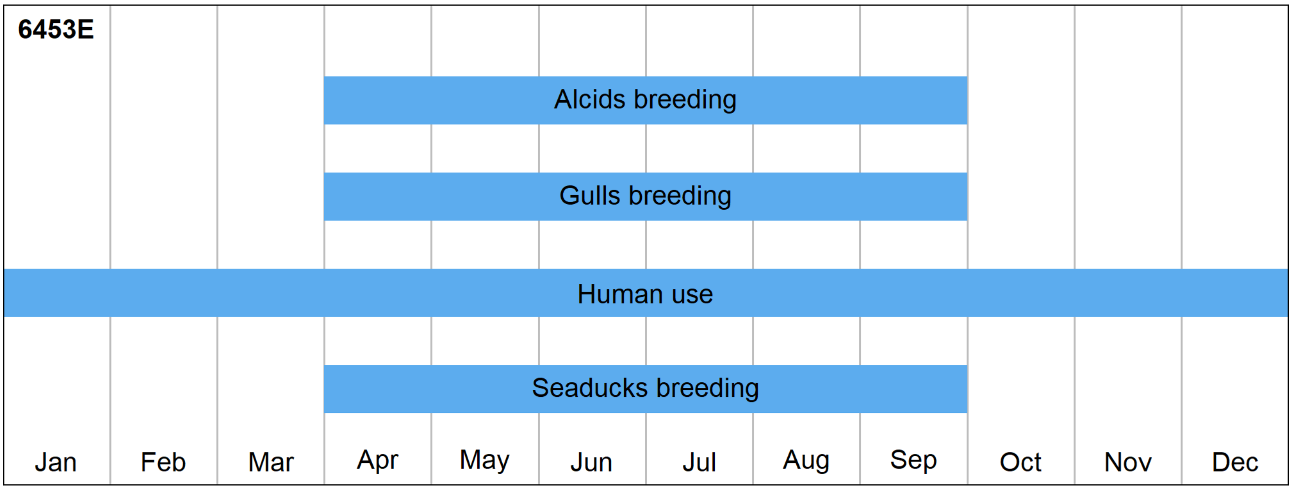
Gb65E_187	1 colony of glaucous gulls
Ab65E_186	4 colonies of black guillemots
Ab65E_187, Ab65E_183	1 colony of black guillemots
Ab65E_180, Ab65E_182	2 colonies of black guillemots
Gb65E_180	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb65E_186	1 colony of Arctic terns, 2 colonies of Iceland gulls, 2 colonies of black-legged kittiwakes and 3 colonies of glaucous gulls
Gb65E_185	1 colony of Arctic terns and 1 colony of glaucous gulls
Gb65E_182	1 colony of black-legged kittiwakes and 1 colony of glaucous gulls
Sb65E_180	1 colony of common eiders

Site specific occurrence: blue icons

Ab8074 **(SE_4)**	Breeding black guillemots
Ab8076, Ab8077 **(SE_3)**	Breeding black guillemots
Ab8098 **(SE_4)**, Ab8100	Breeding black guillemots
Ab8103 **(SE_3)**, Ab8110	Breeding black guillemots
Ab8112, Ab8116	Breeding black guillemots
Gb8075 **(SE_4)**	Breeding glaucous gulls and Arctic terns
Gb8078 **(SE_3)**,	Breeding Iceland gulls, black-legged kittiwakes and glaucous gulls
Gb8099 **(SE_4)**	Breeding Iceland gulls, black-legged kittiwakes and glaucous gulls
Gb8101	Breeding glaucous gulls and black-legged kittiwakes
Gb8111	Breeding Iceland gulls and glaucous gulls
Gb8113	Breeding glaucous gulls
Gb8114	Breeding Arctic terns
Gb8117	Breeding glaucous gulls
Sb8102	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_180	40	Extreme
65E_181	13	Moderate
65E_182	29	High
65E_183	20	High
65E_184	11	Low
65E_185	23	High
65E_186	36	Extreme
65E_187	30	High
65E_188	15	Moderate
65E_189	13	Moderate



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Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2300). Local knowledge is essential for navigation.

The ice situation varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Hornemann Ø, an island, 350 m high, lies 16 km NNE of Saliaqita. Vessels with local knowledge may anchor, in a depth of 10 m, near the head of a sheltered inlet located on the W side of this island.

Shorelines in this area are exclusively rock, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map. There are five heliports/stops and one airport to the NE on map areas 6502, 6504, and 6505.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming along the shoreline described on this map.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

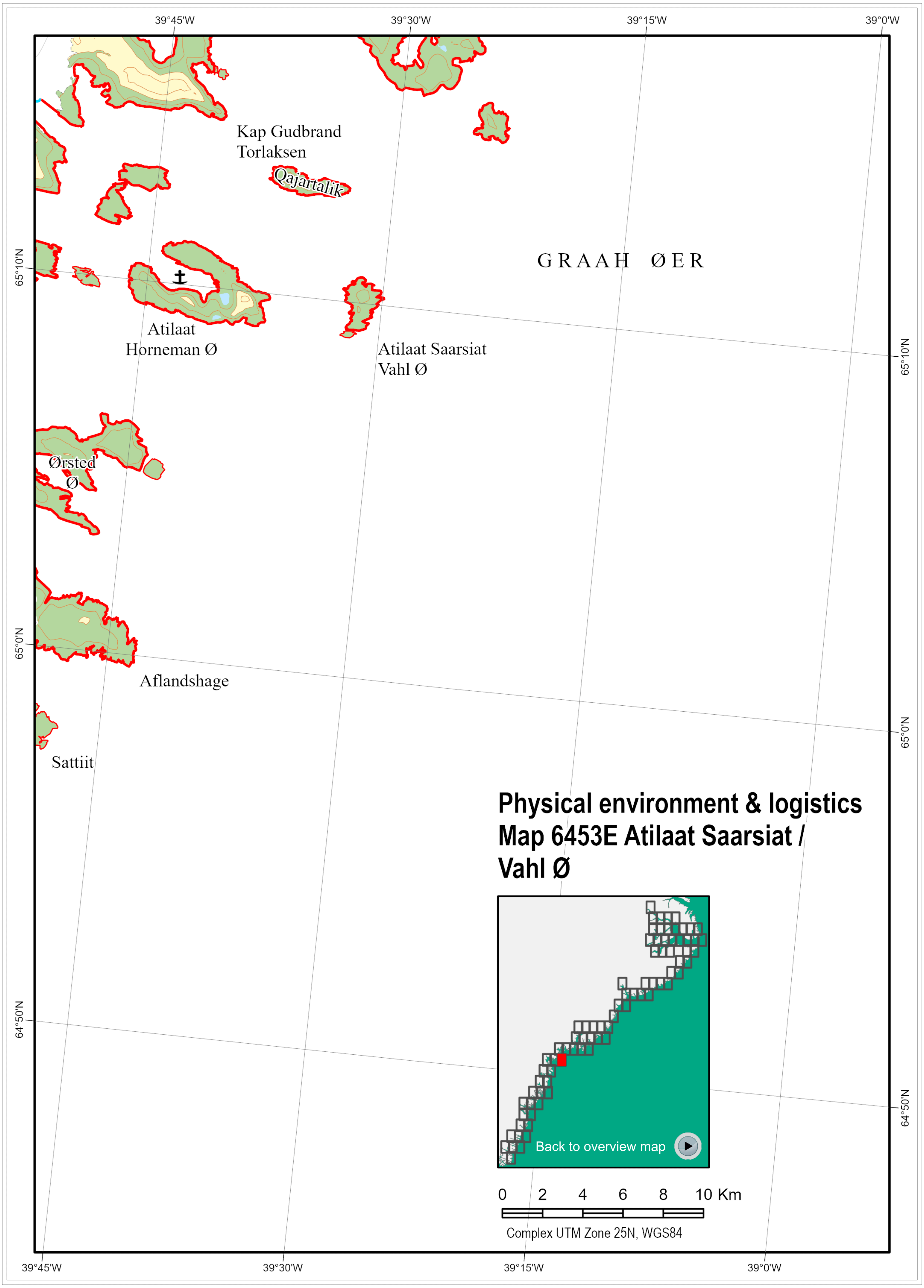
Shorelines shown on this map are exclusively rock with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

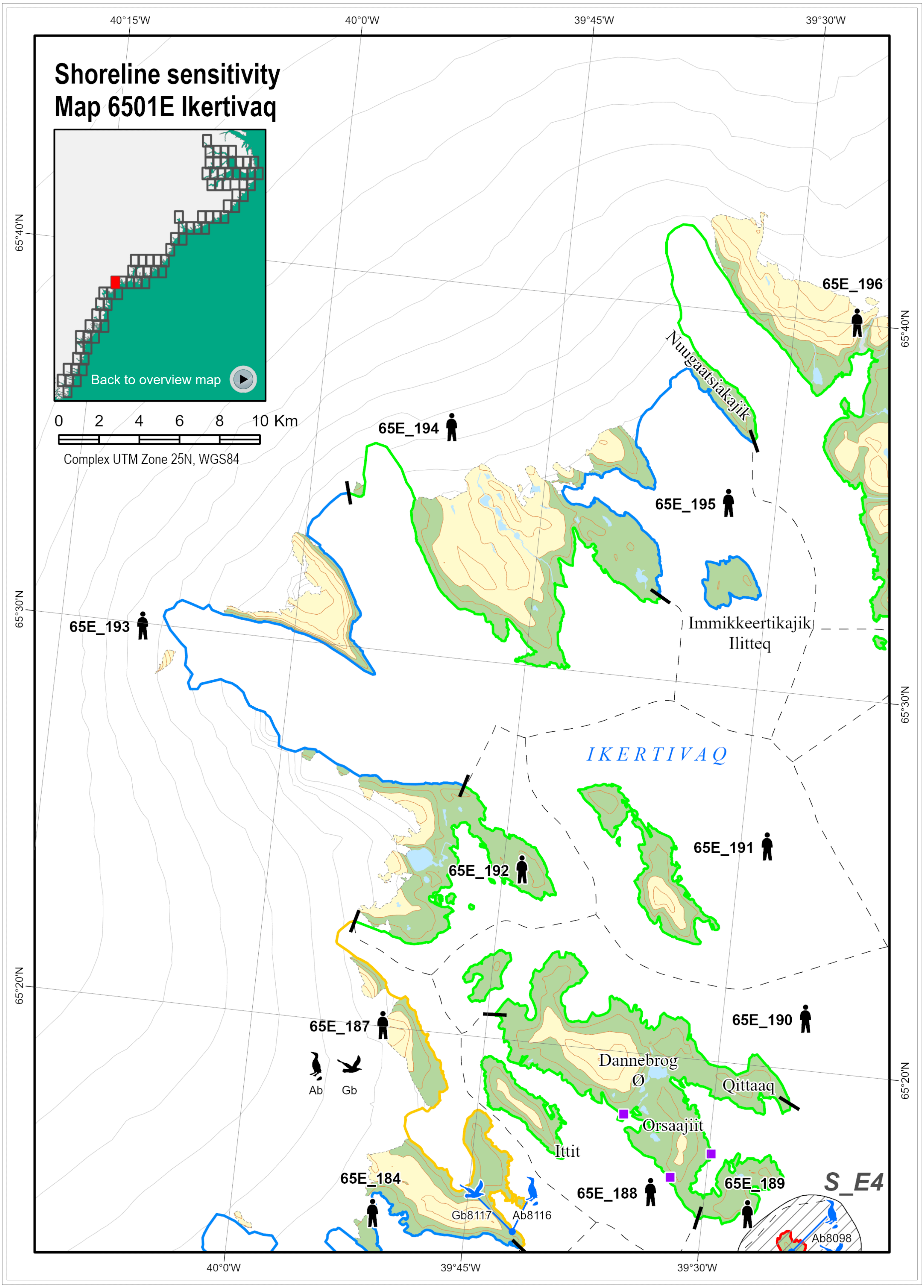
Consideration should be given to flushing operations in the protected waters within the fjords.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


39°45'W
39°30'W
39°15'W
39°0'W
Kap Gudbrand
Torlaksen
Qajartalik
GRAAH ØER
65°10'N
Atilaat
Horneman Ø
Atilaat Saarsiat
Vahl Ø
Ørsted
Ø
65°0'N
Aflandshage
Sattiit
Physical environment & logistics
Map 6453E Atilaat Saarsiat /
Vahl Ø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
64°50'N


Shoreline sensitivity
Map 6501E Ikertivaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
40°15'W
40°0'W
39°45'W
39°30'W
65°40'N
65°30'N
65°20'N
65E_196
Nuugaatsiakajik
65E_194
65E_195
65E_193
Immikkeertikajik
Ilitteq
IKERTIVAQ
65E_192
65E_191
65E_187
65E_190
Ab
Gb
Dannebrog
Ø
Qittaaq
Orsaajiit
Ittit
65E_184
Gb8117
Ab8116
65E_188
65E_189
S_E4
Ab8098

8.25 Map 6501E – Ikertivaq

Shoreline sensitivity map

Human use

65E_184, 65E_186	Traffic through and occasional use of the area by hunters en-route to the southern narwhal hunting ground in Ikeq during Jun-Sep.
65E_187 – 65E_196	According to hunters, Ikertivaq is used for catching seals by hunters from Isertoq.
65E_197	Highly important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.

Species occurrence

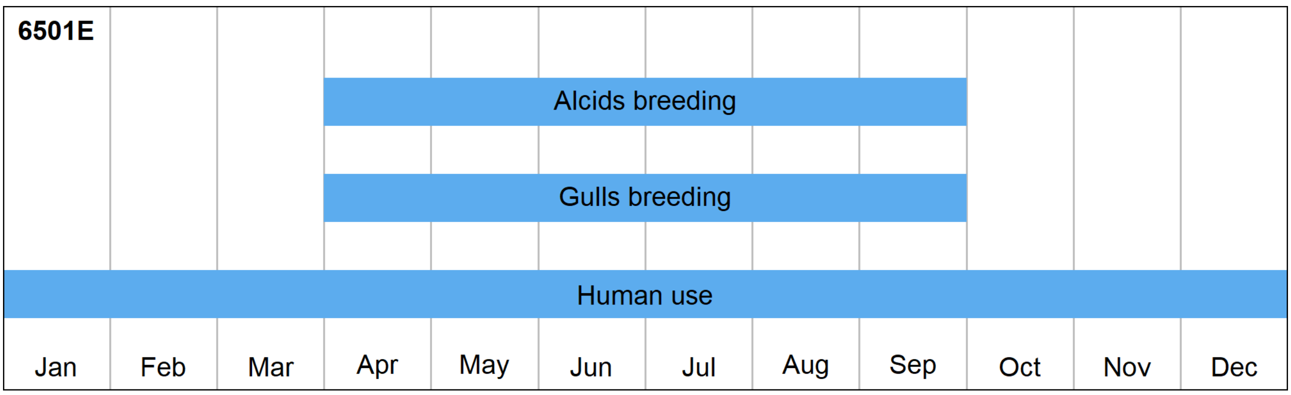
Gb65E_187	1 colony of glaucous gulls
Ab65E_186	4 colonies of black guillemots
Ab65E_187	1 colony of black guillemots
Gb65E_186	1 colony of Arctic terns, 2 colonies of Iceland gulls, 2 colonies of black-legged kittiwakes and 3 colonies of glaucous gulls

Site specific occurrence: blue icons

Ab8098 **(SE_4)**, Ab8116	Breeding black guillemots
Gb8099 **(SE_4)**	Breeding Iceland gulls, black-legged kittiwakes and glaucous gulls
Gb8117	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	**Sensitivity**	**Ranking**
65E_184	11	Low
65E_186	36	Extreme
65E_187	30	High
65E_188	15	Moderate
65E_189	13	Moderate
65E_190	13	Moderate
65E_191	15	Moderate
65E_192	14	Moderate
65E_193	12	Low
65E_194	13	Moderate
65E_195	11	Low
65E_196	14	Moderate
65E_197	18	Moderate



Physical environment and logistics, 6501E – Ikertivaq

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation and glacier ice may prevent access to especially the W part of Ikertivaq.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Dannebrog Ø (65°18’N, 39°34’W) lies 6 km NNE of Kap Gudbrand Torlaksen and is the largest is-land of the Graah Øer group. It is of irregular shape, with two projecting peninsulas on its E side; a cairn stands, at a height of 217 m, on the N peninsula and an islet lies 2 km SE of the S peninsula. An excellent boat harbour is reported to be located halfway along the SW side of the island.

Shorelines in this area are exclusively rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map. There are five heliports/stop and one airport to the E on map areas 6502, 6504, and 6505.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

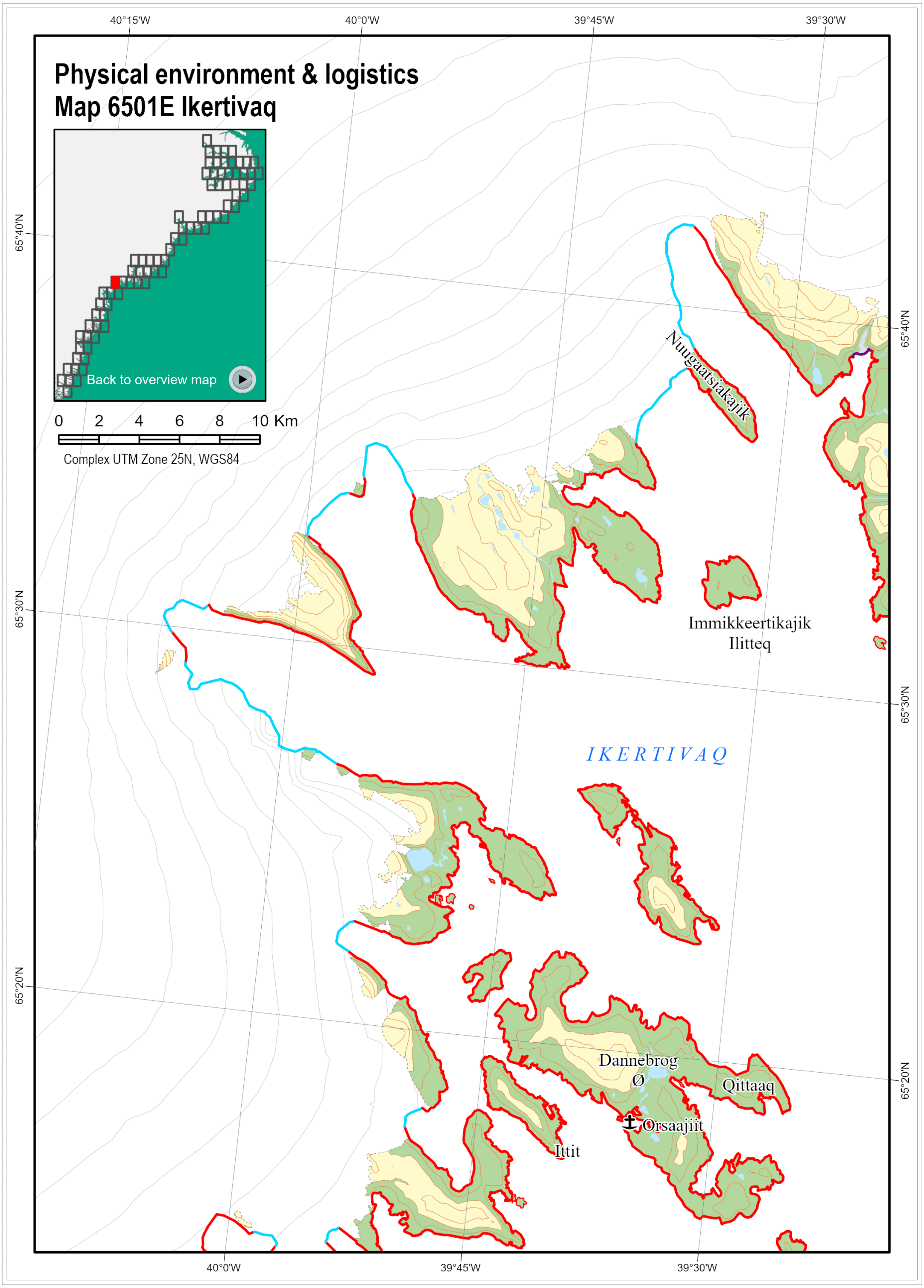
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming along the shoreline described on this map.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are exclusively rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is


Physical environment & logistics
Map 6501E Ikertivaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
40°15'W
40°0'W
39°45'W
39°30'W
65°40'N
65°30'N
65°20'N
Nuugaatsiakajik
Immikkeertikajik
Ilitteq
IKERTIVAQ
Dannebrog
Ø
Qittaaq
Orsaajiit
Ittit

probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

There is a potential *safe haven* at the anchorage noted above, halfway along the SW side of Dannebrog Ø, however, this area iis rated as extremely sensitivity. Site surveys should be performed at the time of an incident to confirm the sensitivities.

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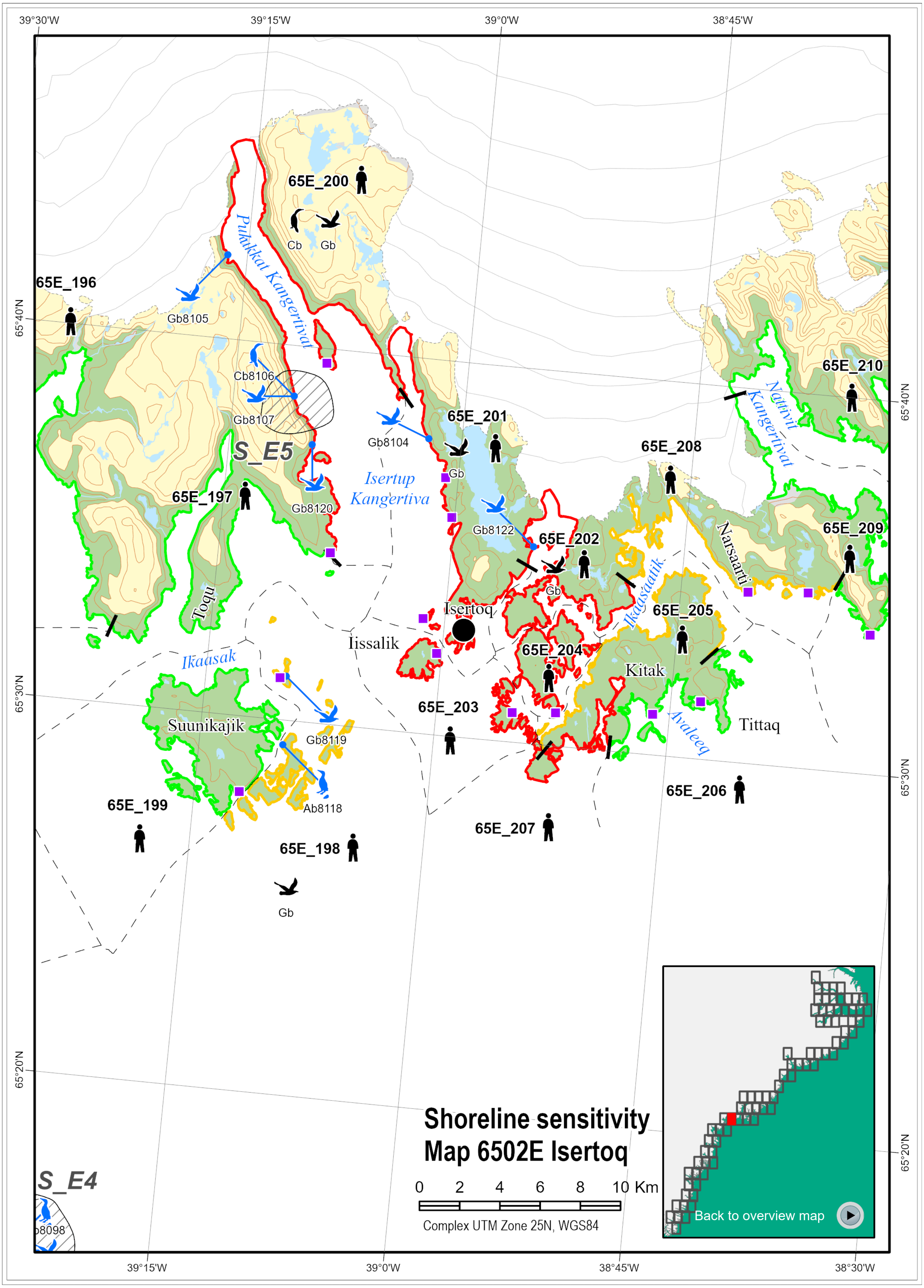


39°30'W
39°15'W
39°0'W
38°45'W
38°30'W
65°40'N
65°30'N
65°20'N
65E_200
Cb
Gb
Pukitkat Kangertivat
65E_196
Gb8105
Cb8106
Gb8107
S_E5
Gb8104
65E_201
Gb
Isertup Kangertiva
65E_197
Gb8120
Gb8122
65E_202
Gb
65E_208
Nattivit Kangertivat
65E_210
Narsaarti
65E_209
Ikaasaatik
65E_205
Toqu
Isertoq
Iissalik
65E_204
Kitak
Ikaasak
Suunikajik
Gb8119
65E_203
Avaleeq
Tittaq
Ab8118
65E_199
65E_206
65E_207
65E_198
Gb
S_E4
b8098
Shoreline sensitivity
Map 6502E Isertoq
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
Back to overview map

8.26 Map 6502E – Isertoq

Shoreline sensitivity map

Human use

65E_196	According to hunters, Ikertivaq is used for catching seals by hunters from Isertoq.
65E_197 – 65E_199	Highly important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_200	Highly important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_201	Extremely important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_202 – 65E_205	Highly important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_206	Area occasionally used for hunting during serveral seasons. Minke whale hunting i offshore area during Jun-Sep. Tourist activities in the area.
65E_207 – 65E_210	Highly important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.

Species occurrence

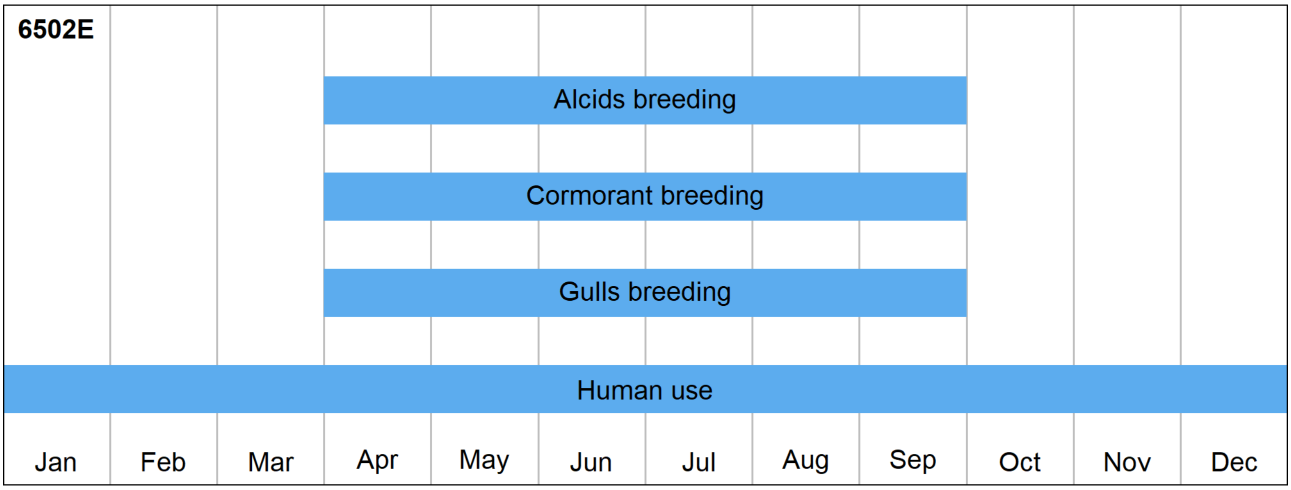
Cb65E_200	1 colony of great cormorants
Gb65E_202	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb65E_198	1 colony of Arctic terns
Gb65E_201	1 colony of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Gb65E_200	3 colonies of glaucous gulls and 3 colonies of Iceland gulls

Site specific occurrence: blue icons

Ab8118	Breeding black guillemots
Cb8106 **(SE_5)**	Breeding great cormorants
Gb8104	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls
Gb8105, Gb8107 **(SE_5)**	Breeding Iceland gulls and glaucous gulls
Gb8120, Gb8122	Breeding Iceland gulls and glaucous gulls
Gb8119	Breeding Arctic terns

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_196	14	Moderate
65E_197	18	Moderate
65E_198	31	High
65E_199	18	Moderate
65E_200	40	Extreme
65E_201	41	Extreme
65E_202	46	Extreme
65E_203	37	Extreme
65E_204	35	Extreme
65E_205	28	High
65E_206	19	Moderate
65E_207	36	Extreme
65E_208	22	High
65E_209	15	Moderate
65E_210	15	Moderate



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Physical environment and logistics, 6502E – Isertoq

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2300). Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

The island Kitak (65°32'N, 38°45'W) is separated from the mainland by narrow channels. Ikaasaatik is a channel, that lies between the NW side of Kitak and the mainland. An indentation located in the NW side of Kitak is reported to provide a sheltered anchorage suitable for ocean-going vessels.

There is a settlement Isertoq in this area with a small harbour (see the Greenland Harbour Pilot https://www.gronlandskehavnelods.dk/Details/92?&lang=ENG and nautical chart 2350). Here is also a helistop.

There are four other heliports/stop and an airport to the E on map areas 6504 and 6505.

Shorelines in this area are almost exclusively rock allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

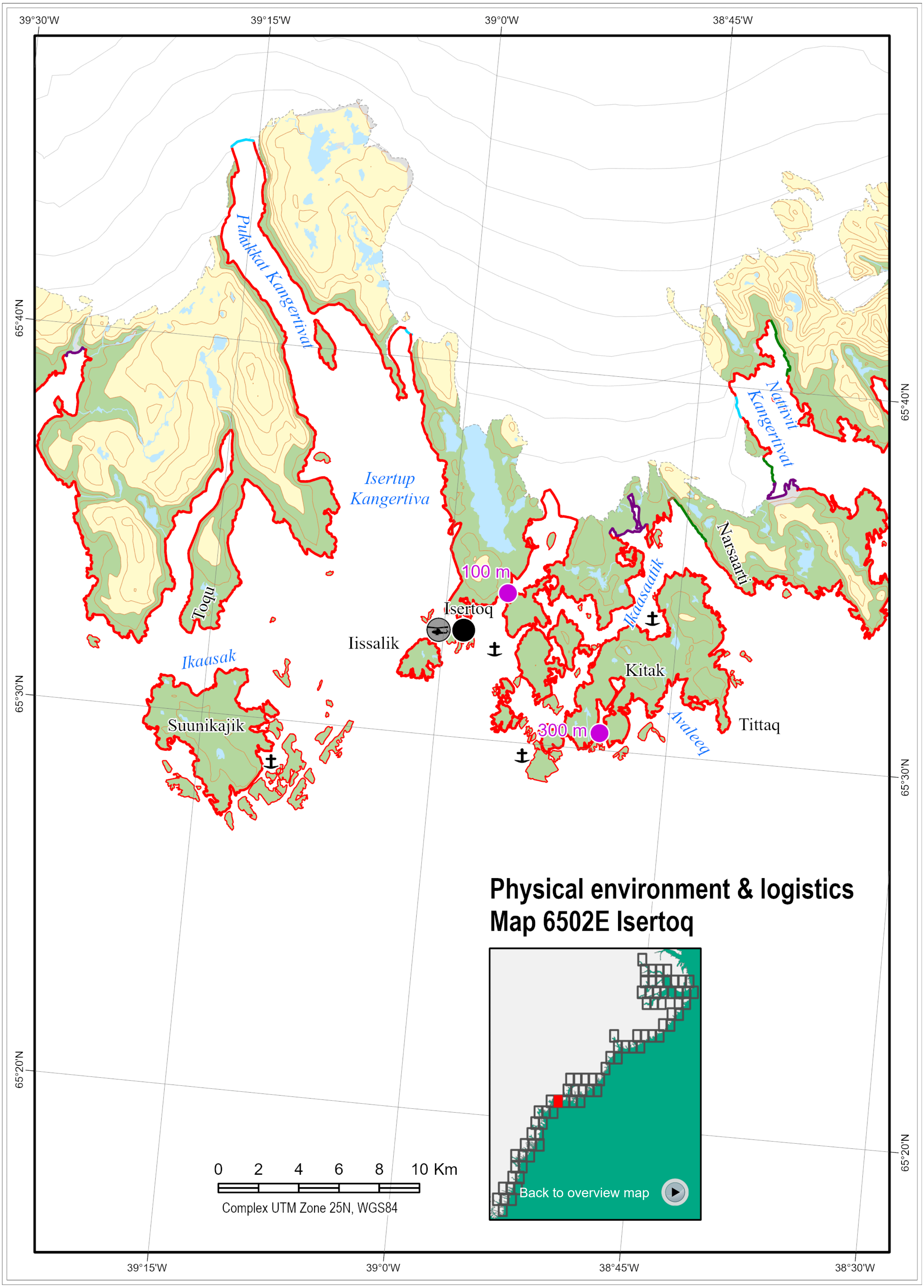
Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are two opportunities for nearshore booming along the shoreline described on this map: the narrows NE of the noted helistop at the settlement Isertoq (100 m); and the inlet on the S coast of Kitak (300 m).

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.


39°30'W
39°15'W
39°0'W
38°45'W
65°40'N
65°30'N
65°20'N
38°30'W
Pukikkat Kangertivat
Isertup
Kangertiva
Nattivit
Kangertivat
Narsaarti
Ikaasaatik
Toqu
100 m
Isertoq
Iissalik
Ikaasak
Suunikajik
Kitak
Tittaq
Avaleeq
300 m
Physical environment & logistics
Map 6502E Isertoq
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
Back to overview map

Shorelines shown on this map are almost exclusively rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters and alluvial fan areas within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

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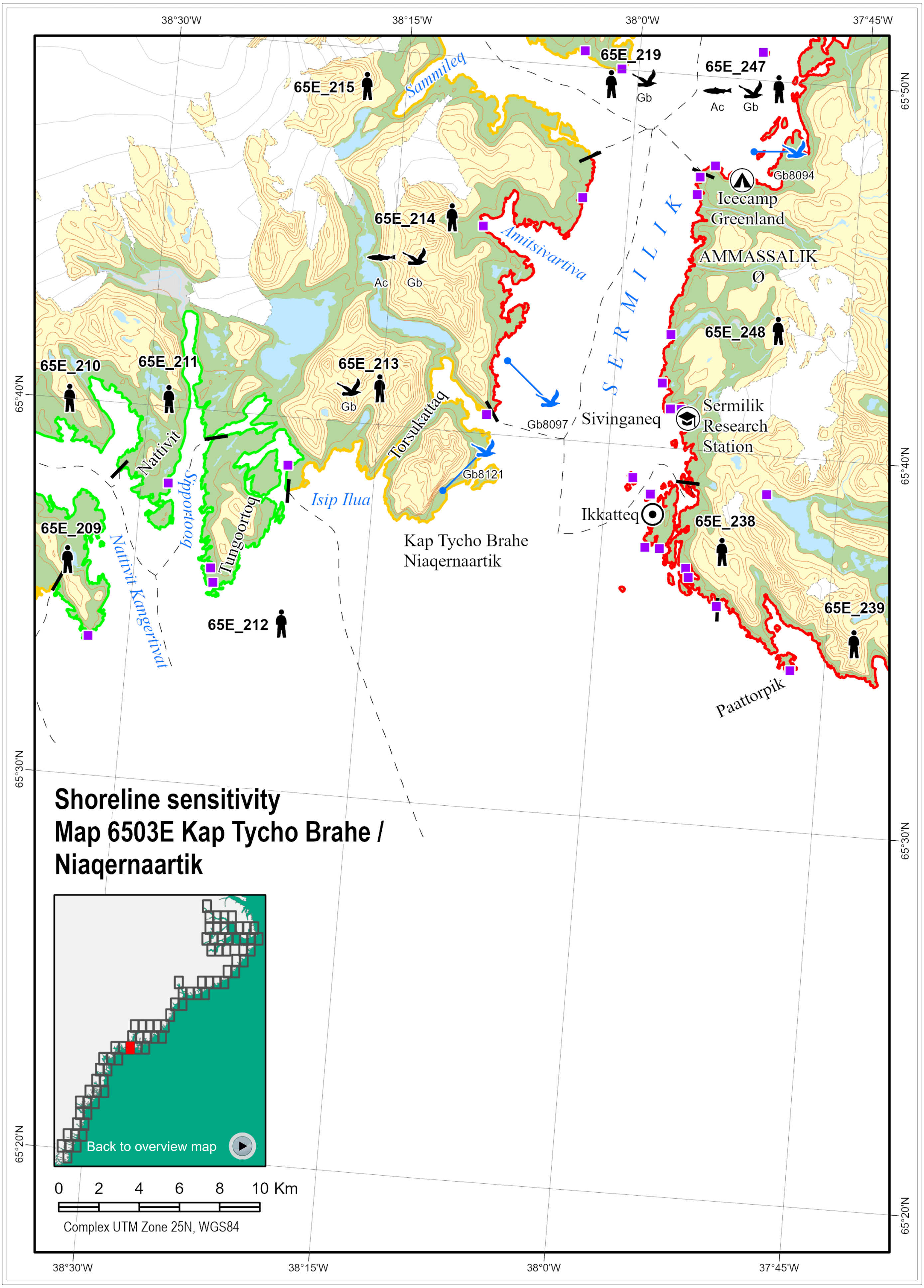

Shoreline sensitivity
Map 6503E Kap Tycho Brahe / Niaqernaartik
38°30'W
38°15'W
38°0'W
37°45'W
65°50'N
65°40'N
65°30'N
65°20'N
65E_215
65E_219
65E_247
65E_214
65E_210
65E_211
65E_213
65E_209
65E_212
65E_248
65E_238
65E_239
Sammileq
Amitsivartiva
SERMILIK
Icecamp
Greenland
AMMASSALIK
Ø
Sermilik
Research
Station
Sivinganeq
Ikkatteq
Kap Tycho Brahe
Niaqernaartik
Torsukattaq
Isip Ilua
Nattivit
Sipportooq
Tungoortoq
Nattivit Kangerivat
Paattorpik
Ac
Gb
Gb8094
Gb8097
Gb8121
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.27 Map 6503E – Kap Tycho Brahe/Niaqernaartik

Shoreline sensitivity map

Human use

65E_208 – 65E_210	Highly important hunting area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_211	Area occasionally used for hunting during serveral seasons. Nagtivit is a popular tourist destination.
65E_212, 65E_213	Area occasionally used for hunting during serveral seasons. Minke whale hunting in offshore area during Jun-Sep. Tourist activities in the area.
65E_214	Area used for hunting a variety of species during several seasons. Especially important for ringed seal hunting during Oct-Dec. Tourist activities in the area.
65E_215	Area used for hunting a variety of species during several seasons. Especially important for ringed seal hunting during Oct-Dec. Important tourist destination during summer and there is often a tent camp here.
65E_219	Area used for hunting a variety of species during several seasons. Especially important for ringed seal hunting during Oct-Dec. Important tourist destination during summer.
65E_238	Extremely important hunting and fishing area used year round for harvesting a wide range of species. Use of the area is often based on seasonal residence in the closed down settlement Ikkatteq, which is also a popular tourist destination.
65E_239	Extremely important hunting and fishing area used all year for harvesting a wide variety of species. Hunting of minke whale, killer whale, pilot whale and white-beaked dolphin in offshore area during summer/autumn. Tourist activities in the area.
65E_247	Highly important hunting and fishing area used year round for harvesting a variety of species. Tourist activities in the area with regularly used tent camp at Sapa (Sapaq) and cabins at Ice Camp Greenland.
65E_248	Highly important hunting and fishing area used year round for harvesting a wide range of species. Use of the area is often based on seasonal residence in the closed down settlement Ikkatteq. Tourist activities in the area.

Species occurrence

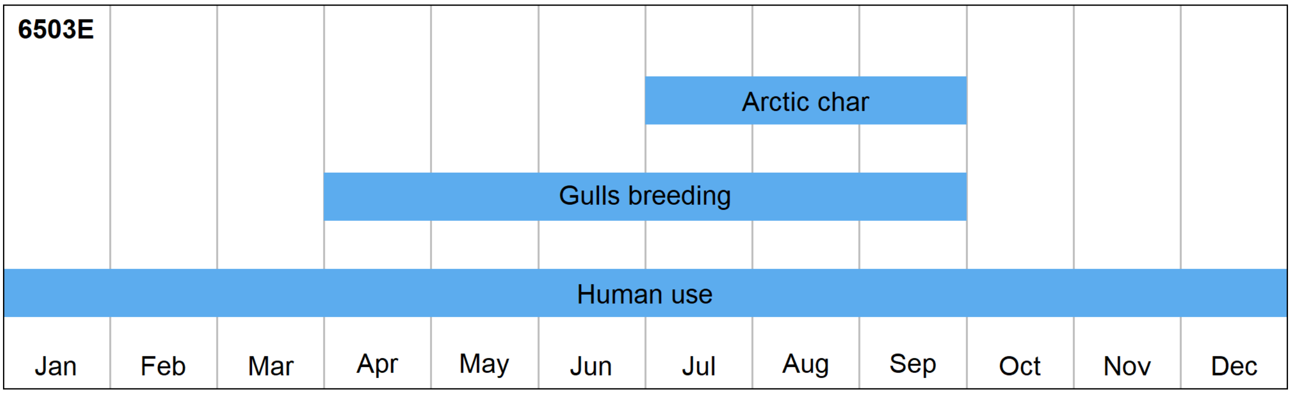
Gb65E_213	1 colony of glaucous gulls
Ac65E_247, Ac65E_214	Important Arctic char river
Gb65E_247	1 colony of Arctic terns
Gb65E_214	1 colony of Arctic terns
Gb65E_219	1 colony of Arctic terns and 1 colony of glaucous gulls

Site specific occurrence: blue icons

Gb8094, Gb8097	Breeding Arctic terns
Gb8121	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_208	22	High
65E_209	15	Moderate
65E_210	15	Moderate
65E_211	16	Moderate
65E_212	16	Moderate
65E_213	27	High
65E_214	35	Extreme
65E_215	21	High
65E_219	33	Extreme
65E_238	46	Extreme
65E_239	40	Extreme
65E_247	48	Extreme
65E_248	42	Extreme



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Physical environment and logistics, 6503E – Kap Tycho Brahe/ Niaqernaartik

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2300). Local knowledge is essential for navigation.

The ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Isip Ilua (65°38′N, 38°18′W) indents the coast between the extremity of Tungoortoq a peninsula 400 m high, and Kap Tycho Brahe, 10 km ENE. Torsukattak, an inlet located in the NE coner of the bay, was reported to be ice-free and apparently suitable as a harbour for ocean-going vessels.

Shorelines in this area are predominantly rock and talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are a number of anchor sites in the map area (Appendix E).

There are no airports or airstrips on this map but two helipads at tele-infrastructure (Appendix F). There are five heliports/stops and one airport to the W and E on map areas 6502, 6504, and 6505.

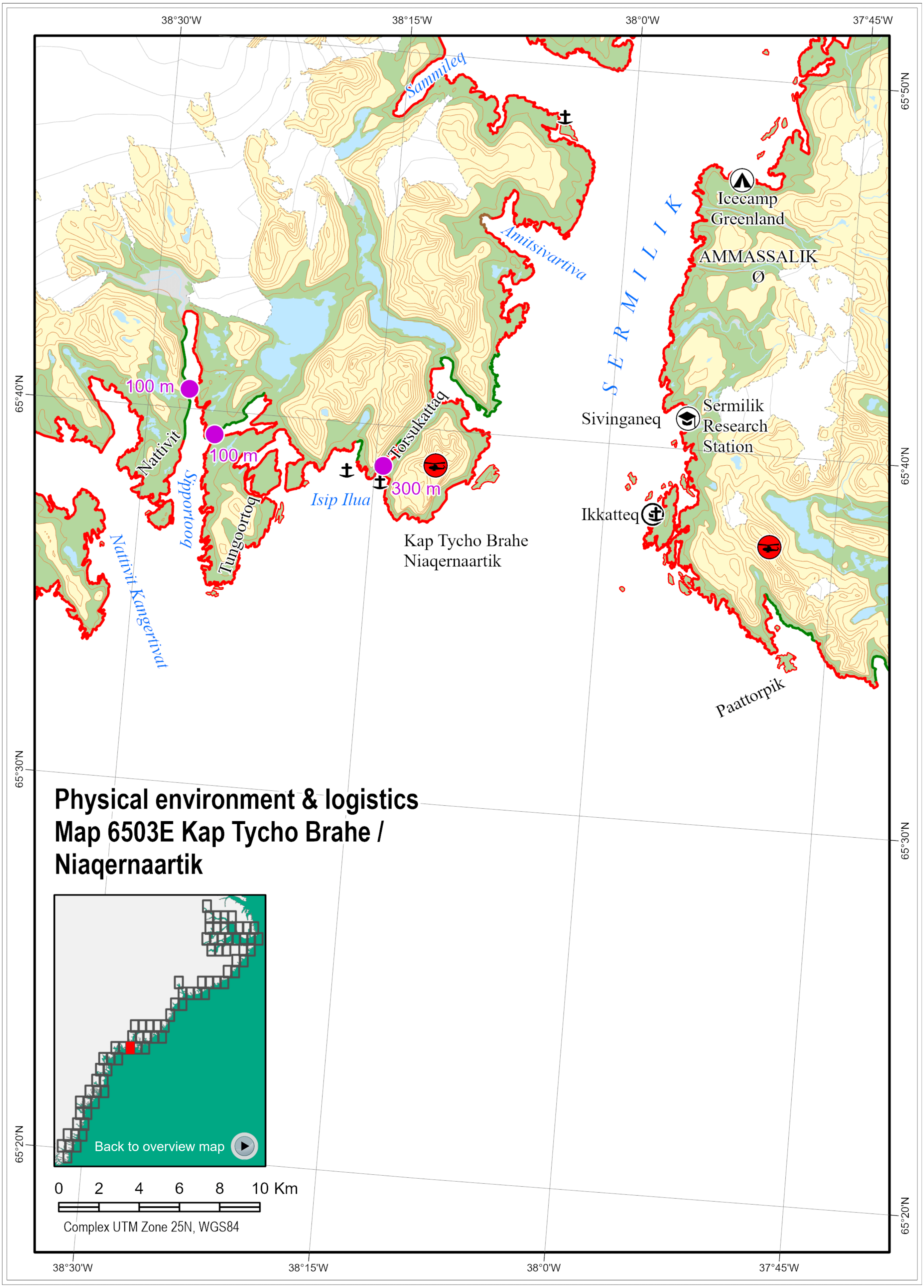
Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are two opportunities for nearshore booming at two inlets near Sipportooq (100 m and 100 m), as well as the potential anchorage noted above (300 m).

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.



Physical environment & logistics
Map 6503E Kap Tycho Brahe /
Niaqernaartik
38°30'W
38°15'W
38°0'W
37°45'W
65°50'N
65°40'N
65°30'N
65°20'N
Sammileq
Amitsivartiva
SERMILIK
Icecamp
Greenland
AMMASSALIK
Ø
Sermilik
Research
Station
Sivinganeq
Ikkatteq
100 m
100 m
300 m
Nattivit
Sipportoq
Tungoortoq
Torsukattaq
Isip Ilua
Kap Tycho Brahe
Niaqernaartik
Nattivit Kangerivat
Paattorpik
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

There is a potential *safe haven* at the anchorage noted above if not for the extreme sensitivity rating in this area. Site surveys should be performed at the time of an incident to confirm the sensitivities.

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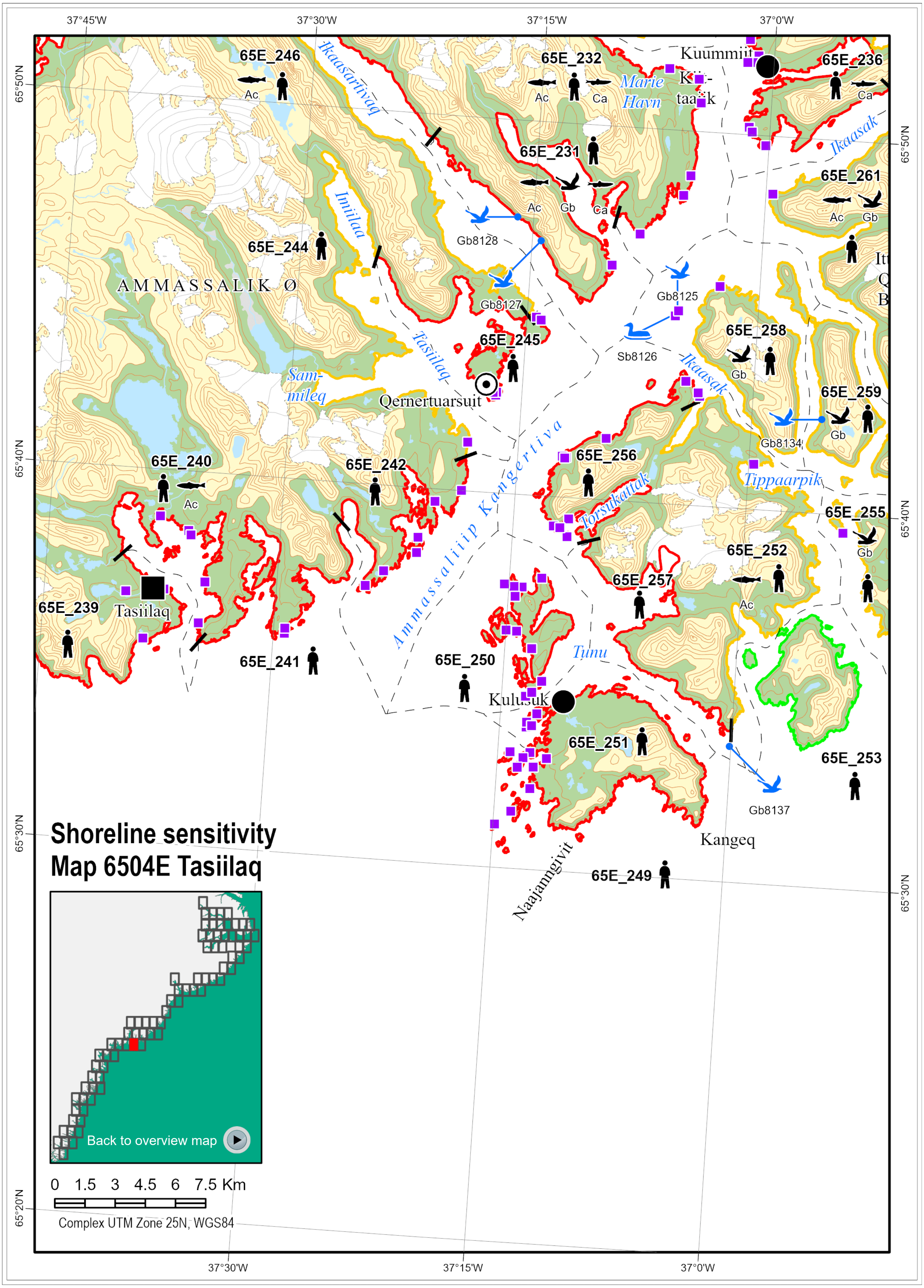


Shoreline sensitivity
Map 6504E Tasiilaq
Back to overview map
0 1.5 3 4.5 6 7.5 Km
Complex UTM Zone 25N, WGS84
37°45'W
37°30'W
37°15'W
37°0'W
65°50'N
65°40'N
65°30'N
65°20'N
AMMASSALIK Ø
Tasiilaq
Kulusuk
Qernertuarsuit
Kangeq
Naajannngivit
Ammassaliip Kangertiva
Tasiilaq
Ikaasartivaq
Imiilaa
Sam-
mileq
Ikaasak
Ikaasak
Torsukattak
Tippaarpik
Tunu
Marie
Havn
65E_246
65E_232
65E_236
65E_231
65E_261
65E_244
65E_245
65E_258
65E_259
65E_240
65E_242
65E_256
65E_255
65E_252
65E_239
65E_257
65E_241
65E_250
65E_251
65E_253
65E_249
Gb8128
Gb8127
Gb8125
Sb8126
Gb8134
Gb8137
Ac
Ca
Gb

8.28 Map 6504E – Tasiilaq

Shoreline sensitivity map

Human use

65E_230	Extremely important hunting area around Tiilerilaaq used all year for harvesting a range of different species. Capelin fishery during May-Aug. Ikaasattivaq is an important motor boat traffic corridor at least during Jul-Dec. Tourist activities in the area
65E_231	Hunting and fishing area presumably used most of the year for harvesting a variety of species. Fishery for capelin (May-Aug), Greenland halibut and redfish at the mouth of Ikaasattivaq. Tourist activities in the area.
65E_232	Highly important fishing and (secondarily) hunting area of which at least the eastern part is used all year for harvesting a variery of species, especially Greenland halibut. Capelin fishery in the area during May-Aug. Tourist activities in the area.
65E_236	Extremely important fishing and (secondarily) hunting area used all year for harvesting a variery of species, especially Greenland halibut and Atlantic cod. Tourist activities in the area.
65E_237	Important motorboat traffic corridor during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area: The former military base Ikkatteq is a popular tourist destination.
65E_239	Extremely important hunting and fishing area used all year for harvesting a wide variety of species. Hunting of minke whale, killer whale, pilot whale and white-beaked dolphin in offshore area during summer/autumn. Tourist activities in the area.
65E_240	Extremely important hunting and fishing area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_241, 65E_242	Highly important hunting and fishing area used all year for harvesting a wide variety of species. Tourist activities in the area.
65E_244	Highly important hunting and fishing area used most of the year for harvesting a variety of species, especially Atlantic salmon and Atlantic cod during Sep-Oct. Tourist cabin in the area.
65E_245	Highly important hunting and fishing area used most of the year for harvesting a variety of species, especially Atlantic salmon and Atlantic cod during Sep-Oct. Tourist activities in the area.
65E_246	Ikaasattivaq is an important motor boat traffic corridor at least during Jul-Dec. Occasional fishing, hunting and mussel collection in the area. Tourist activities in the area.
65E_247	Highly important hunting and fishing area used year round for harvesting a variety of species. Tourist activities in the area with regularly used tent camp at Sapa (Sapaq) and cabins at Ice Camp Greenland.
65E_249	Highly important hunting and fishing area used year round for harvesting a variety of species. Minke whale hunting in offshore area during summer. Tourist activities in the area.
65E_250, 65E_251	Extremely important hunting and fishing area used all year for harvesting a variety of species. Tourist activities in the area.
65E_252, 65E_253	Important hunting area for Kulusuk hunters, primarily used for multispecies ice-edge hunting during spring, but presumably also at other times of the year. Tourist activities in the area.

65E_255	Important hunting area for Kulusuk hunters, primarily used for multispecies ice-edge hunting during spring, but presumably also at other times of the year. Tourist activities in the area.
65E_256	Highly important hunting and fishing area used year round for harvesting a variety of species. Tourist activities in the area.
65E_257	Highly important hunting and fishing area used year round for harvesting a variety of species. The small glacier Apusiaajik is a popular tourist destination.
65E_258	Hunting and fishing area presumably used to most of the year for harvesting a variety of species. Tourist activities in the area.
65E_259	Important hunting area for Kulusuk hunters, primarily used for multispecies ice-edge hunting during spring, but presumably also at other times of the year. Tourist activities in the area.
65E_261	Hunting and fishing area presumably used to most of the year for harvesting a variety of species. Important motorboat traffic corridor along northern shore during Jun-Sep. Tourist activities in the area.

Species occurrence

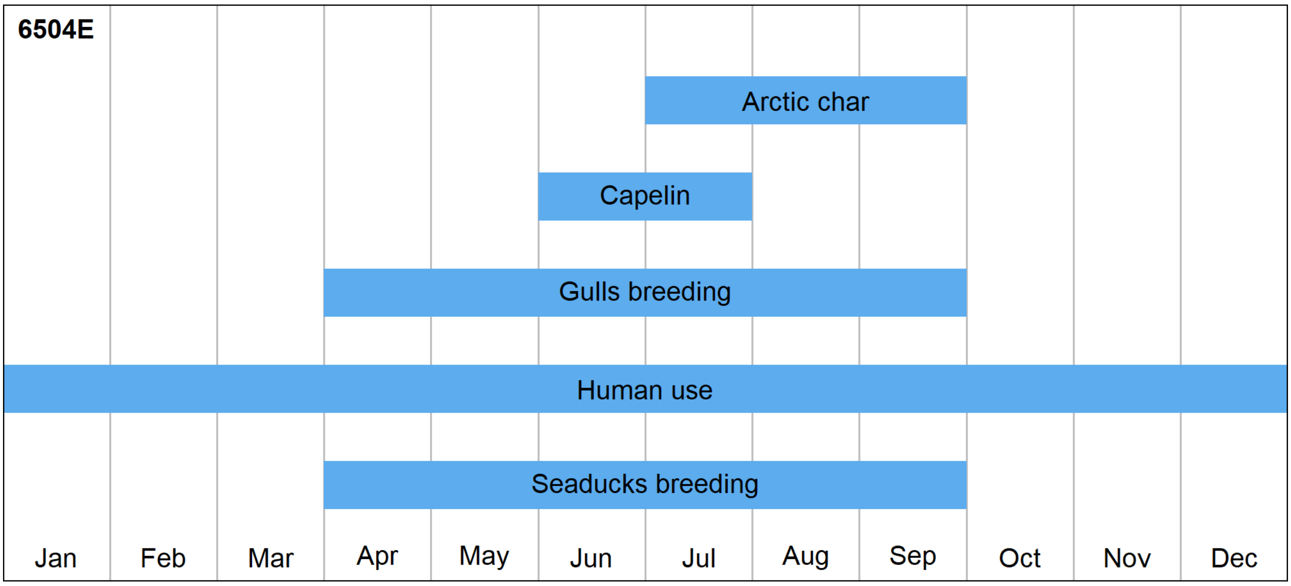
Gb65E_261	1 colony of glaucous gulls
Ac65E_230, Ac65E_232	Important Arctic char river
Ac65E_237, Ac65E_240	Important Arctic char river
Ac65E_246, Ac65E_247	Important Arctic char river
Ac65E_252, Ac65E_261	Important Arctic char river
Ca65E_230	Important area for capelin
Ca65E_231, Ca65E_232	Capelin along the coast
Ca65E_236	Capelin along the coast
Gb65E_255	1 colony of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Gb65E_258	1 colony of Arctic terns and 1 colony of lesser black-backed gulls
Gb65E_247	1 colony of Arctic terns
Gb65E_259	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb65E_231	1 colony of glaucous gulls and 2 colonies of Iceland gulls

Site specific occurrence: blue icons

Gb8125	Breeding lesser black-backed gulls and Arctic terns
Gb8127	Breeding Iceland gulls and glaucous gulls
Gb8128	Breeding Iceland gulls
Gb8134	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls
Gb8137	Breeding great black-backed gulls
Sb8126	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_230	42	Extreme
65E_231	42	Extreme
65E_232	43	Extreme
65E_236	50	Extreme
65E_237	27	High
65E_239	40	Extreme
65E_240	48	Extreme
65E_241	40	Extreme
65E_242	40	Extreme
65E_244	32	High
65E_245	43	Extreme
65E_246	30	High
65E_247	48	Extreme
65E_249	43	Extreme
65E_250	49	Extreme
65E_251	42	Extreme
65E_252	26	High
65E_253	15	Moderate
65E_255	31	High
65E_256	45	Extreme
65E_257	35	Extreme
65E_258	33	High
65E_259	25	High
65E_261	31	High



Physical environment and logistics, 6504E – Tasiilaq

Access

The waters in this area except Kong Oscar Havn and its access are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical charts 2300 and 2310). Local knowledge is essential for navigation.

The ice situation varies from season to season and from year to year; in the average year the area is ice-bound from January to June, although some of the fjords may remain open throughout the winter. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the Sermilik.

Ikaasartivaq (65°45′N, 37°35′W) is a passage between the settlement Tiniteqilaaq and the town of Tasiilaq.

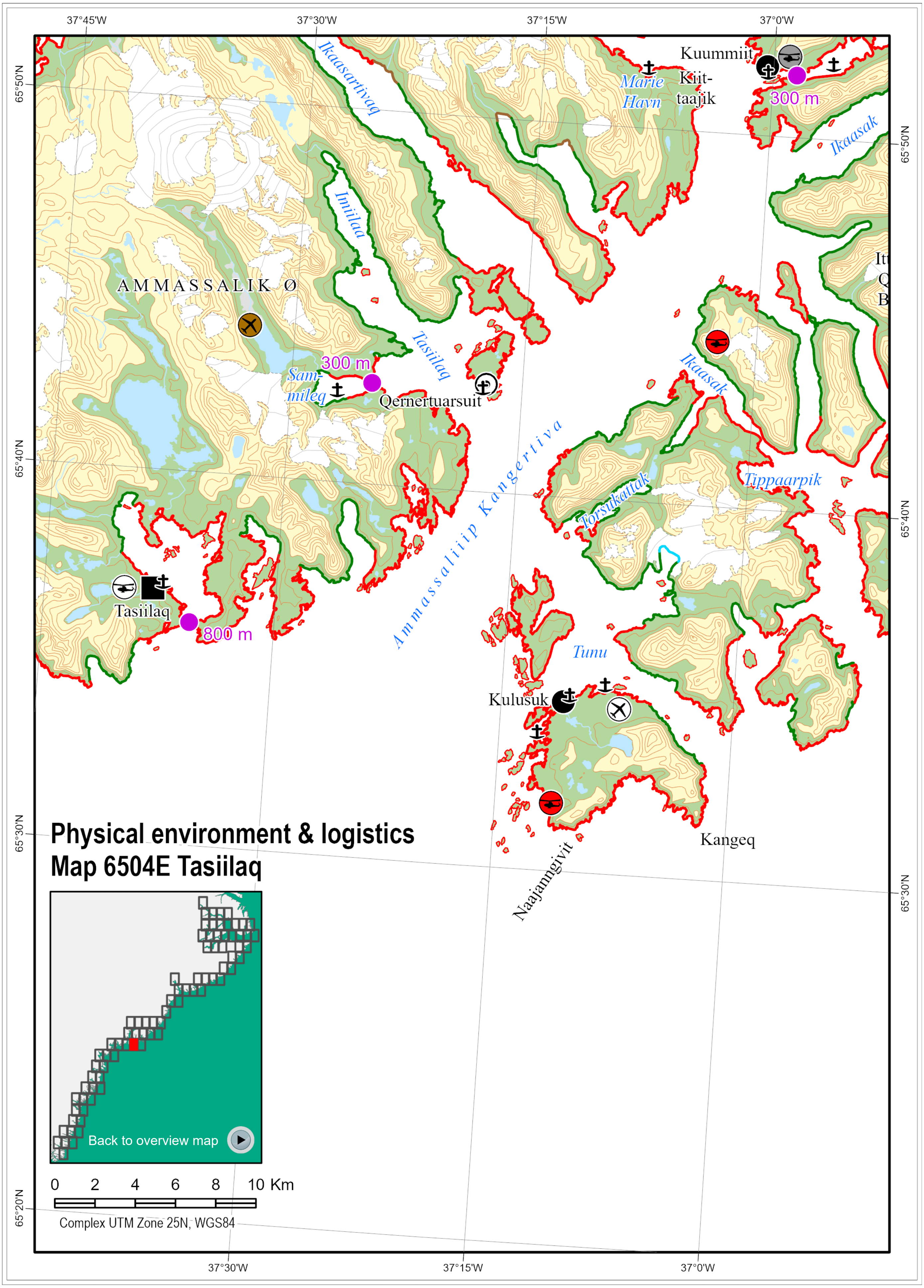
Tasiilaq (Angmagssalik, Ammassalik) (65°36′N, 37°37′W) is the largest town on the E coast of Greenland, and is located on the SW side of Ammassalik Island and at the SW side of Kong Oscar Havn. The open season is from the end of July to mid-October. There is a strong, clockwise circulating current at the entrance, 4 to 5 knots, influenced by a branch of East Greenland Current. Taking a pilot is not compulsory, but is advisable. An unlicensed pilot is available; arrangements are made through the Port Operator. The vessel's ETA should be sent to port officials 24 hours prior to arrival. For details see nautical charts 2310 and 2351 and Greenland Harbour Pilot: https://www.gronlandskehavnelods.dk/Details/89.

Kong Oscar Havn (65°37′N, 37°37′W), an almost landlocked inlet, indents the S shore of Ammassalik Ø. It is entered through a channel, about 0.8 km wide, and forms a harbour which can accommodate vessels of practically any size and draft (nautical charts 2310, 2351).

Kulusuk is a settlement close to the airport of the same name, a small harbour is found here (nautical charts 2310, 2351 and the Greenland Harbour Pilot https://www.gronlandskehavnelods.dk/Details/91).

Kuummiit (Kungmiut) (65°51′N, 37°00′W), is the site of a larger settlement. Fog often lies in Ammassalikfjord when there is extensive drift ice. The harbour lies in the N part of the tjord, and Fiskeribro pier, 10 m long, with a depth of 4 m, is situated there. (Vessels lie best when berthed starboard side-to.) Spring tides rise 3 m; neap tides rise about 2.2 m. Vessels may anchor, in a depth of 50 m, S of the jetty, good holding ground (nautical charts 2310, 2351 and the Greenland Harbour Pilot: https://www.gronlandskehavnelods.dk/Details/87).

Kiittajik (65°51′N, 37°05′W), the site of a former settlement, is the S entrance point of the fjord Ikaasaalaq, a fjord which curves 22 km NW and NNW. Marie Havn, a small bay, is located on the S shore of Ikaasaalaq, 2.5 km W of Kiittajik. Ocean-going vessels can obtain sheltered anchorage between this islet and the shore, at the head of the bay (Appendix E).


Physical environment & logistics
Map 6504E Tasiilaq
AMMASSALIK Ø
Ikaasartivaq
Imiilaa
Tasiilaq
Sam-
mileq
300 m
Qernertuarsuit
Marie
Havn
Kuummiit
Kiit-
taajik
300 m
Ikaasak
Ikaasak
Tippaarpik
Torsukattak
Ammassaliiip Kangertiva
Tasiilaq
800 m
Tunu
Kulusuk
Kangeq
Naajanngivit
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
37°45'W
37°30'W
37°15'W
37°0'W
65°50'N
65°40'N
65°30'N
65°20'N

Shorelines in this area are predominantly rock and talus, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is an airport at Kulusuk (BGKK, KUS), see also https://www.skybrary.aero/index.php/BGKK. There is a heliport at the town of Tasiilaq, a STOL-airstrip NE of the town and three helipads at tele-infrastructures (Appendix F).

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are several opportunities for nearshore booming: at the potential anchorages noted above (300 m each) and at Kong Oscar Havn (800 m).

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline. Operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

There is a potential *safe haven* at the anchorages noted above, if not for the extreme sensitivity rating in this area. Site surveys should be performed at the time of an incident to confirm the sensitivities.

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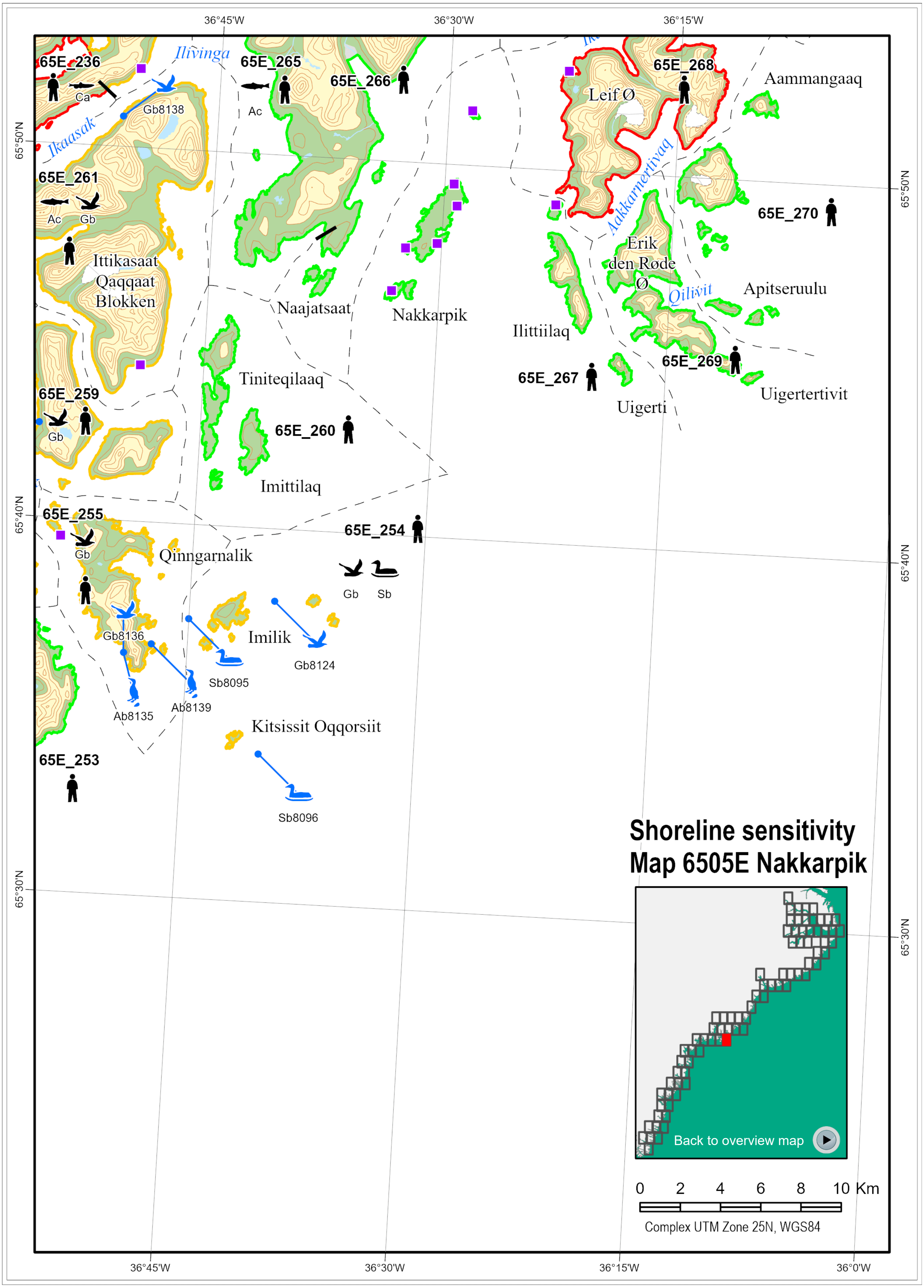


Shoreline sensitivity
Map 6505E Nakkarpik
36°45'W
36°30'W
36°15'W
36°0'W
65°50'N
65°40'N
65°30'N
65E_236
Ca
Ilivinga
65E_265
Ac
65E_266
Gb8138
Ikaasak
65E_261
Ac
Gb
Ittikasaat
Qaqqaat
Blokken
65E_259
Gb
65E_268
Aammangaaq
Leif Ø
Aakkarnertivaq
65E_270
Erik
den Røde
Ø
Qilivit
Apitseruulu
Naajatsaat
Nakkarpik
Ilittiilaq
65E_269
65E_267
Uigertertivit
Uigerti
Tiniteqilaaq
65E_260
Imittilaq
65E_255
Gb
Qinngarnalik
65E_254
Gb
Sb
Gb8136
Imilik
Gb8124
Sb8095
Ab8135
Ab8139
Kitsissit Oqqorsiit
65E_253
Sb8096
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.29 Map 6505E – Nakkarpik

Shoreline sensitivity map

Human use

65E_236	Extremely important fishing and (secondarily) hunting area used all year for harvesting a variery of species, especially Greenland halibut and Atlantic cod. Tourist activities in the area.
65E_237	Important motorboat traffic corridor during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area: The former military base Ikkatteq is a popular tourist destination.
65E_253 – 65E_255	Important hunting area for Kulusuk hunters, primarily used for multispecies ice-edge hunting during spring, but presumably also at other times of the year. Tourist activities in the area.
65E_259, 65E_260	Important hunting area for Kulusuk hunters, primarily used for multispecies ice-edge hunting during spring, but presumably also at other times of the year. Tourist activities in the area.
65E_261	Hunting and fishing area presumably used to most of the year for harvesting a variety of species. Important motorboat traffic corridor along northern shore during Jun-Sep. Tourist activities in the area.
65E_265	Important motorboat traffic corridor along northern shore during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area.
65E_266 – 65E_268	Highly important hunting and fishing area used year round for harvesting a range of different species, e.g. ringed seal, bearded seal, harp seal, thick-billed murre and black guillemot. Tourist activities in the area.
65E_269, 65E_270	Hunting and fishing area used year round for harvesting a variety of different species. Tourist activities in the area.

Species occurrence

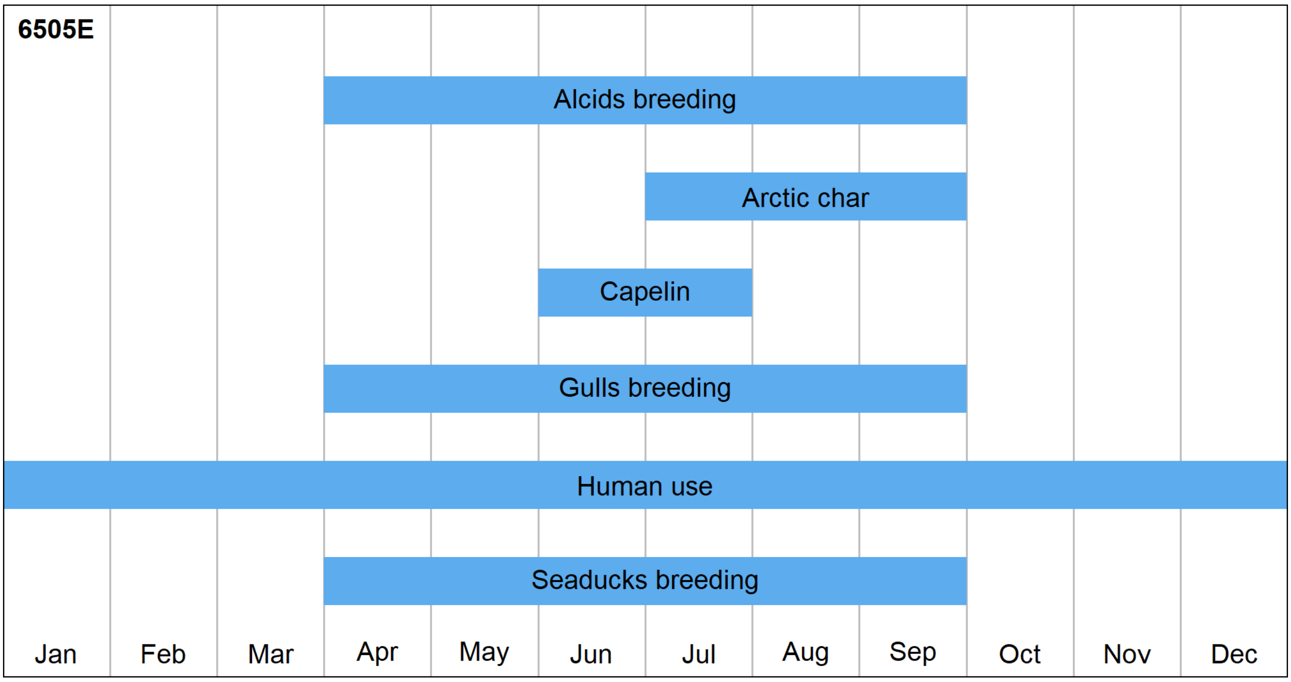
Gb65E_261	1 colony of glaucous gulls
Ac65E_237, Ac65E_261	Important Arctic char river
Ac65E_265	Important Arctic char river
Ca65E_236	Capelin along the coast
Gb65E_254	1 colony of lesser black-backed gulls
Gb65E_259	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb65E_255	1 colony of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Sb65E_254	2 colonies of common eiders

Site specific occurrence: blue icons

Ab8135, Ab8139	Breeding black guillemots
Gb8124	Breeding lesser black-backed gulls
Gb8136	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls
Gb8138	Breeding glaucous gulls
Sb8095, Sb8096	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_236	50	Extreme
65E_237	27	High
65E_253	15	Moderate
65E_254	33	High
65E_255	31	High
65E_259	25	High
65E_260	16	Moderate
65E_261	31	High
65E_265	19	Moderate
65E_266	22	Moderate
65E_267	21	Moderate
65E_268	38	Extreme
65E_269	15	Moderate
65E_270	16	Moderate



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Physical environment and logistics, 6505E – Nakkarpik

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

There are no anchorages noted on this map area.

Shorelines in this area are predominantly rock and talus, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a helipad at a tele-infrastructure in the map area (Appendix E) and an airport and two heliports/stops to the W on maps 6502 and 6504 and two other heliport/stops to the N (map areas 6552 and 6553).

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

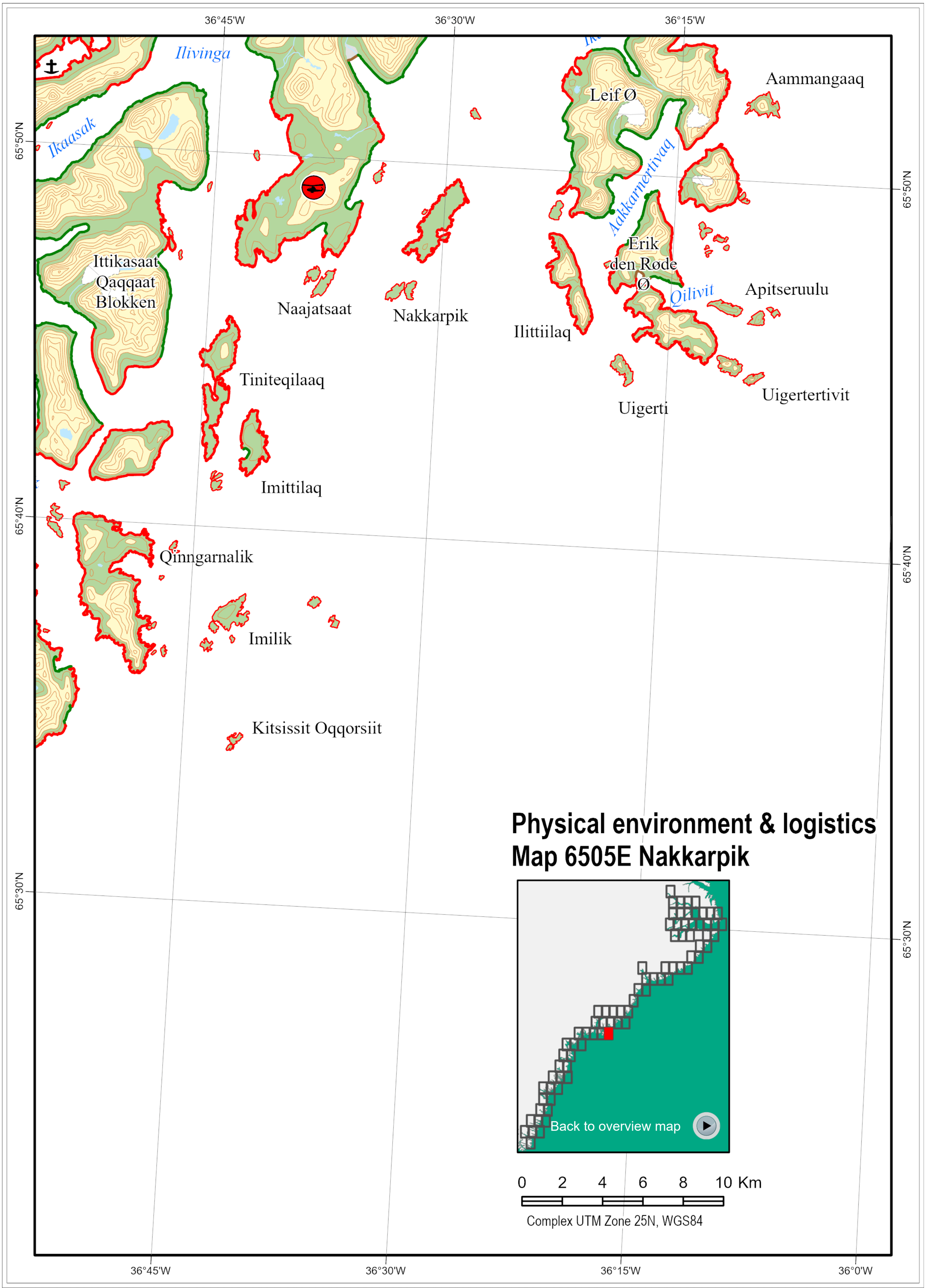
There are no opportunities for nearshore booming on this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

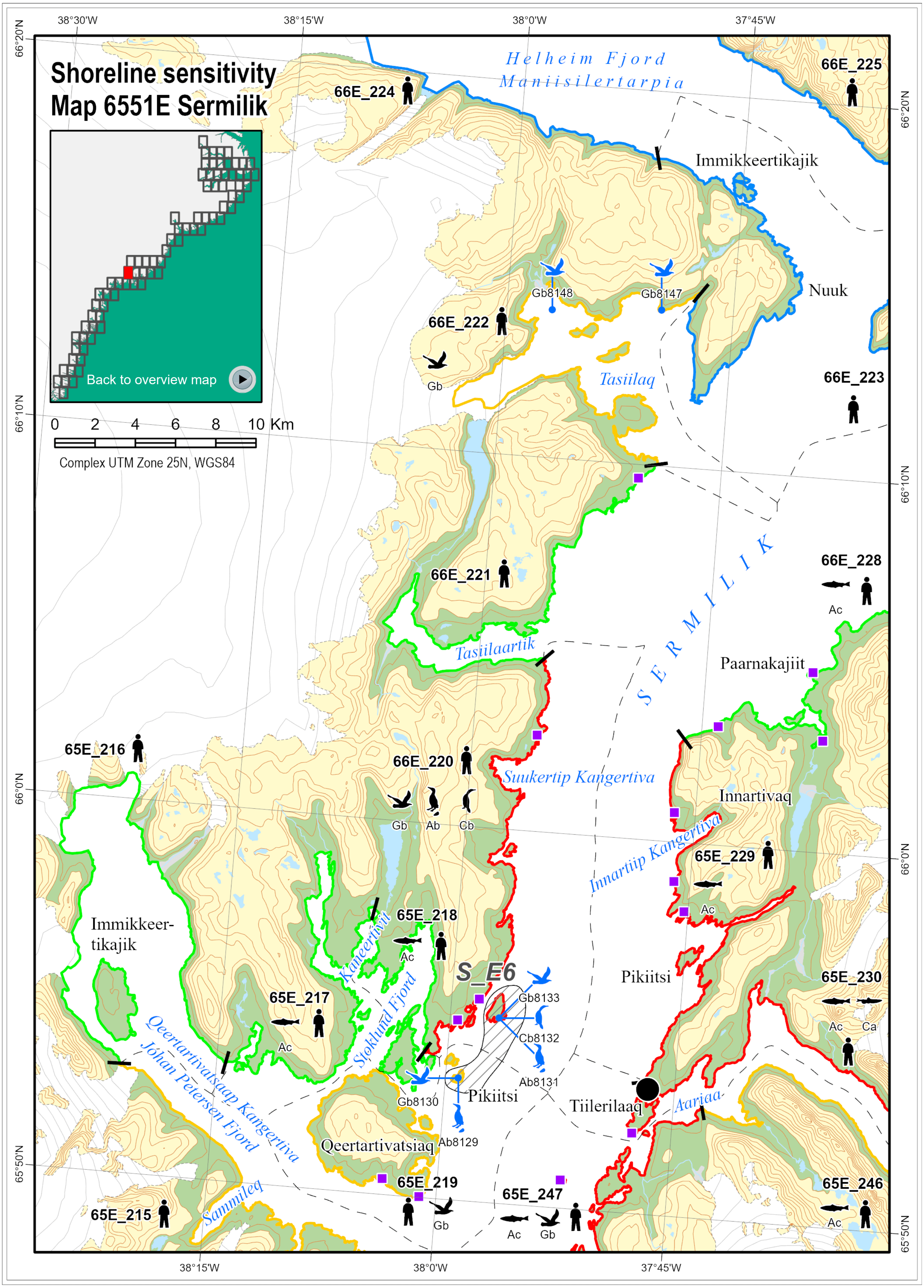
Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



36°45'W
36°30'W
36°15'W
36°0'W
65°50'N
65°40'N
65°30'N
Ilivinga
Ikaasak
Leif Ø
Aammangaaq
Aakkarnertivaq
Erik den Røde Ø
Qilivit
Apitseruulu
Ittikasaat Qaqqaat Blokken
Naajatsaat
Nakkarpik
Ilittiilaq
Uigerti
Uigertertivit
Tiniteqilaaq
Imittilaq
Qinngarnalik
Imilik
Kitsissit Oqqorsiit
Physical environment & logistics
Map 6505E Nakkarpik
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 6551E Sermilik
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
38°30'W
38°15'W
38°0'W
37°45'W
66°20'N
66°10'N
66°0'N
65°50'N
Helheim Fjord
Maniisilertarpia
66E_224
66E_225
Immikkeertikajik
Gb8148
Gb8147
Nuuk
66E_222
Gb
Tasiilaq
66E_223
66E_221
SERMILIK
66E_228
Ac
Tasiilaartik
Paarnakajiit
65E_216
66E_220
Suukertip Kangertiva
Innartivaq
Gb
Ab
Cb
Innartiip Kangertiva
65E_229
Ac
Immikkeer-
tikajik
65E_218
Kangertivit
Ac
S_E6
Pikiitsi
65E_230
Gb8133
Ac
Ca
65E_217
Ac
Sjøklund Fjord
Cb8132
Queertartivatsaap Kangertiva
Johan Petersen Fjord
Ab8131
Gb8130
Pikiitsi
Tiilerilaaq
Aariaa
Queertartivatsiaq
Ab8129
65E_219
Gb
65E_247
Ac
Gb
65E_246
Ac
65E_215
Sammileq

8.30 Map 6551E – Sermilik

Shoreline sensitivity map

Human use

65E_215	Area used for hunting a variety of species during several seasons. Especially important for ringed seal hunting during Oct-Dec. Important tourist destination during summer and there is often a tent camp here.
65E_216	Area used for hunting a variety of species during several seasons. Especially important for ringed seal hunting during Oct-Dec. Important tourist destination during summer: The glacier is the target of helicopter tours.
65E_217 – 65E_219	Area used for hunting a variety of species during several seasons. Especially important for ringed seal hunting during Oct-Dec. Important tourist destination during summer.
66E_220 – 66E_223	Hunting area used most of the year for harvesting a variety of species. Tourist activities in the area.
66E_224	Occasional hunting in the area. Tourist activities in the area: Helheim Glacier is the target of helicopter tours.
66E_225	Hunting area used most of the year for harvesting a variety of species. Tourist activities in the area.
66E_228	Hunting area used most of the year for harvesting a variety of species. Tourist activities in the area (Panagai (Paarnakajiit) is used as camp site).
65E_229	Highly important hunting and fishing area used year round for harvesting a variety of species. Tourist activities in the area with regularly used camp site.
65E_230	Extremely important hunting area around Tiilerilaaq used all year for harvesting a range of different species. Capelin fishery during May-Aug. Ikaasattivaq is an important motor boat traffic corridor at least during Jul-Dec. Tourist activities in the area
65E_246	Ikaasattivaq is an important motor boat traffic corridor at least during Jul-Dec. Occasional fishing, hunting and mussel collection in the area. Tourist activities in the area.
65E_247	Highly important hunting and fishing area used year round for harvesting a variety of species. Tourist activities in the area with regularly used tent camp at Sapa (Sapaq) and cabins at Ice Camp Greenland.

Species occurrence

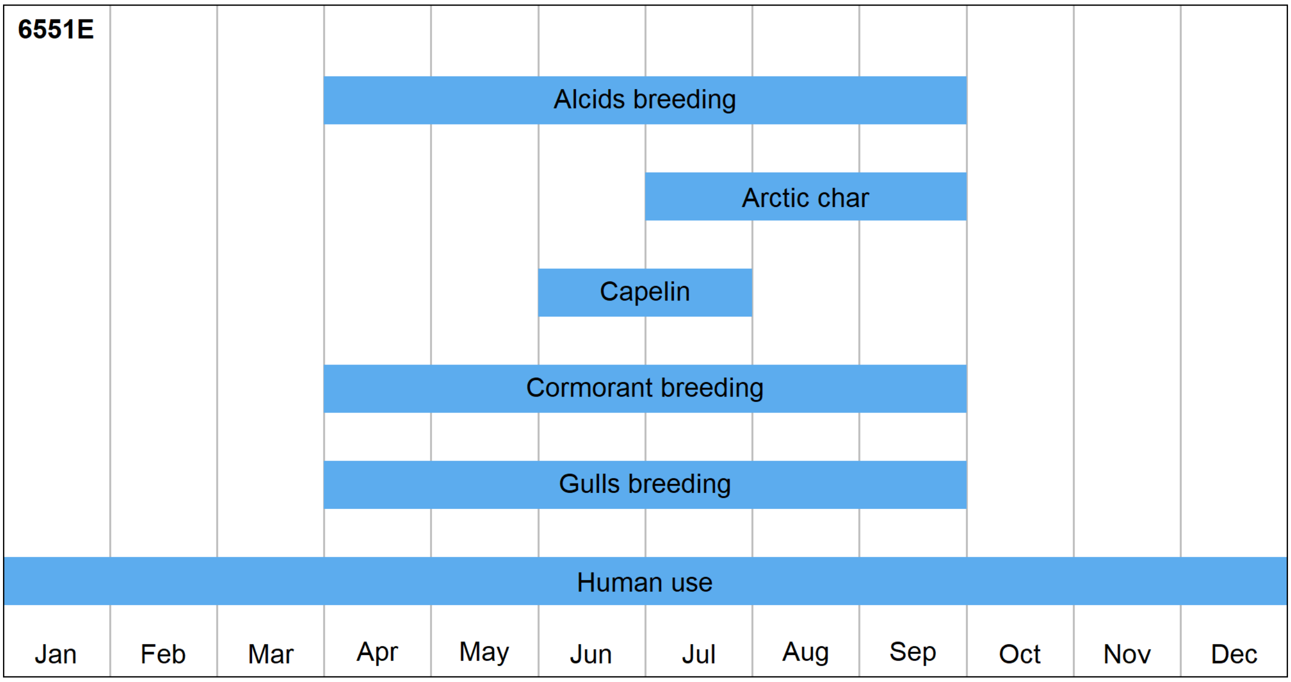
Ab65E_220	1 colony of black guillemots
Ac65E_218, Ac65E_217	Important Arctic char river
Ac66E_228 – Ac65E_230	Important Arctic char river
Ac65E_246, Ac65E_247	Important Arctic char river
Ca65E_230	Important area for capelin
Cb65E_220	1 colony of great cormorants
Gb65E_219	1 colony of Arctic terns and 1 colony of glaucous gulls
Gb65E_247	1 colony of Arctic terns
Gb65E_220	1 colony of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Gb66E_222	2 colonies of Iceland gulls

Site specific occurrence: blue icons

Ab8129 **(SE_6)**, Ab8131	Breeding black guillemots
Cb8132 **(SE_6)**	Breeding great cormorants
Gb8130 **(SE_6)**	Breeding glaucous gulls and Arctic terns
Gb8133 **(SE_6)**	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls
Gb8147, Gb8148	Breeding Iceland gulls

Shoreline sensitivity summary

SEG_ID	**Sensitivity**	**Ranking**
65E_215	21	High
65E_216	16	Moderate
65E_217	21	Moderate
65E_218	21	Moderate
65E_219	33	Extreme
66E_220	51	Extreme
66E_221	15	Moderate
66E_222	26	High
66E_223	14	Low
66E_224	10	Low
66E_225	13	Low
66E_228	21	Moderate
65E_229	34	Extreme
65E_230	42	Extreme
65E_246	30	High
65E_247	48	Extreme



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Physical environment and logistics, 6551E – Sermilik

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

The fjord except for the inner parts is usually free of sea ice year round, but glacier ice may be dense and numerous icebergs are discharged from glaciers in the head of the fjord.

Tiniteqilaaq is a small settlement at the E coast of Sermilik Fjord (see Greenland Harbour Pilot (https://www.gronlandskehavnelods.dk/Details/86).

Innartiip Kangertiva is entered 6 km N of the island Pikiitse. It indents the coast and is reported to be ice-free, easily accessible, and suitable as a harbour for ocean-going vessels. There are four more anchor sites reported from this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

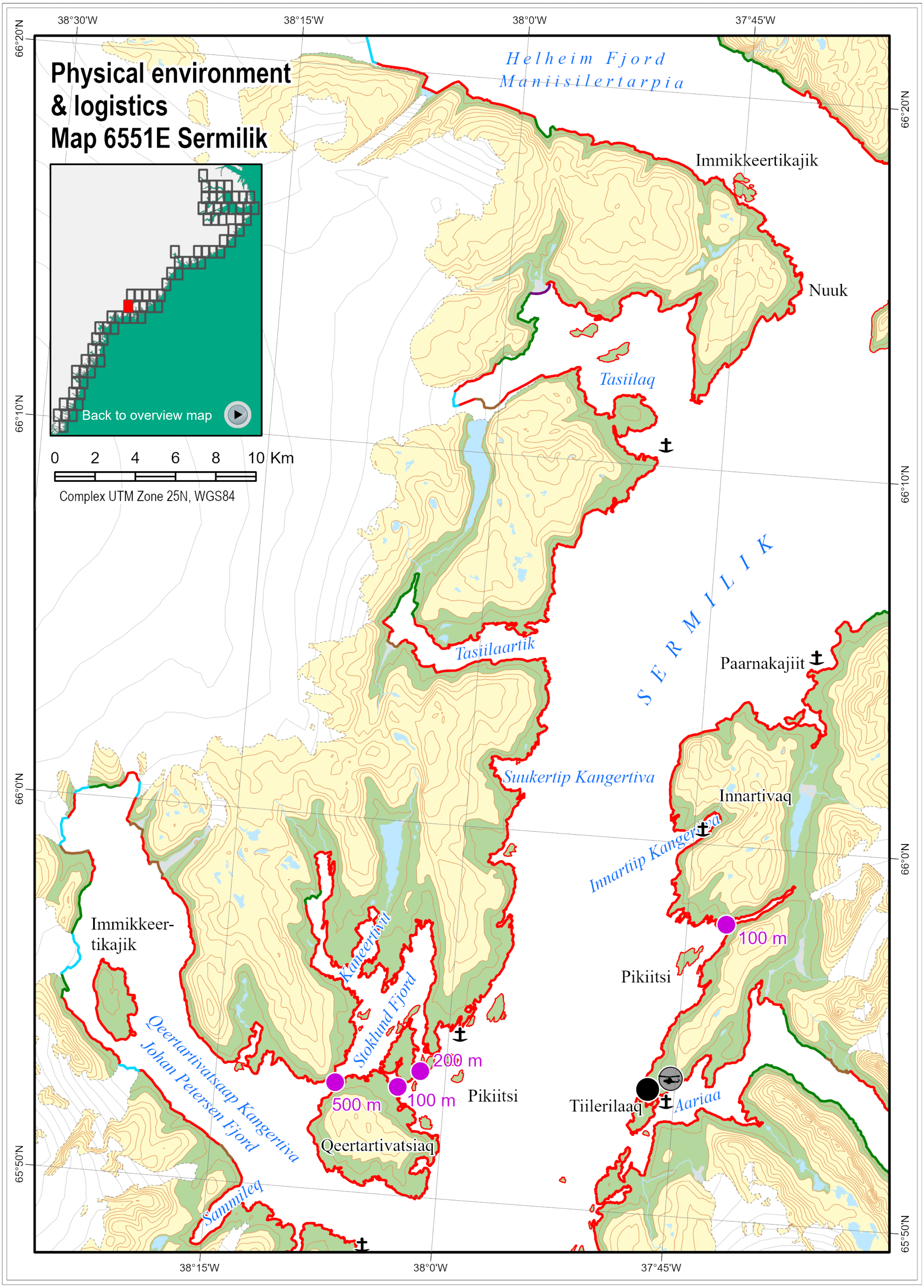
There are no airports or airstrips on this map. There is a helistop at the settlement Tiniteqilaaq and four other heliports/stops and an airport to the S and east on map areas 6502, 6503, 6505, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

Several opportunities for nearshore booming exists at the entrance to Amitsivartiva (<100 m), and W across the sound in and around Stoklund Fjord (500, 100, and 200 m) where a modest length of exclusion boom could be used at the entrance to protect a large and extremely sensitive inshore area. Booming these inlets against approaching oil could prevent massive oiling of protected inshore waters.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.



Physical environment
& logistics
Map 6551E Sermilik
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
38°30'W
38°15'W
38°0'W
37°45'W
66°20'N
66°10'N
66°0'N
65°50'N
Helheim Fjord
Maniisilertarpia
Immikkeertikajik
Nuuk
Tasiilaq
SERMILIK
Tasiilaartik
Paarnakajiit
Suukertip Kangertiva
Innartivaq
Innartiip Kangertiva
100 m
Pikiitsi
Immikkeer-
tikajik
Kangertivit
Stoklund Fjord
Qeertartivatsaap Kangertiva
Johan Petersen Fjord
200 m
500 m
100 m
Pikiitsi
Tiilerilaaq
Aariaa
Qeertartivatsiaq
Sammileq

Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

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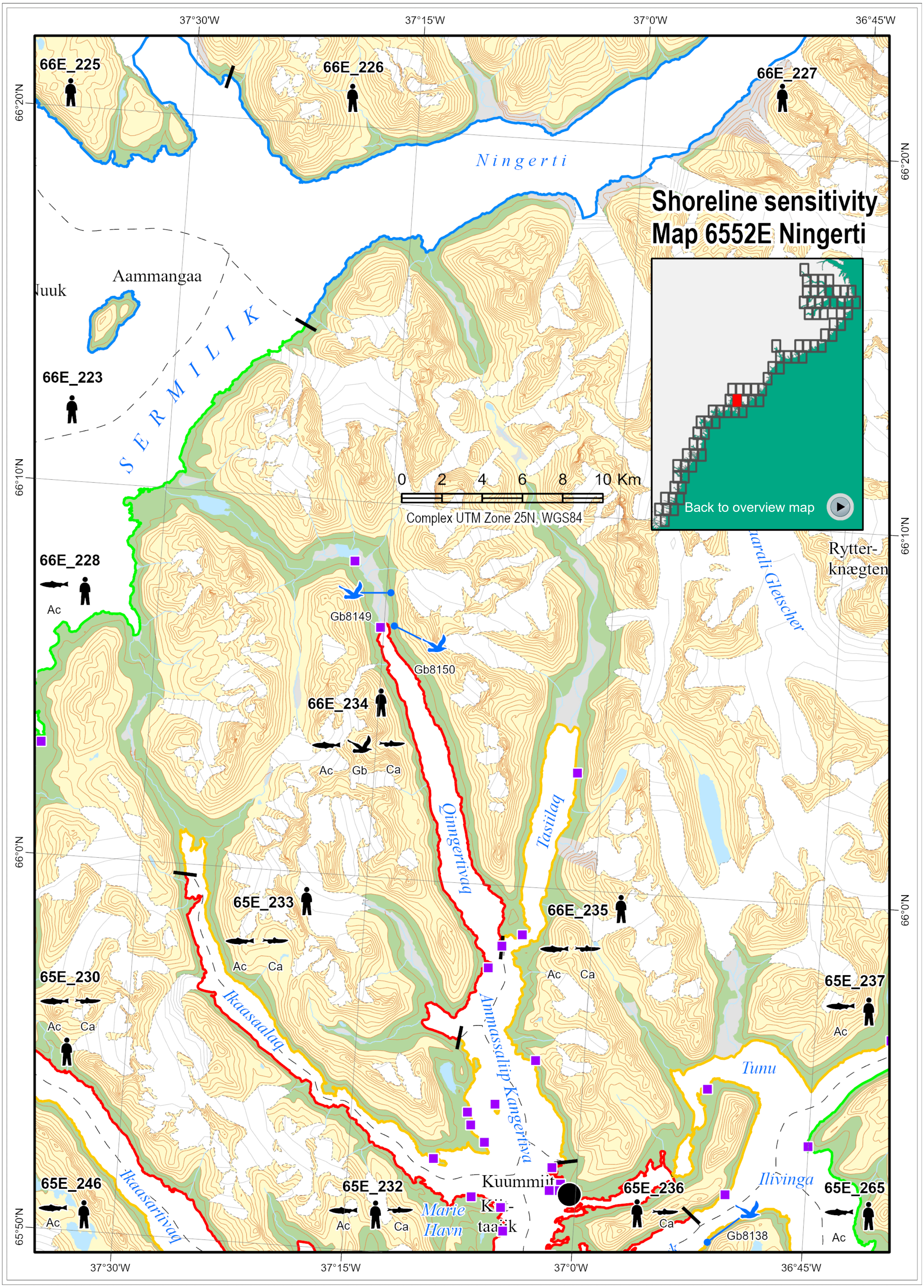


Shoreline sensitivity
Map 6552E Ningerti
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
37°30'W
37°15'W
37°0'W
36°45'W
66°20'N
66°10'N
66°0'N
65°50'N
66E_225
66E_226
66E_227
66E_223
66E_228
66E_234
66E_235
65E_233
65E_230
65E_237
65E_246
65E_232
65E_236
65E_265
Ningerti
Aammangaa
SERMILIK
Qinngertivaq
Tasiilaq
Ikaasaalaq
Ammassalip Kangertiva
Ikaasartivaq
Tunu
Ilivinga
Kuummiit
Marie Havn
Rytter-knægten
Gb8149
Gb8150
Gb8138
Ac
Gb
Ca

8.31 Map 6552E – Ningerti

Shoreline sensitivity map

Human use

66E_223, 66E_225	Hunting area used most of the year for harvesting a variety of species. Tourist activities in the area.
66E_226, 66E_227	Occasional hunting in the area. Tourist activities in the area.
66E_228	Hunting area used most of the year for harvesting a variety of species. Tourist activities in the area (Panagai (Paarnakajiit) is used as camp site).
65E_230	Extremely important hunting area around Tiilerilaaq used all year for harvesting a range of different species. Capelin fishery during May-Aug. Ikaasattivaq is an important motor boat traffic corridor at least during Jul-Dec. Tourist activities in the area
65E_231	Hunting and fishing area presumably used most of the year for harvesting a variety of species. Fishery for capelin (May-Aug), Greenland halibut and redfish at the mouth of Ikaasattivaq. Tourist activities in the area.
65E_232	Highly important fishing and (secondarily) hunting area of which at least the eastern part is used all year for harvesting a variery of species, especially Greenland halibut. Capelin fishery in the area during May-Aug. Tourist activities in the area.
65E_233	Highly important fishing and (secondarily) hunting area of which at least the eastern part is used most of year for harvesting a variery of species, especially Greenland halibut and Atlantic cod. Capelin fishery in the areas during May-Aug. Tourist activities in the area.
66E_234	Area used at least for capelin fishery during May-August. Tourist activities in the area with Qinngeq as a popular destination (tent camps).
66E_235	Highly important fishing and (secondarily) hunting area of which the southern part is used all year for harvesting a variery of species, especially Greenland halibut and Atlantic cod. Tourist activities in the area, often with tent camps.
65E_236	Extremely important fishing and (secondarily) hunting area used all year for harvesting a variery of species, especially Greenland halibut and Atlantic cod. Tourist activities in the area.
65E_237	Important motorboat traffic corridor during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area: The former military base Ikkatteq is a popular tourist destination.
65E_246	Ikaasattivaq is an important motor boat traffic corridor at least during Jul-Dec. Occasional fishing, hunting and mussel collection in the area. Tourist activities in the area.
65E_261	Hunting and fishing area presumably used to most of the year for harvesting a variety of species. Important motorboat traffic corridor along northern shore during Jun-Sep. Tourist activities in the area.
65E_265	Important motorboat traffic corridor along northern shore during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area.

Species occurrence

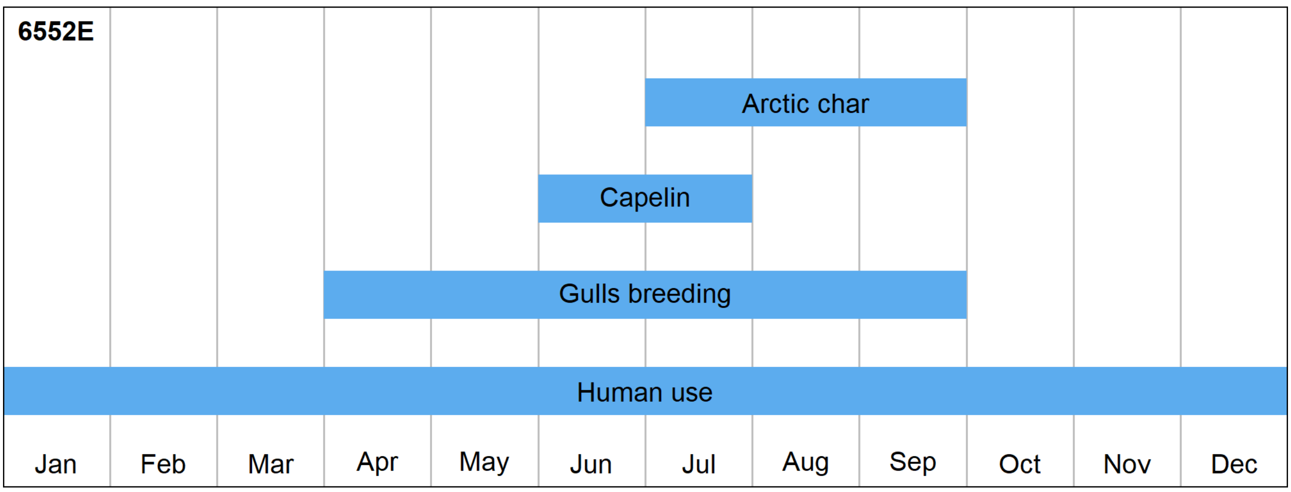
Gb65E_261	1 colony of glaucous gulls
Ac66E_228, Ac65E_237	Important Arctic char river
Ac65E_230 – Ac66E_235	Important Arctic char river
Ac65E_261, Ac65E_246	Important Arctic char river
Ac65E_265	Important Arctic char river
Ca65E_231, Ca65E_234	Capelin along the coast
Ca65E_236	Capelin along the coast
Ca65E_230, Ca66E_235	Important area for capelin
Gb65E_231	1 colony of glaucous gulls and 2 colonies of Iceland gulls
Gb66E_234	2 colonies of Iceland gulls

Site specific occurrence: blue icons

Gb8138	Breeding glaucous gulls
Gb8149, Gb8150	Breeding Iceland gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_223	14	Low
66E_225	13	Low
66E_226	10	Low
66E_227	11	Low
66E_228	21	Moderate
65E_230	42	Extreme
65E_231	42	Extreme
65E_232	43	Extreme
65E_233	31	High
66E_234	36	Extreme
66E_235	28	High
65E_236	50	Extreme
65E_237	27	High
65E_246	30	High
65E_261	31	High
65E_265	19	Moderate



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Physical environment and logistics, 6552E – Ningerti

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

The fjords of the map area are usually covered by shorefast ice in winter until June, and especially in Sermilik numerous icebergs are present.

There are two anchorages identified on this map area, one at Kuummiit and one at Marie Havn (Appendix E).

Shorelines in this area are predominantly talus, with some rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

Kuummiit (Kungmiut) (65°51'N, 37°00'W), is the site of a larger settlement. Fog often lies in Ammassalik Fjord when there is extensive drift ice. The harbour lies in the N part of the fjord, and Fiskeribro pier, 10 m long, with a depth of 4 m, is situated there. (Vessels lie best when berthed starboard side-to). Spring tides rise 3 m; neap tides rise about 2.2 m. Vessels may anchor, in a depth of 50 m, S of the jetty, good holding ground (nautical charts 2310, 2351 and the Greenland Harbour Pilot https://www.gronlandskehavnelods.dk/Details/87).

There is a helistop at the settlement Kuummiit and the old WWII airstrip at Ikateq at least can be used by STOL-aircrafts.

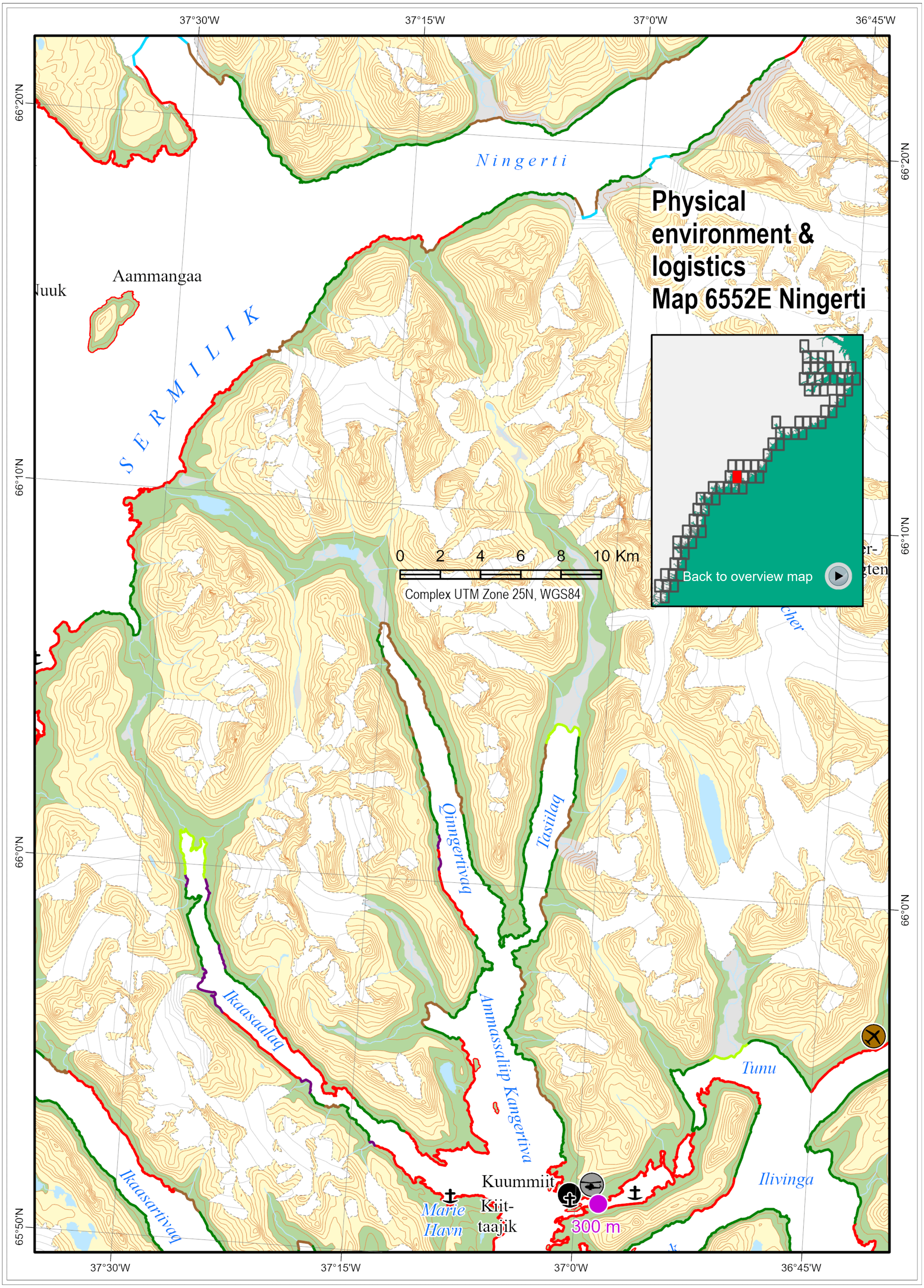
Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There is one opportunity for nearshore booming at an inlet ca (ca 65°50'N, 37°00'E) (300 m). Booming this inlet against approaching oil could prevent massive oiling of protected inshore waters.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.


Physical environment & logistics
Map 6552E Ningerti
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
37°30'W
37°15'W
37°0'W
36°45'W
66°20'N
66°10'N
66°0'N
65°50'N
Ningerti
Aammangaa
SERMILIK
Qinngertivaq
Tasiilaq
Ikaasaalaq
Ammassalip Kangertiva
Tunu
Ilivinga
Kuummiit
Kiit-
taajik
Marie
Havn
Ikaasartivaq
300 m

Shorelines shown on this map are predominantly rock and talus; those with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map. There is a potential *safe haven* at the anchorage noted above if not for the extreme sensitivity rating in this area. Site surveys should be performed at the time of an incident to confirm the sensitivities.

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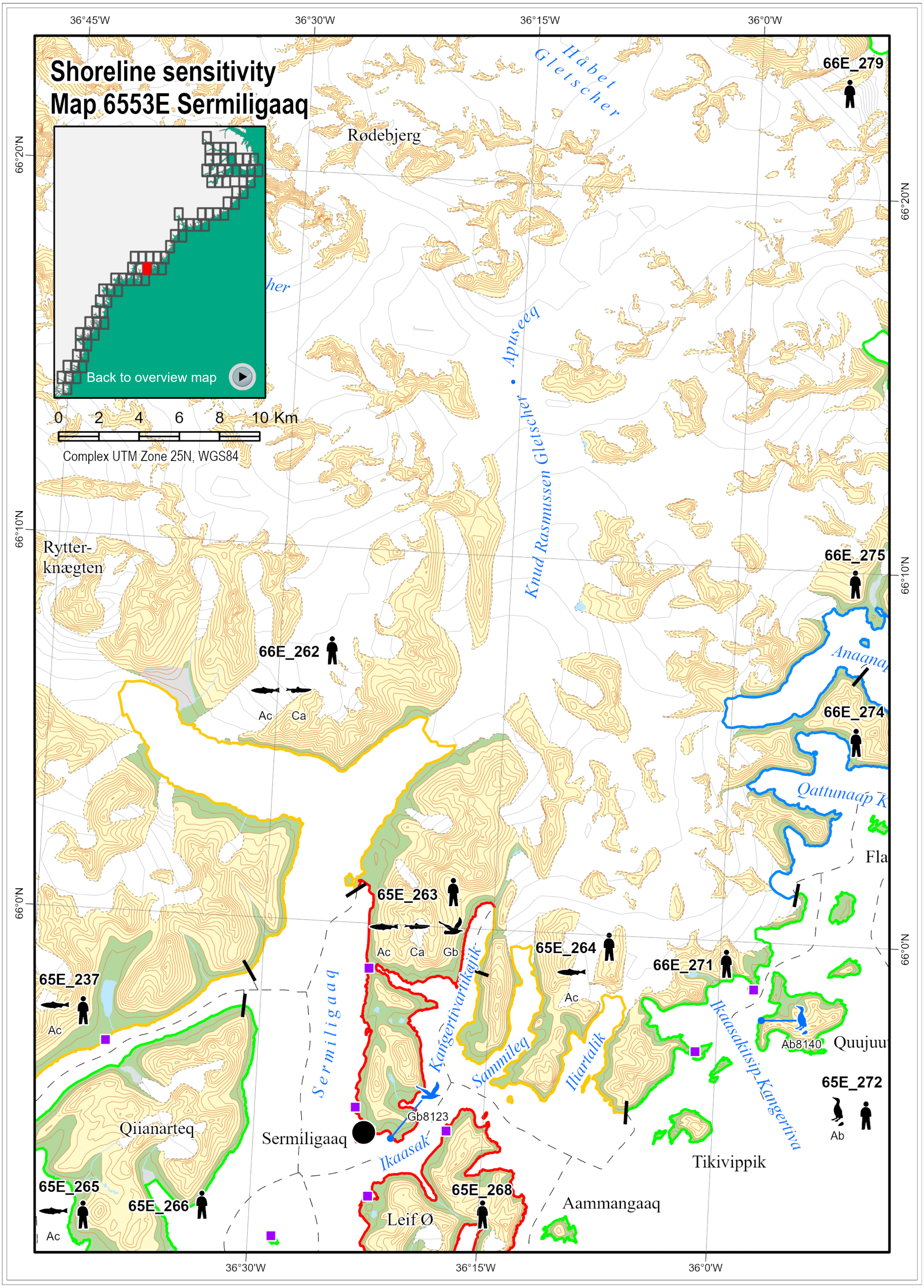

Shoreline sensitivity
Map 6553E Sermiligaaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
36°45'W
36°30'W
36°15'W
36°0'W
66°20'N
66°10'N
66°0'N
Håbet Gletscher
Rødebjerg
Apuseeq
Knud Rasmussen Gletscher
Rytter-
knægten
66E_279
66E_275
66E_262
Ac
Ca
Anaanaq
66E_274
Qattunaap K
Fla
65E_263
Ac
Ca
Gb
65E_264
Ac
66E_271
65E_237
Ac
Sermiligaaq
Kangertivartikajik
Sammileq
Iliartalik
Ikaasakitsip Kangertiva
Ab8140
Quujuu
65E_272
Ab
Gb8123
Qiianarteq
Sermiligaaq
Ikaasak
Tikivippik
65E_265
Ac
65E_266
65E_268
Leif Ø
Aammangaaq

8.32 Map 6553E – Sermiligaaq

Shoreline sensitivity map

Human use

65E_237	Important motorboat traffic corridor during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area: The former military base Ikkatteq is a popular tourist destination.
66E_262	Extremely important fishing and hunting area used most of the year for harvesting a range of different species, especially Greenland halibut and ringed seal. Tourist activities in the area, including regularly used tent camps.
65E_263	Extremely important hunting and fishing area used year round for harvesting a range of different species, especially Greenland halibut and ringed seal. Tourist activities in the area.
65E_264	Highly important hunting and fishing area used year round for harvesting a range of different species, e.g. ringed seal, bearded seal, harp seal, thick-billed murre and black guillemot. Tourist activities in the area.
65E_265	Important motorboat traffic corridor along northern shore during Jun-Sep. Occasional fishing (Greenland halibut), hunting and mussel collection. Tourist activities in the area.
65E_266, 65E_268	Highly important hunting and fishing area used year round for harvesting a range of different species, e.g. ringed seal, bearded seal, harp seal, thick-billed murre and black guillemot. Tourist activities in the area.
65E_270	Hunting and fishing area used year round for harvesting a variety of different species. Tourist activities in the area.
66E_271, 65E_272	According to hunters, the area is used for seal hunting during severel seasons. GPS-tracking indicates use primarily from Apr to Oct. Traffic corridor for northbound hunting trips Jul-Sep.
66E_274, 66E_275	According to hunters, the area is used for seal hunting during severel seasons. GPS-tracking indicates use primarily from Apr to Oct.
66E_279	Area used on a semi-permanent basis for hunting during Apr-Jun (camp at Saartermiit), primarily for ringed seals. Kangertittivatsiaq is an important narwhal hunting ground in Jul-Sep.

Species occurrence

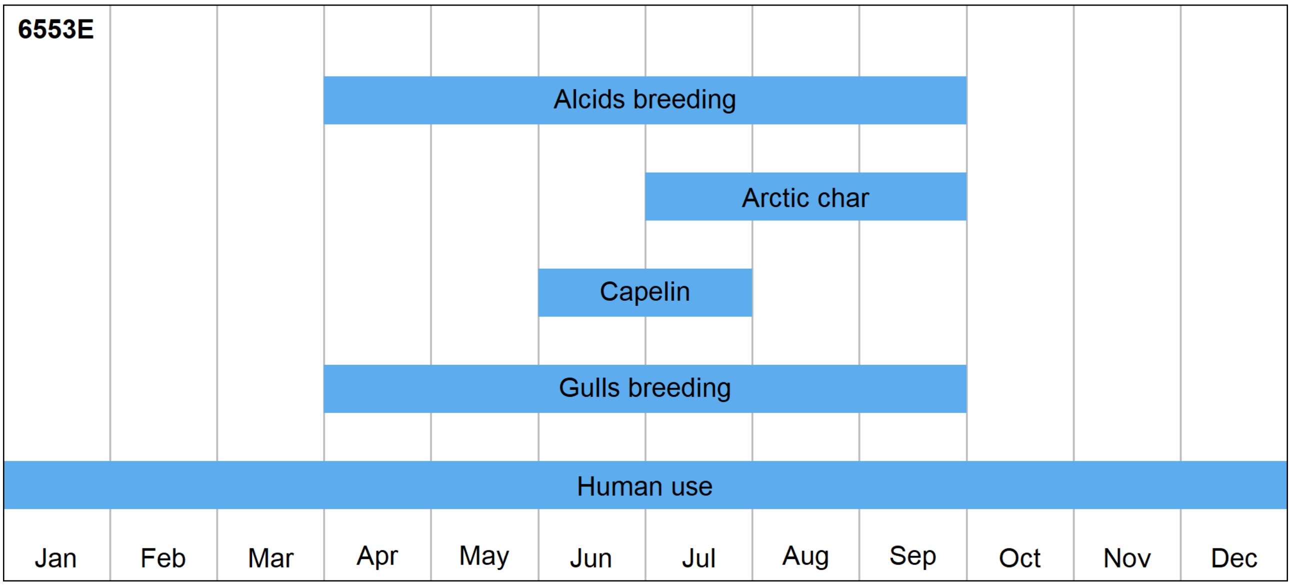
Ab65E_272	1 colony of black guillemots
Ac66E_262 – Ac65E_265	Important Arctic char river
Ac65E_237	Important Arctic char river
Ca65E_263, Ca66E_262	Important area for capelin
Gb65E_263	1 colony of glaucous gulls

Site specific occurrence: blue icons

Ab8140	Breeding black guillemots
Gb8123	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_237	27	High
66E_262	26	High
65E_263	52	Extreme
65E_264	29	High
65E_265	19	Moderate
65E_266	22	Moderate
65E_267	21	Moderate
65E_268	38	Extreme
65E_270	16	Moderate
66E_271	16	Moderate
65E_272	19	Moderate
66E_274	11	Low
66E_275	10	Low
66E_279	16	Moderate



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Physical environment and logistics, 6553E – Sermiligaaq

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

The fjords are usually covered by shorefast ice in winter, and drift ice may be very dense covering the waters along the outer coast and further offshore until July. Additional dangers to navigation are present here due to icebergs.

There are no potential anchorages identified on this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a helistop and an anchor site at the settlement Sermiligaaq (see Greenland Harbour Pilot https://www.gronlandskehavnelods.dk/Details/85), and an abandoned airstrip from WWII at Ikateq, which today can be used at least by STOL-aircrafts.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming on this map area.

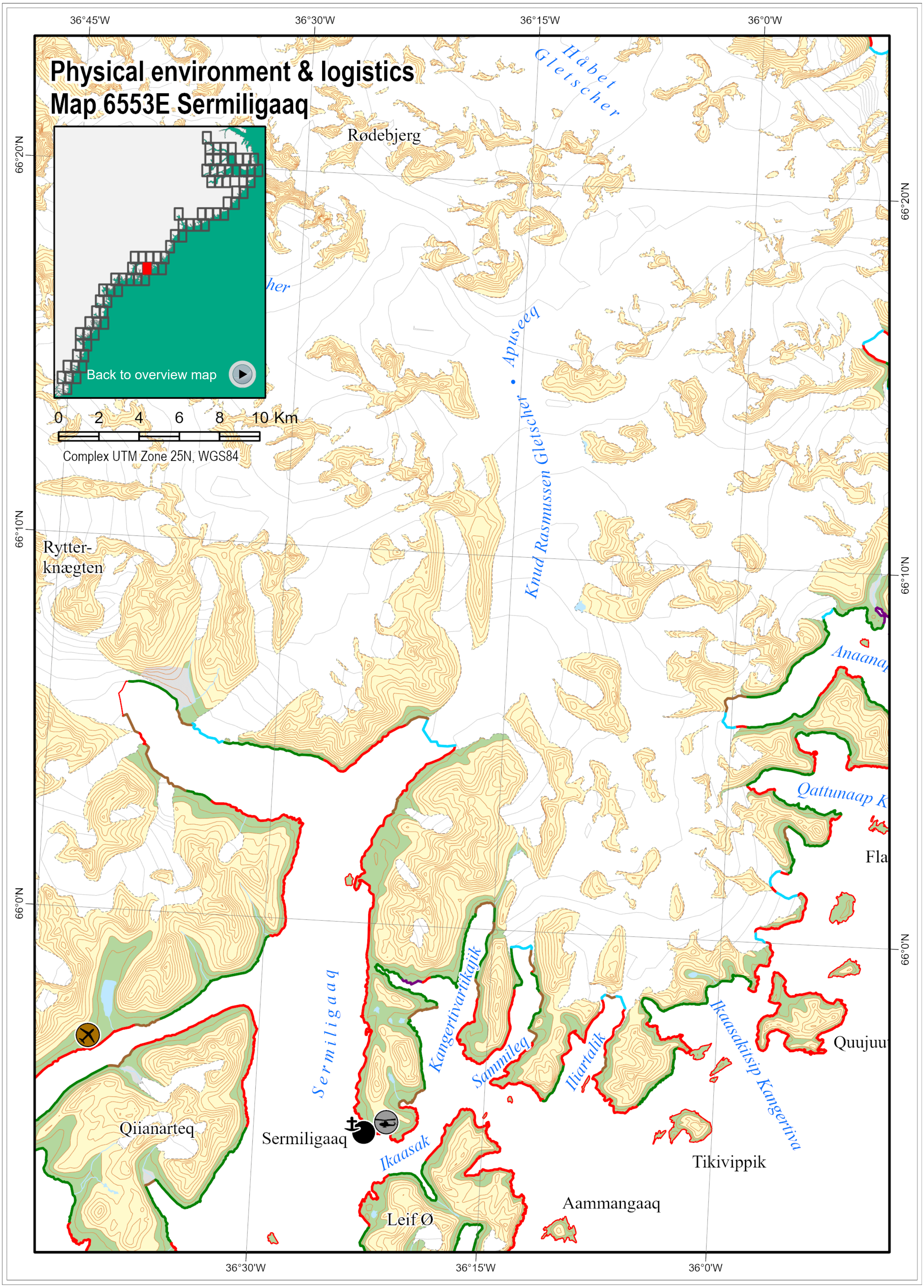
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

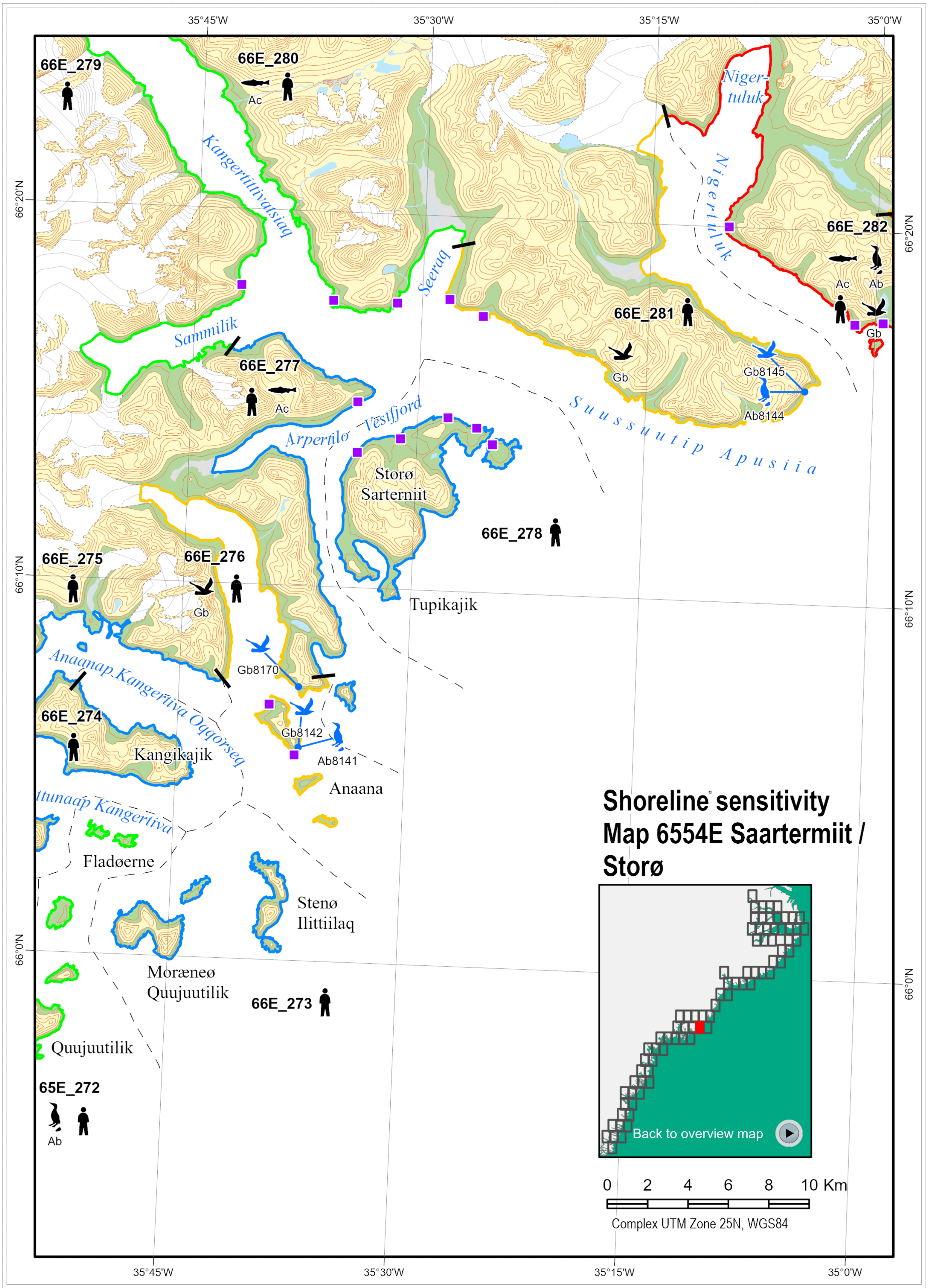
Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6553E Sermiligaaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
36°45'W
36°30'W
36°15'W
36°0'W
66°20'N
66°10'N
66°0'N
Håbet Gletscher
Rødebjerg
Apuseeq
Knud Rasmussen Gletscher
Rytter-
knægten
Anaanap
Qattunaap K
Fla
Sermiligaaq
Kangertivartikajik
Sammileq
Iliartalik
Ikaasakitsip Kangertiva
Quujuu
Qiianarteq
Ikaasak
Tikivippik
Aammangaaq
Leif Ø



Shoreline sensitivity
Map 6554E Saartermiit / Storø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
35°45'W
35°30'W
35°15'W
35°0'W
66°20'N
66°10'N
66°0'N
66E_279
66E_280
66E_281
66E_282
66E_277
66E_278
66E_275
66E_276
66E_274
66E_273
65E_272
Ac
Ab
Gb
Gb8145
Ab8144
Gb8170
Gb8142
Ab8141
Kangertiittivatsiaq
Seeraq
Niger-
tuluk
Nigertuluk
Sammilik
Arpertilo Vestfjord
Suussuutip Apusiia
Storø
Sarterniit
Tupikajik
Anaanap Kangertiva Oqqorseq
Kangikajik
Anaana
ttunaap Kangertiva
Fladøerne
Stenø
Ilittiilaq
Moræneø
Quujuutilik
Quujuutilik

8.33 Map 6554E – Saartermiit/Storø

Shoreline sensitivity map

Human use

65E_272	According to hunters, the area is used for seal hunting during severel seasons. GPS-tracking indicates use primarily from Apr to Oct. Traffic corridor for northbound hunting trips Jul-Sep.
66E_273 – 66E_276	According to hunters, the area is used for seal hunting during severel seasons. GPS-tracking indicates use primarily from Apr to Oct.
66E_277 – 66E_281	Area used on a semi-permanent basis for hunting during Apr-Jun (camp at Saartermiit), primarily of ringed seals. Kangertittivatsiaq is an important narwhal hunting ground in Jul-Sep.
66E_282, 66E_283	Traffic through and occasional use of the area by hunters en-route to the northern narwhal hunting grounds in Jul-Sep.

Species occurrence

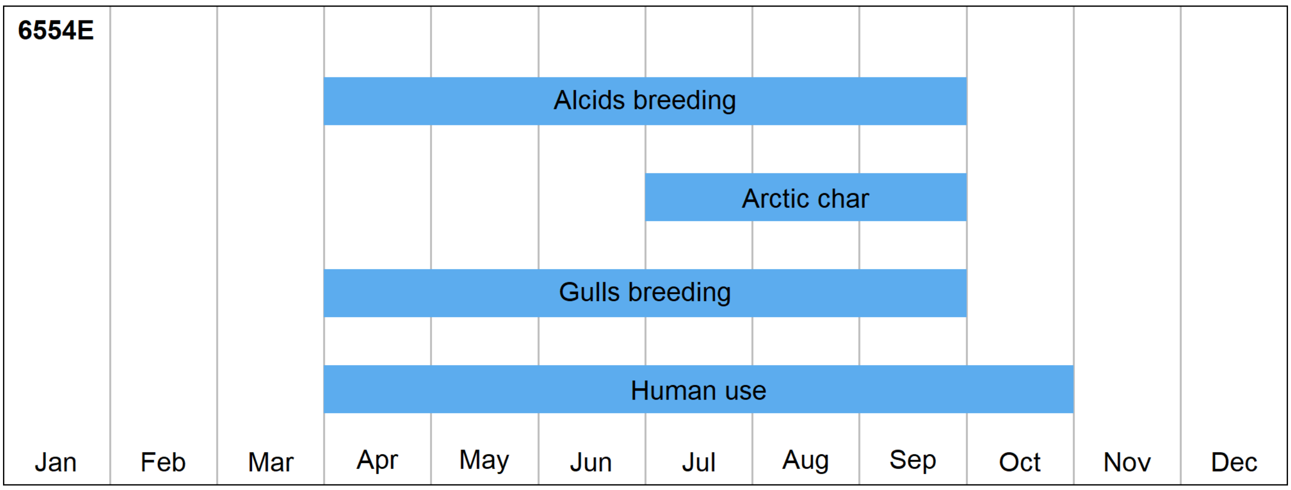
Ab65E_272	1 colony of black guillemots
Ab66E_283, Ab66E_282	2 colonies of black guillemots
Ac66E_282, Ac66E_283	Important Arctic char river
Ac66E_280, Ac66E_277	Important Arctic char river
Gb66E_276	2 colonies of glaucous gulls and 2 colonies of Iceland gulls
Gb66E_281	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb66E_282	1 colony of glaucous gulls
Gb66E_283	2 colonies of glaucous gulls and 1 colony of Iceland gulls

Site specific occurrence: blue icons

Ab8141, Ab8144	Breeding black guillemots
Gb8142, Gb8145	Breeding Iceland gulls and glaucous gulls
Gb8170	Breeding Iceland gulls and glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
65E_272	19	Moderate
66E_273	14	Low
66E_274	11	Low
66E_275	10	Low
66E_276	30	High
66E_277	15	Low
66E_278	14	Low
66E_279	16	Moderate
66E_280	20	Moderate
66E_281	31	High
66E_282	36	Extreme
66E_283	34	High



Physical environment and logistics, 6554E – Saartermiit/Storø

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

The inner parts of the fjords are usually covered by shorefast ice in winter until June/July, while heavy drift ice occur in winter, spring and early summer. Additional dangers to navigation are present here due icebergs.

There is an anchorages identified on S of Storø (Appendix E).

Shorelines in this area are predominantly rock and talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a STOL-airstrip in Nigertuluk (Tuktilik) (Appendix F). There are five heliports and an airport to the W on map areas 6502, 6504, 6505, 6551, 6552 and 6553.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming on this map area.

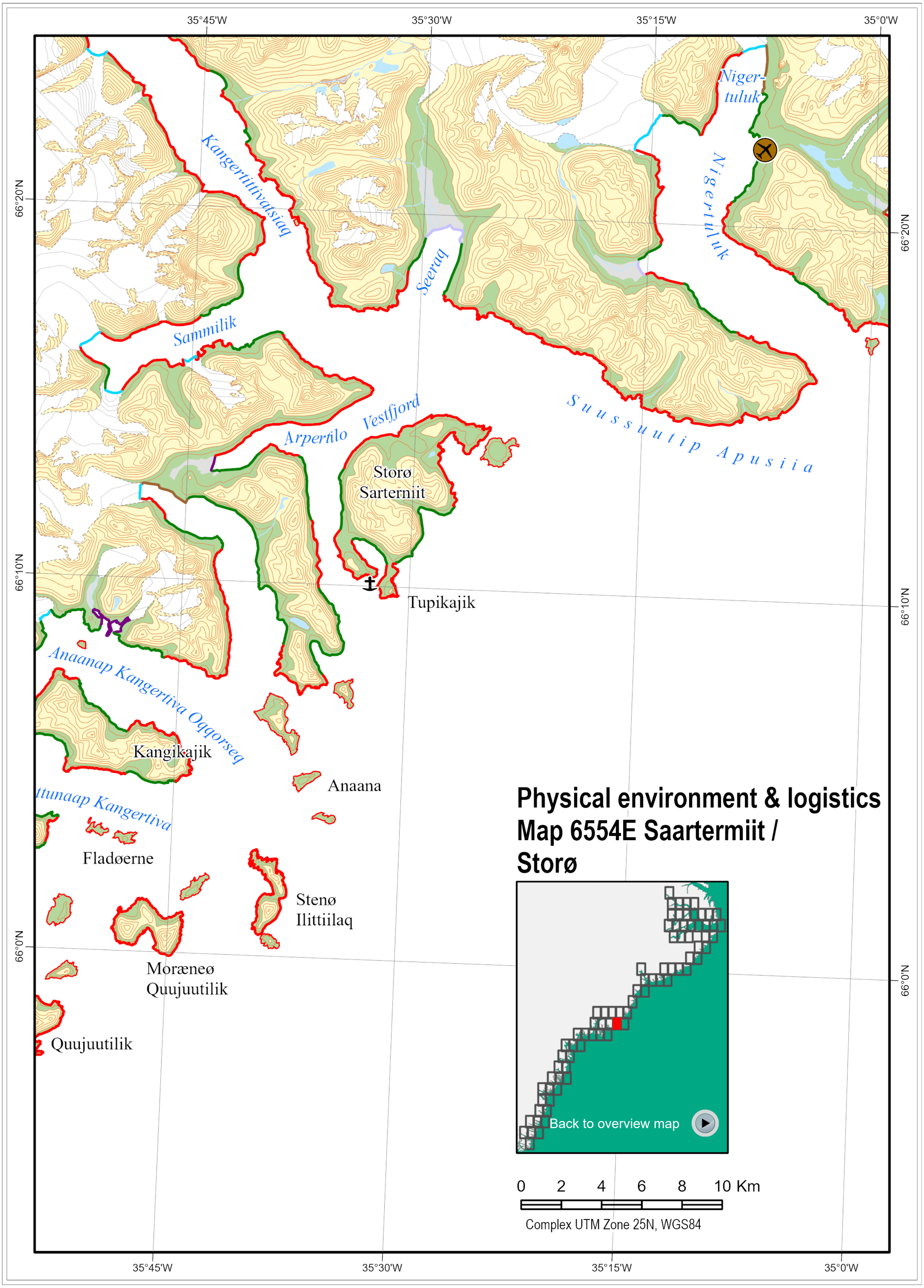
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

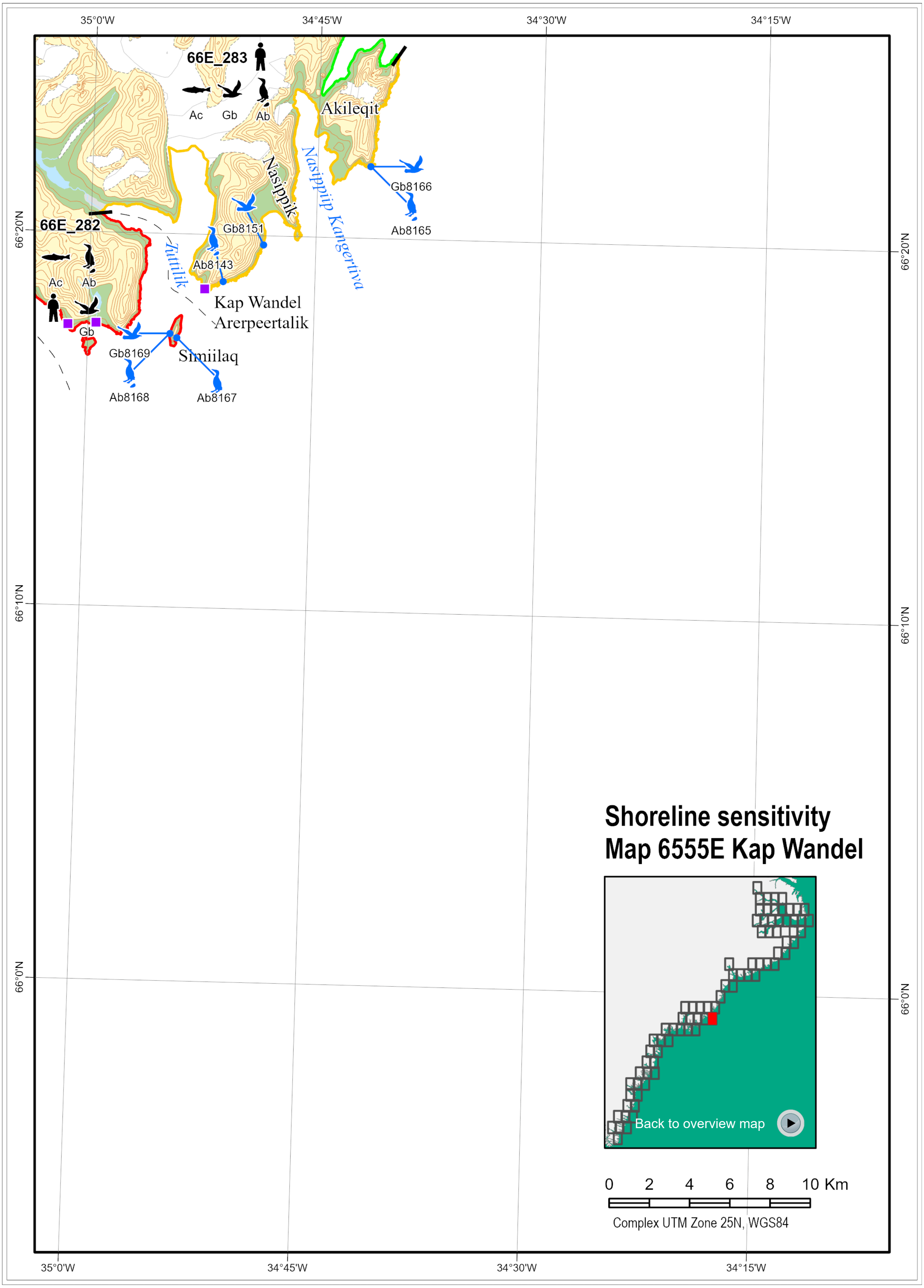
Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6554E Saartermiit /
Storø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
35°45'W
35°30'W
35°15'W
35°0'W
66°20'N
66°10'N
66°0'N
Niger-
tuluk
Nigertuluk
Kangertiitivatsiaq
Seeraq
Sammilik
Suussuutip Apusiia
Arpertilo
Vestfjord
Storø
Sarterniit
Tupikajik
Anaanap Kangertiva Qqorseq
Kangikajik
Anaana
ttunaap Kangertiva
Fladøerne
Stenø
Ilittiilaq
Moræneø
Quujuutilik
Quujuutilik


35°0'W
34°45'W
34°30'W
34°15'W
66°20'N
66°10'N
66°0'N
66E_283
Ac
Gb
Ab
Akileqit
Nasippik
Nasippiip Kangertiva
Gb8166
Ab8165
66E_282
Gb8151
Ab8143
Tuttilik
Kap Wandel
Arerpeertalik
Simiilaq
Gb8169
Ab8168
Ab8167
Shoreline sensitivity
Map 6555E Kap Wandel
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.34 Map 6555E – Kap Wandel

Shoreline sensitivity map

Human use

66E_282 – 66E_284	Traffic through and occasional use of the area by hunters en-route to the northern narwhal hunting grounds in Jul-Sep.

Species occurrence

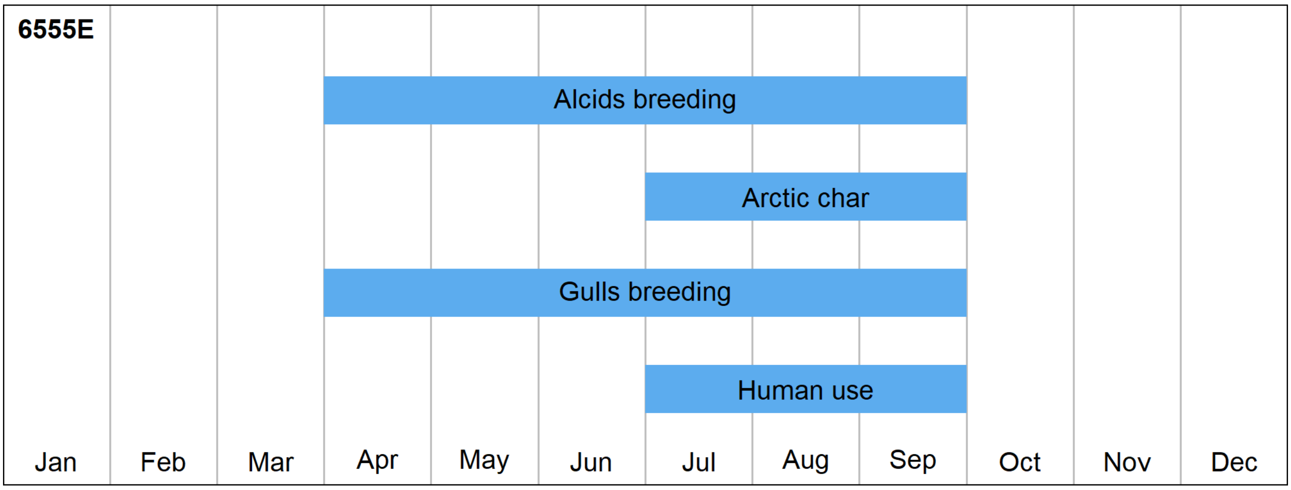
Ab66E_283, Ab66E_282	2 colonies of black guillemots
Ab66E_284	1 colony of black guillemots
Ac66E_283, Ac66E_282	Important Arctic char river
Gb66E_283	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb66E_282	1 colony of glaucous gulls

Site specific occurrence: blue icons

Ab8143, Ab8165	Breeding black guillemots
Ab8167, Ab8168	Breeding black guillemots
Gb8151	Breeding Iceland gulls and glaucous gulls
Gb8166, Gb8169	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_282	36	Extreme
66E_283	34	High
66E_284	19	Moderate



Physical environment and logistics, 6555E – Kap Wandel

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

The extension of the driftice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to of icebergs.

There are no anchorages identified on this map area.

Shorelines in this area are predominantly rock and, talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or heliports/stops on this map. There are five heliports/stops and an airport to the WSW on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

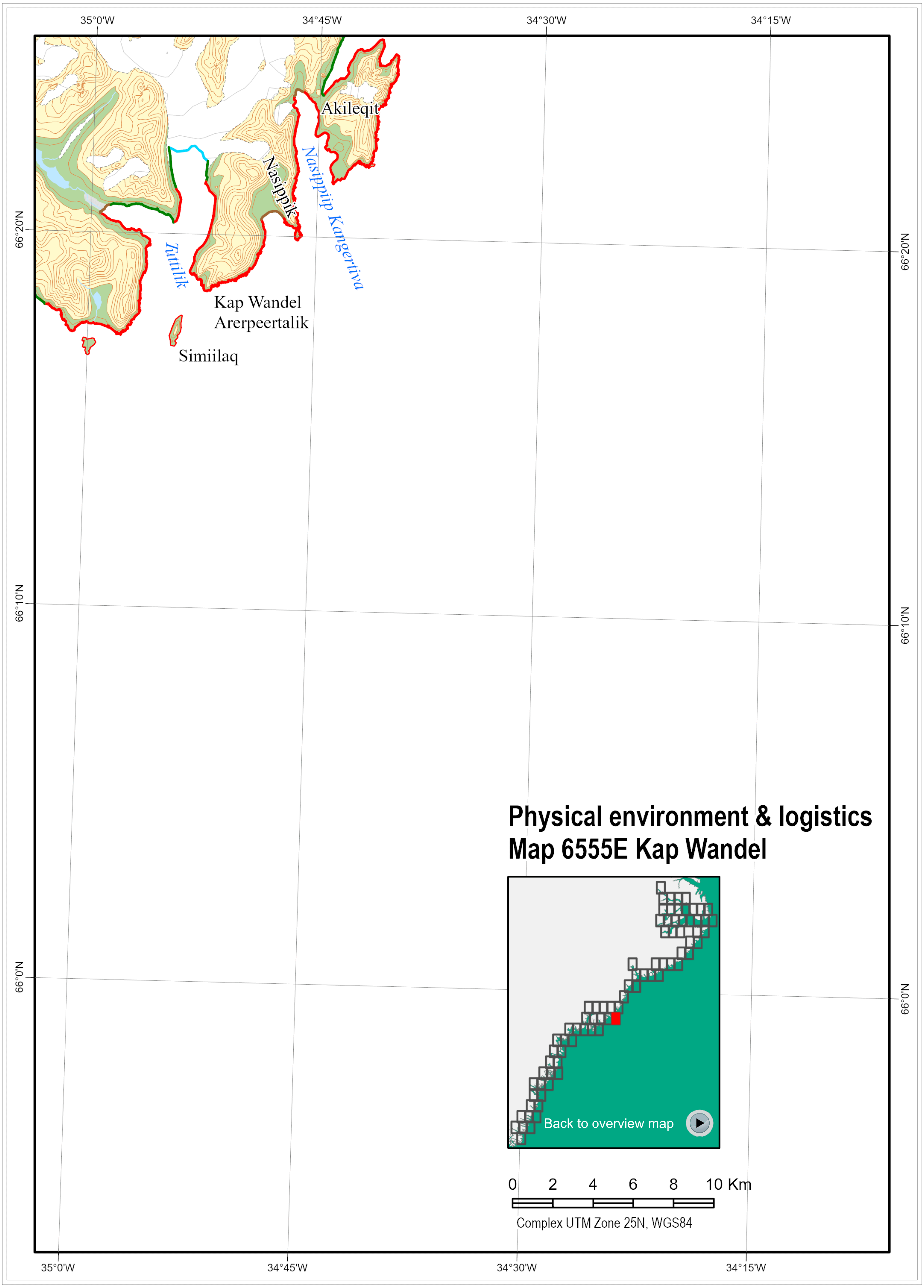
There are no opportunities for nearshore booming on this map area.

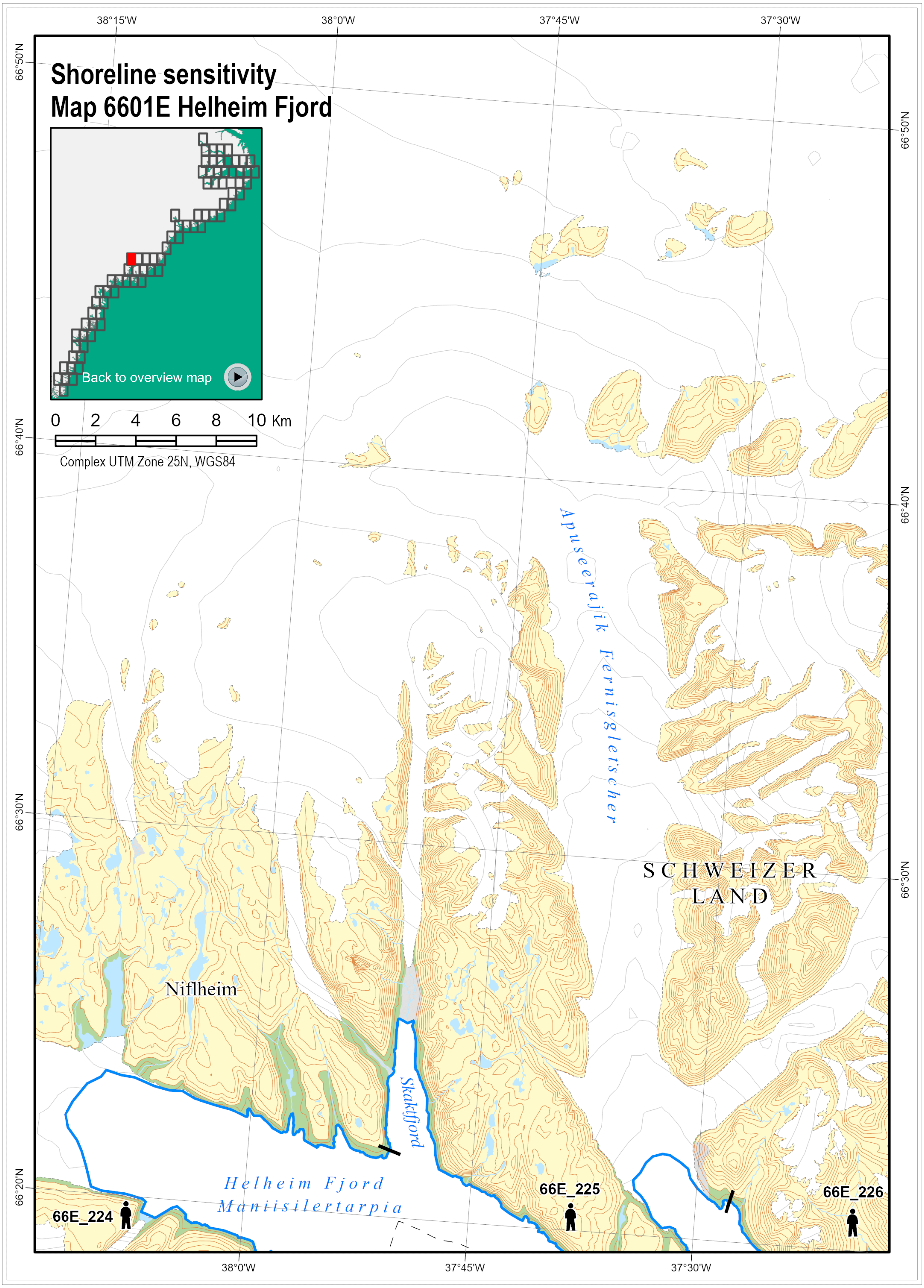
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and talus, with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


35°0'W
34°45'W
34°30'W
34°15'W
66°20'N
66°10'N
66°0'N
Akileqit
Nasippik
Nasippiip Kangertiva
Tuttilik
Kap Wandel
Arerpeertalik
Simiilaq
Physical environment & logistics
Map 6555E Kap Wandel
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84


Shoreline sensitivity
Map 6601E Helheim Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
38°15'W
38°0'W
37°45'W
37°30'W
66°50'N
66°40'N
66°30'N
66°20'N
Apuseerajik Fernisgleischer
SCHWEIZER LAND
Niflheim
Skaklfjord
Helheim Fjord
Maniisilertarpia
66E_224
66E_225
66E_226

8.35 Map 6601E – Helheim Fjord

Shoreline sensitivity map

Human use

66E_224	Occasional hunting in the area. Tourist activities in the area: Helheim Glacier is the target of helicopter tours.
66E_225	Hunting area used most of the year for harvesting a variety of species. Tourist activities in the area.
66E_226	Occasional hunting in the area. Tourist activities in the area.

Species occurrence

Very little species occurrence is registrered on this map, however some Arctic char may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_224	10	Low
66E_225	13	Low
66E_226	10	Low

6601E											
Human use											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 6601E – Helheim Fjord

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. The fjords in this map area are generally inaccessible due to glacier ice and icebergs are numerous.

No anchorages are identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or heliports on this map. In the vicinity are five heliports/stops and one airport to the S on map areas 6502, 6503, 6505, 6551, 6552 and 6553. A STOL-airstrip is located NE of Skaktfjord.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

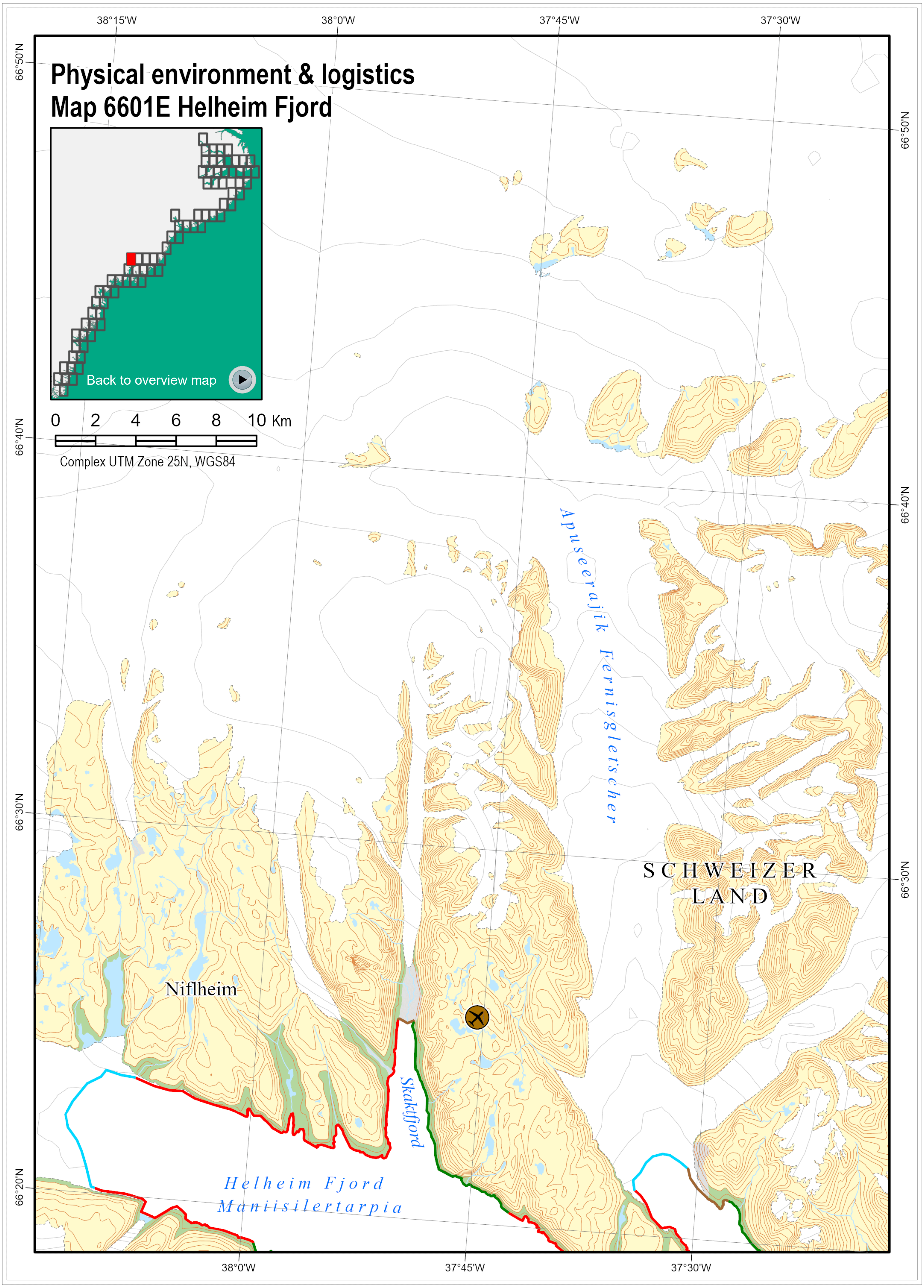
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

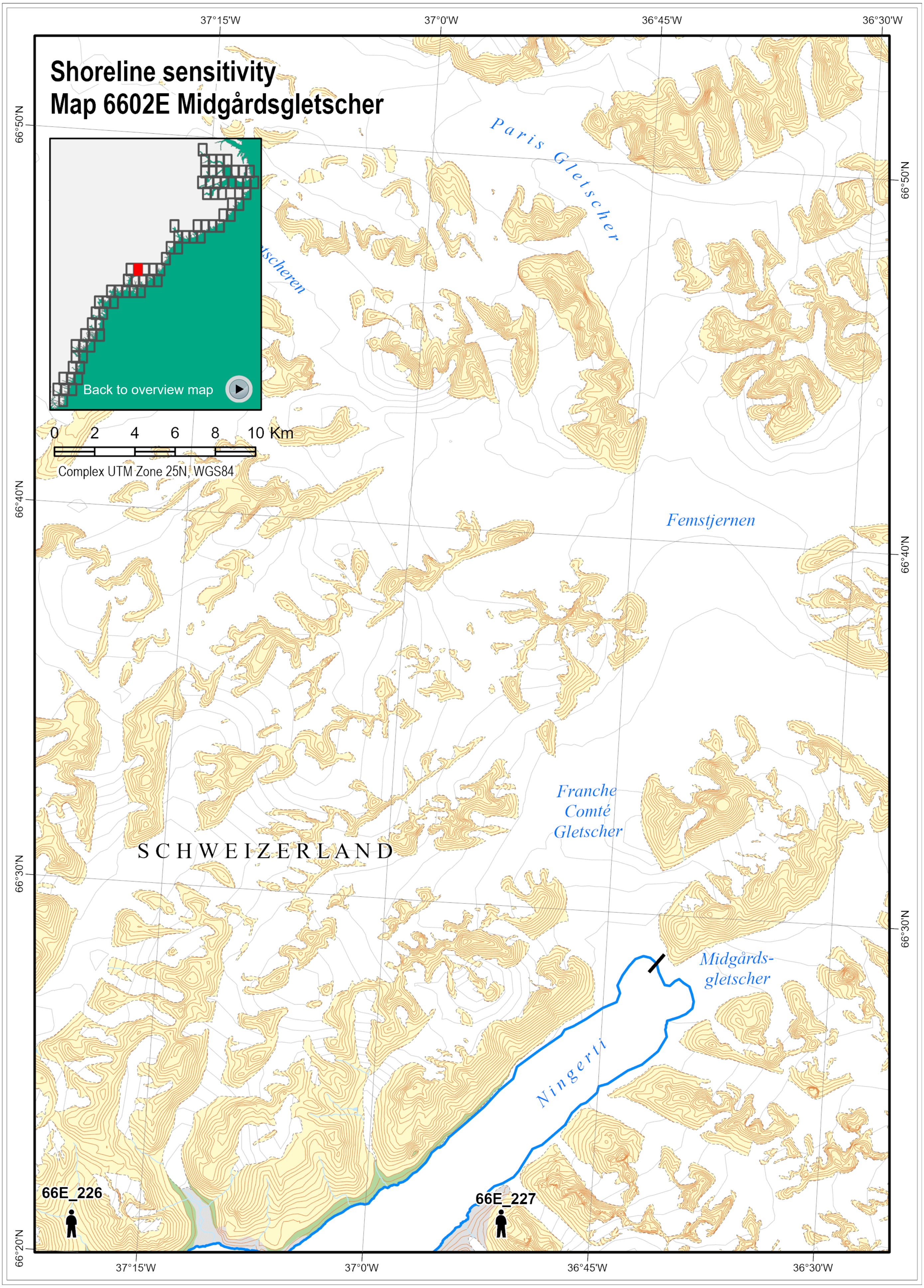
Shorelines shown on this map are predominantly rock and talus, with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6601E Helheim Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
38°15'W
38°0'W
37°45'W
37°30'W
66°50'N
66°40'N
66°30'N
66°20'N
Apuseerajik Fernisgletscher
SCHWEIZER LAND
Niflheim
Skaktfjord
Helheim Fjord
Maniisilertarpia


Shoreline sensitivity
Map 6602E Midgårdsgletscher
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
37°15'W
37°0'W
36°45'W
36°30'W
66°50'N
66°40'N
66°30'N
66°20'N
Paris Gletscher
Femstjernen
Franche Comté Gletscher
SCHWEIZERLAND
Midgårds-gletscher
Ningerti
66E_226
66E_227

8.36 Map 6602E – Midgårdsgletscher

Shoreline sensitivity map

Human use

66E_226, 66E_227	Occasional hunting in the area. Tourist activities in the area.

Species occurrence

Very little species occurrence is registrered on this map, however some Artic char may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_226	10	Low
66E_227	11	Low

6602E											
Human use											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 6602E – Midgårdsgletscher

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. The fjords in this map area are generally inaccessible due to glacier ice and icebergs are numerous.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly talus and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map. There are five heliports/stops and one airport to the S on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

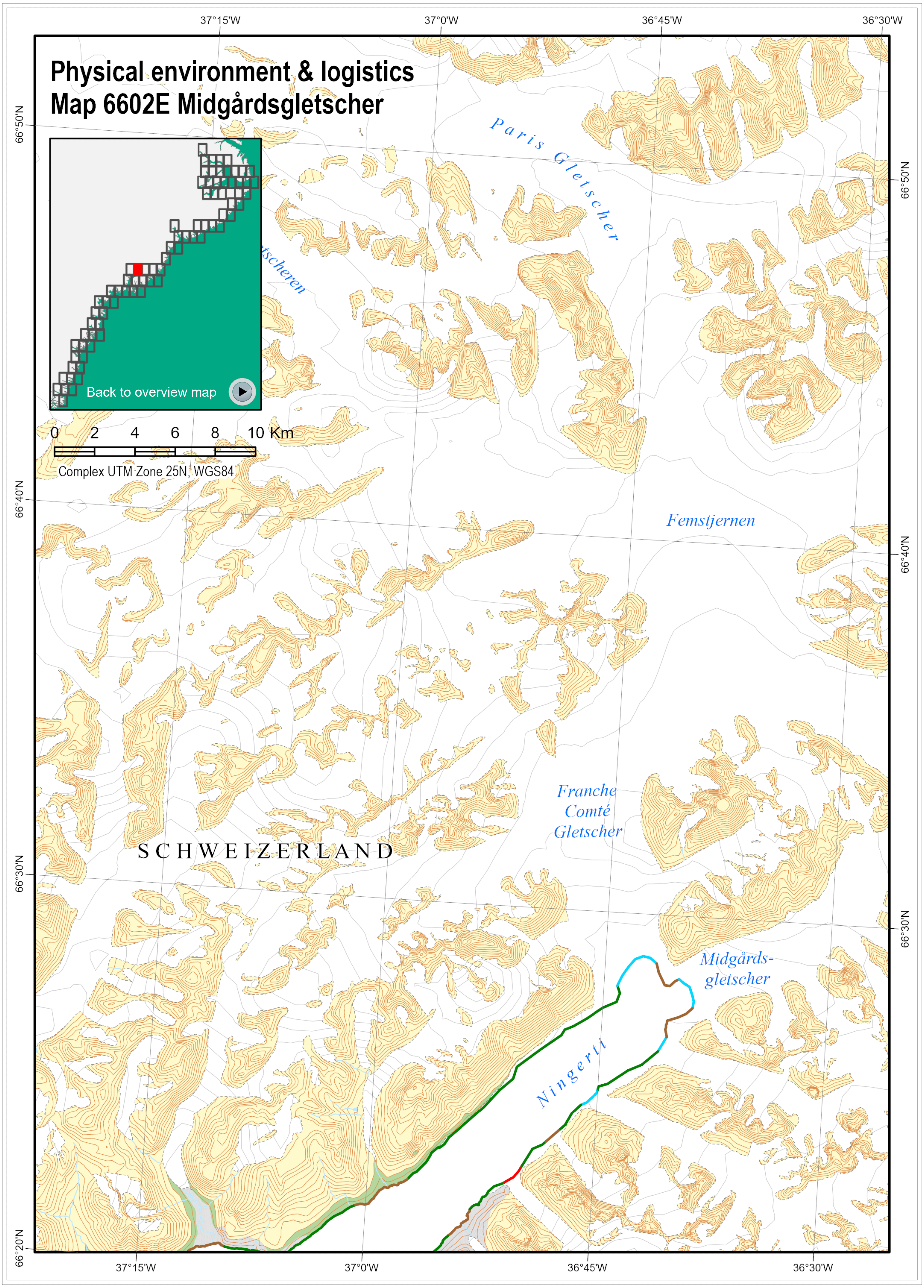
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

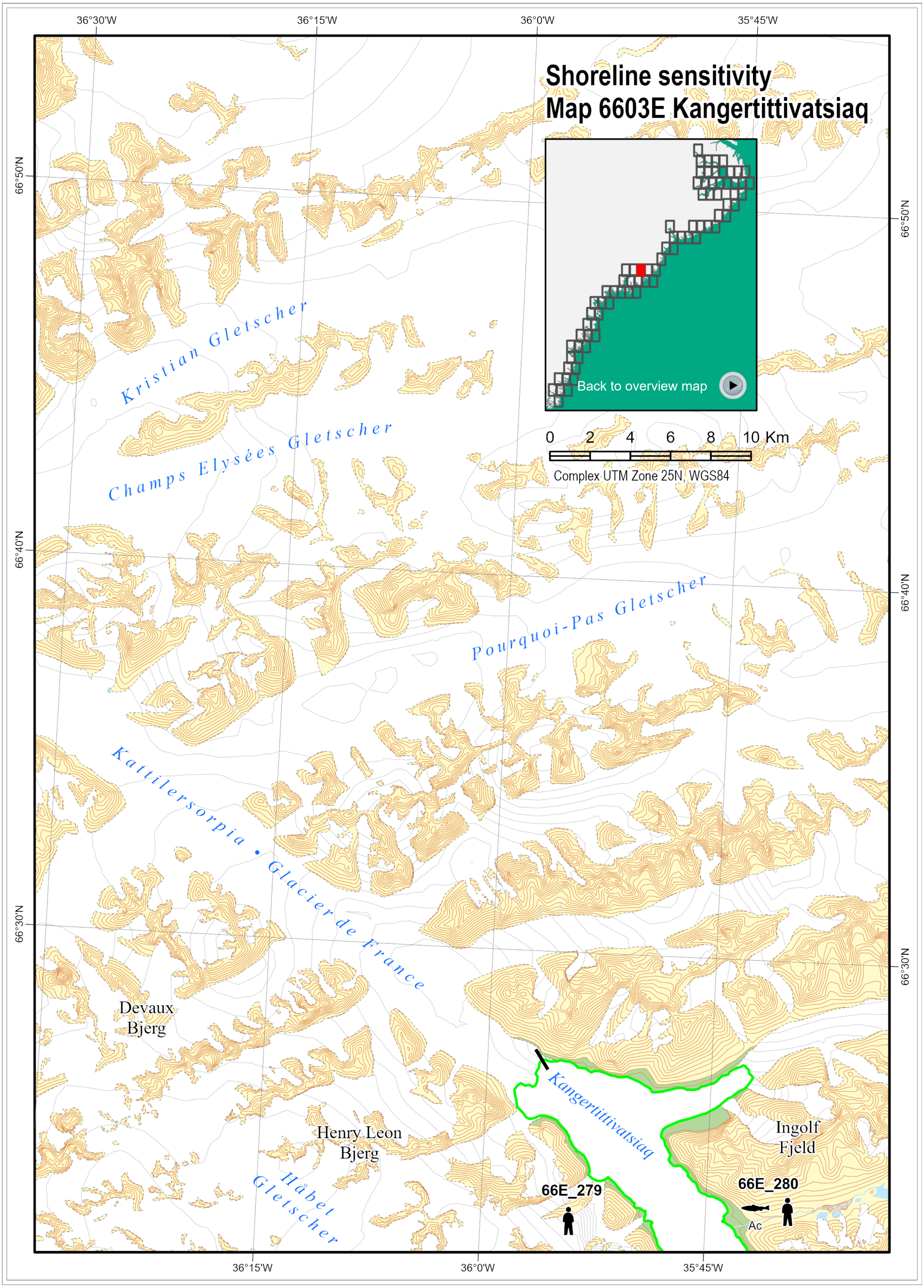
Shorelines shown on this map are predominantly talus and glacier, with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6602E Midgårdsgletscher
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
37°15'W
37°0'W
36°45'W
36°30'W
66°50'N
66°40'N
66°30'N
66°20'N
Paris Gletscher
Femstjernen
Franche Comté Gletscher
SCHWEIZERLAND
Midgårds-gletscher
Ningerti


Shoreline sensitivity
Map 6603E Kangertittivatsiaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
36°30'W
36°15'W
36°0'W
35°45'W
66°50'N
66°40'N
66°30'N
Kristian Gletscher
Champs Elysées Gletscher
Pourquoi-Pas Gletscher
Kattilersorpia • Glacier de France
Devaux Bjerg
Henry Leon Bjerg
Håbet Gletscher
Kangertittivatsiaq
Ingolf Fjeld
66E_279
66E_280
Ac

8.37 Map 6603E – Kangertittivatsiaq

Shoreline sensitivity map

Human use

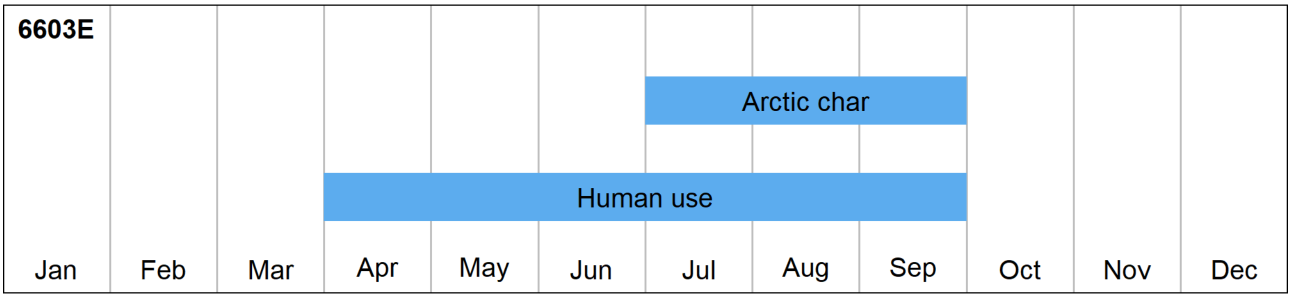
66E_279, 66E_280	Area used on a semi-permanent basis for hunting during Apr-Jun (camp at Saartermiit), primarily for ringed seals. Kangertittivatsiaq is an important narwhal hunting ground in Jul-Sep.

Species occurrence

Ac66E_280	Important Arctic char river

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_279	16	Moderate
66E_280	20	Moderate



Physical environment and logistics, 6603E – Kangertittivatsiaq

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

The fjord in this map area is covered with shorefast ice until June, and icebergs are numerous.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map. There are five heliports/stops and one airport to the S and W on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

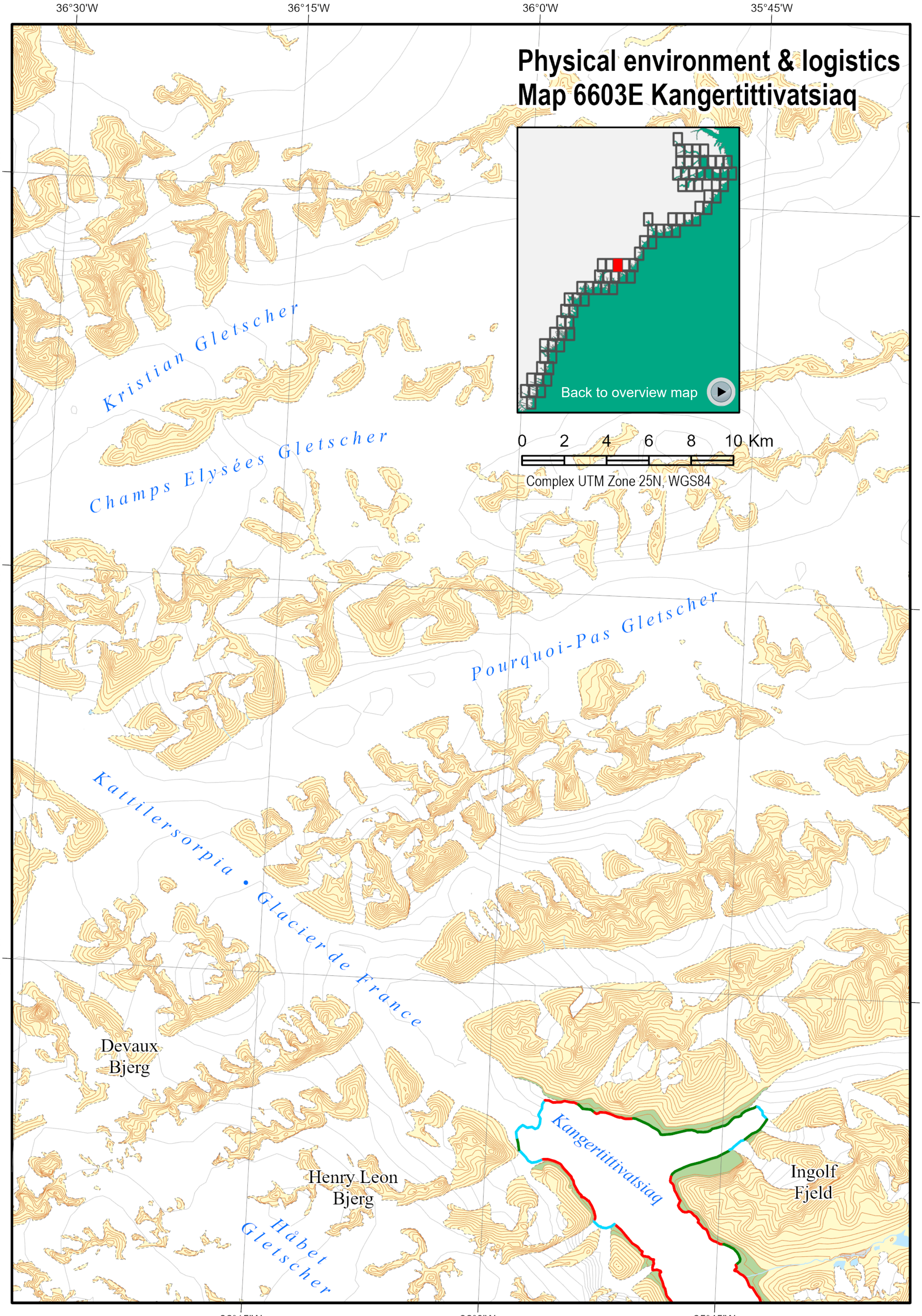
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

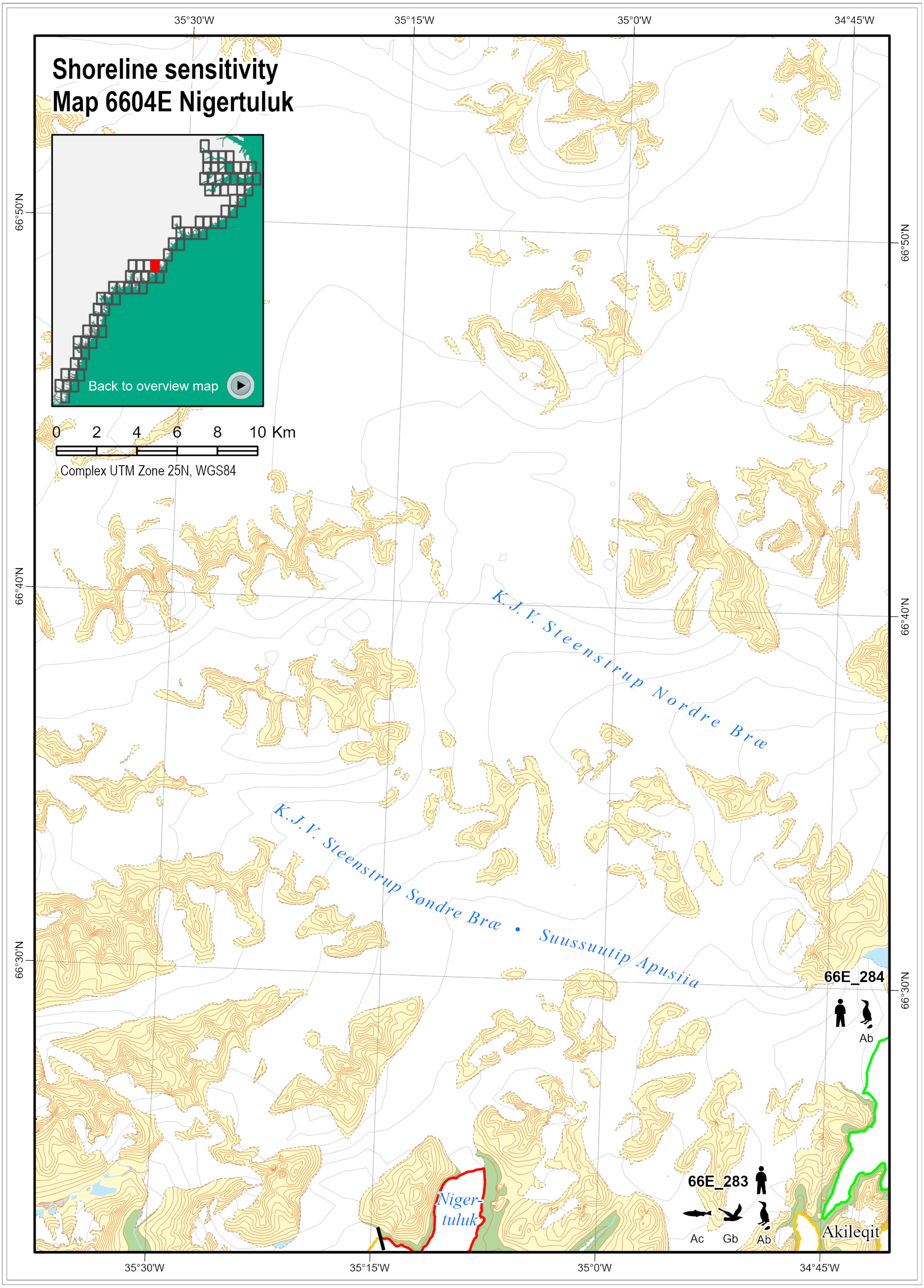
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

Physical environment & logistics
Map 6603E Kangertittivatsiaq





35°30'W
35°15'W
35°0'W
34°45'W
Shoreline sensitivity
Map 6604E Nigertuluk
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
66°50'N
66°40'N
66°30'N
K.J.V. Steenstrup Nordre Bræ
K.J.V. Steenstrup Søndre Bræ • Suussuutip Apusiia
66E_284
Ab
66E_283
Ac
Gb
Ab
Niger-
tuluk
Akileqit

8.38 Map 6604E – Nigertuluk

Shoreline sensitivity map

Human use

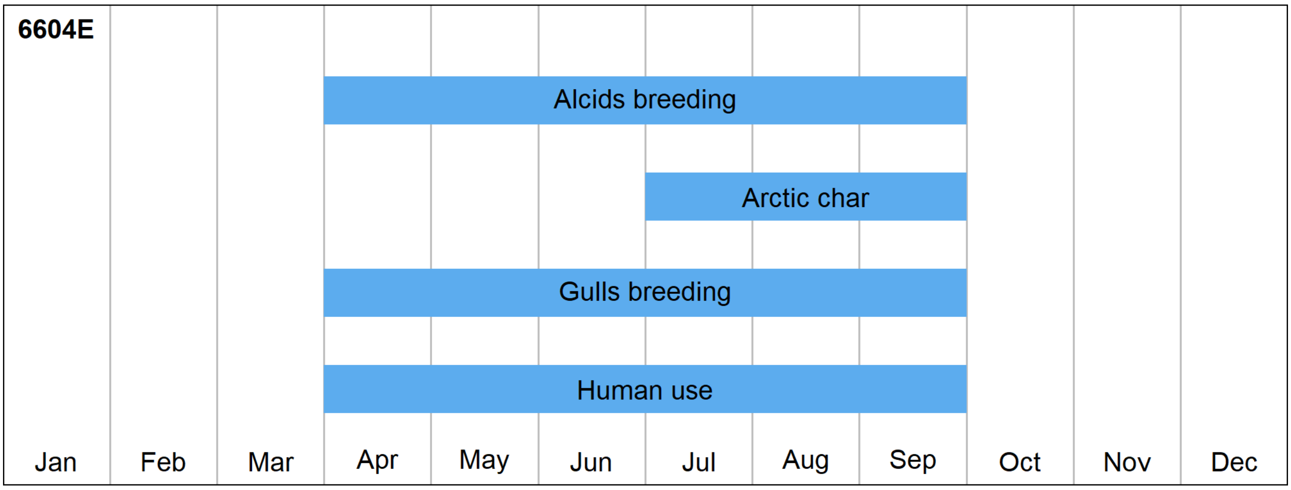
66E_281	Area used on a semi-permanent basis for hunting during Apr-Jun (camp at Saartermiit), primarily for ringed seals. Kangertittivatsiaq is an important narwhal hunting ground in Jul-Sep.
66E_282 – 66E_284	Traffic through and occasional use of the area by hunters en-route to the northern narwhal hunting grounds in Jul-Sep.

Species occurrence

Ab66E_284	1 colony of black guillemots
Ab66E_283, Ab66E_282	2 colonies of black guillemots
Ac66E_282, Ac66E_283	Important Arctic char river
Gb66E_283	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb66E_281	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb66E_282	1 colony of glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_281	31	High
66E_282	36	Extreme
66E_283	34	High
66E_284	19	Moderate



Physical environment and logistics, 6604E – Nigertuluk

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

The fjords are covered with shorefast ice in winter until June.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map. There are five heliports/stops and one airport to the S and W on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

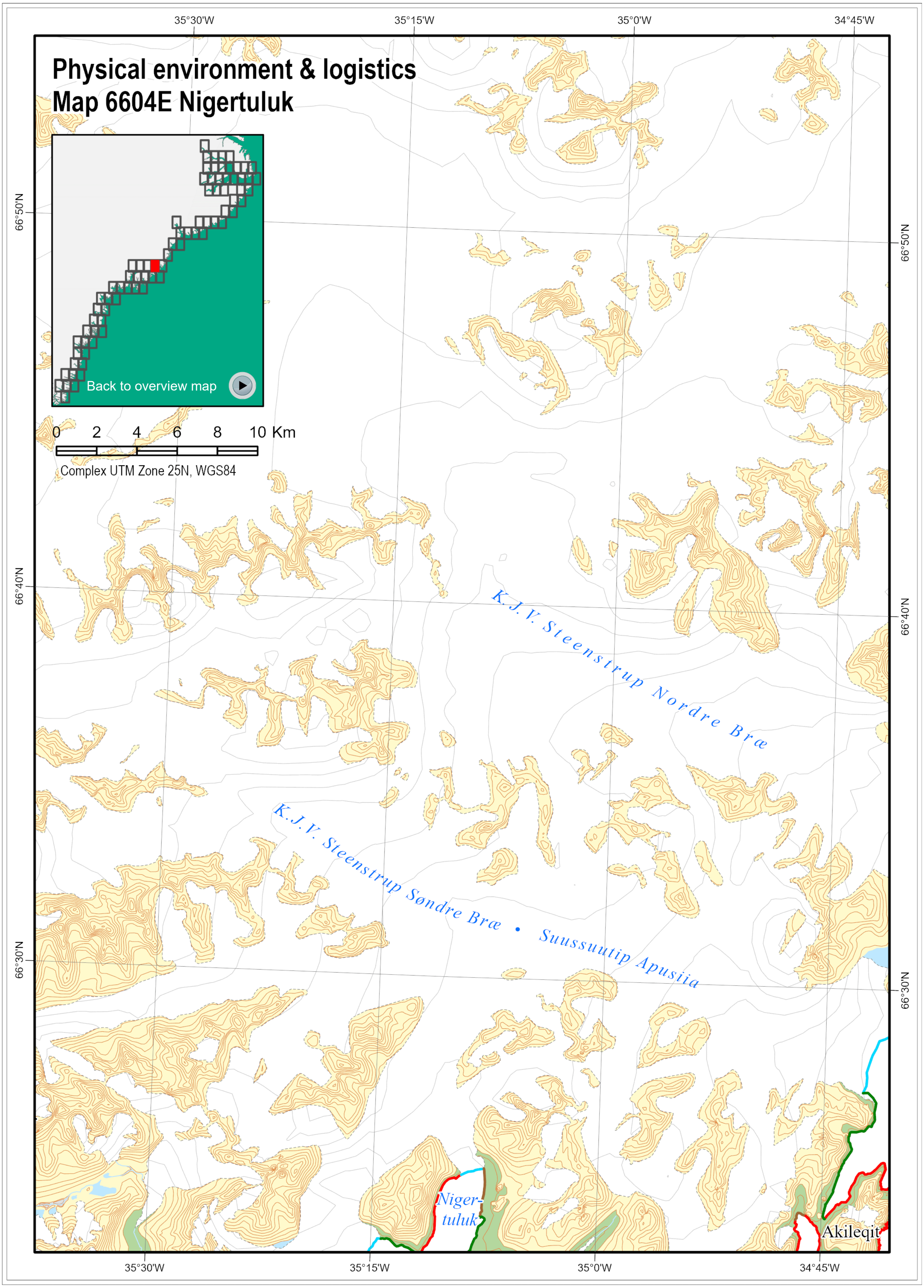
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

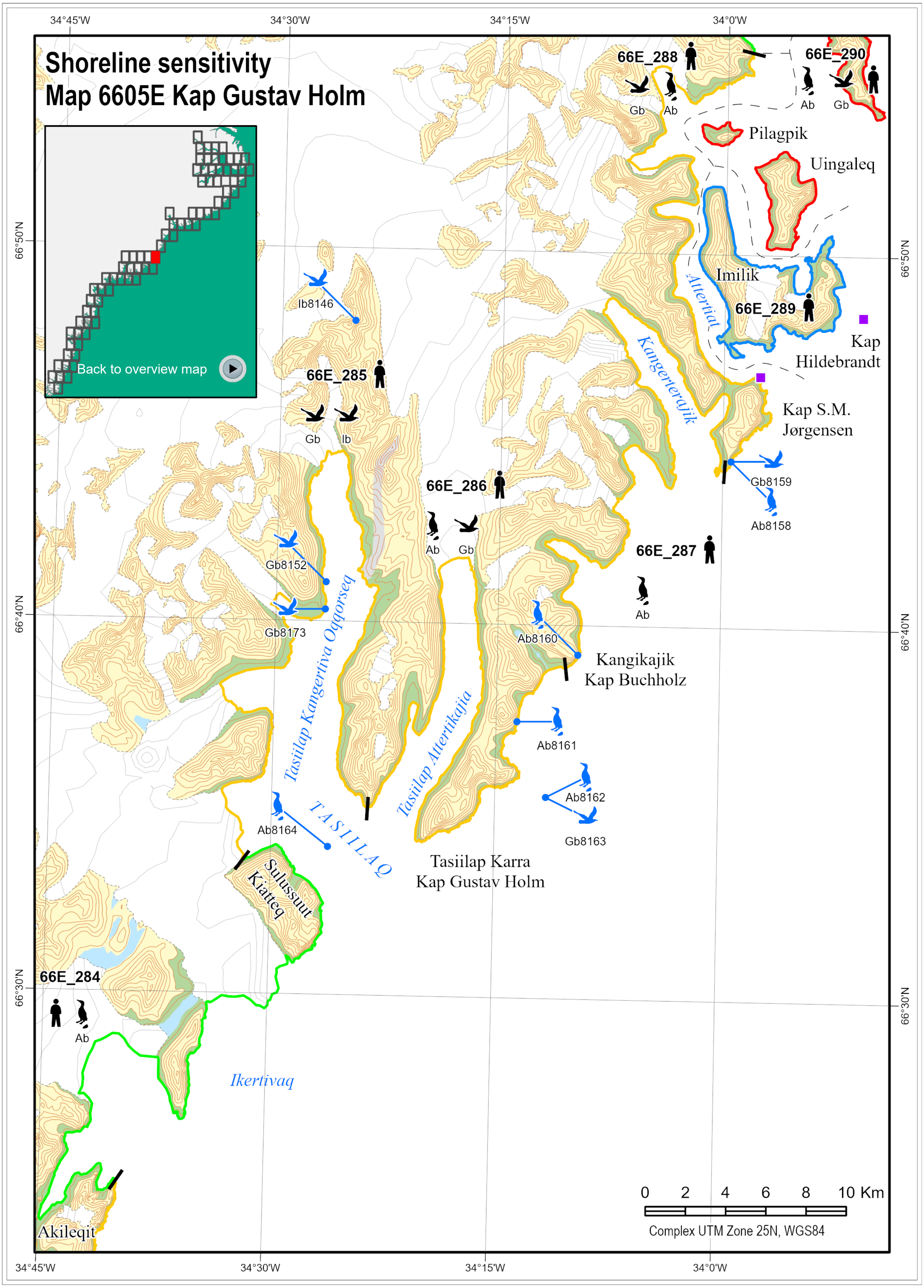
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6604E Nigertuluk
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
35°30'W
35°15'W
35°0'W
34°45'W
66°50'N
66°40'N
66°30'N
K.J.V. Steenstrup Nordre Bræ
K.J.V. Steenstrup Søndre Bræ
Suussuutip Apusiia
Niger-
tuluk
Akileqit


Shoreline sensitivity
Map 6605E Kap Gustav Holm
Back to overview map
34°45'W
34°30'W
34°15'W
34°0'W
66°50'N
66°40'N
66°30'N
66E_288
66E_290
66E_285
66E_286
66E_287
66E_289
66E_284
Gb
Ab
Ib
Pilagpik
Uingaleq
Imilik
Alertiaq
Kangerterajik
Kap Hildebrandt
Kap S.M. Jørgensen
Ib8146
Gb8152
Gb8173
Gb8159
Ab8158
Ab8160
Ab8161
Ab8162
Gb8163
Ab8164
Kangikajik Kap Buchholz
Tasiilap Kangertiva Oqqorseq
Tasiilap Attertikajia
TASIILAQ
Tasiilap Karra Kap Gustav Holm
Sulussuut Kiatteq
Ikertivaq
Akileqit
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.39 Map 6605E – Kap Gustav Holm

Shoreline sensitivity map

Human use

66E_283 – 67E_291	Traffic through and occasional use of the area by hunters en-route to the northern narwhal hunting grounds in Jul-Sep.

Species occurrence

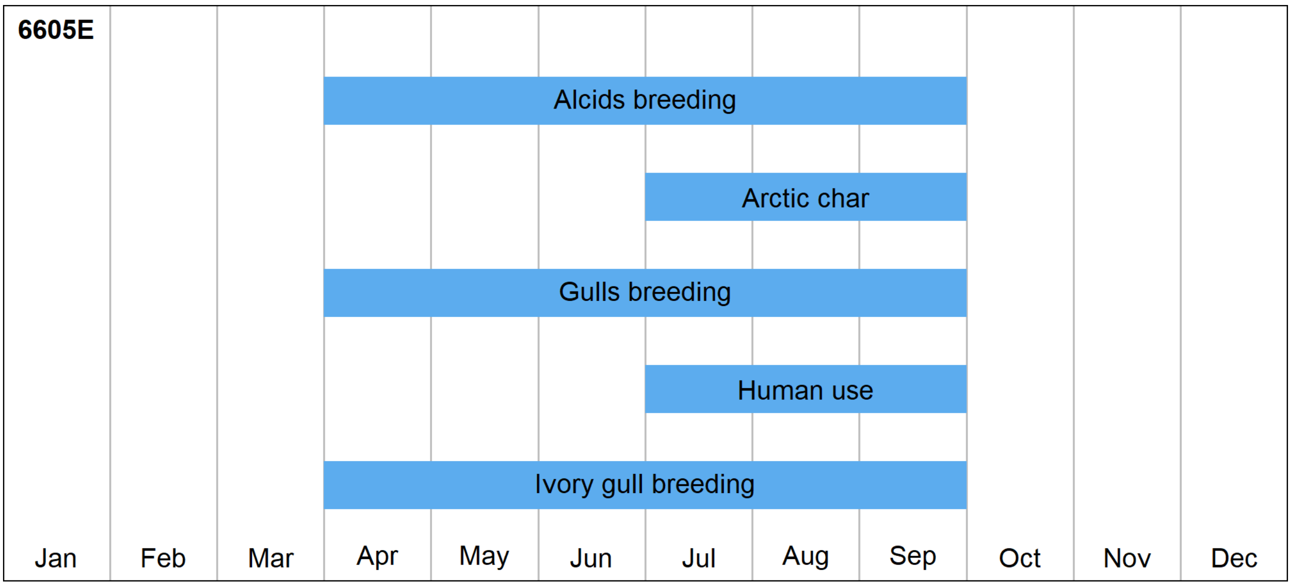
Ab66E_284, Ab66E_287	1 colony of black guillemots
Ab66E_288, Ab67E_291	2 colony of black guillemots
Ab66E_283, Ab66E_286	2 colonies of black guillemots
Ab66E_290	4 colonies of black guillemots
Ac66E_283	Important Arctic char river
Gb66E_288	1 colony of black-legged kittiwakes, 1 colony of Iceland gulls and 1 colony of glaucous gulls
Gb66E_285	2 colonies of Iceland gulls
Gb66E_290	3 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb66E_286	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb66E_283	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Ib66E_285	1 colony of ivory gulls

Site specific occurrence: blue icons

Ab8158	Breeding black guillemots
Ab8160 – Ab8162	Breeding black guillemots
Ab8164	Breeding black guillemots
Gb8163	Breeding Iceland gulls and glaucous gulls
Gb8152, Gb8173	Breeding Iceland gulls
Gb8159	Breeding Iceland gulls, black-legged kittiwakes and glaucous gulls
Ib8146	Breeding Ivory gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_283	34	High
66E_284	19	Moderate
66E_285	32	High
66E_286	32	High
66E_287	25	High
66E_288	26	High
66E_289	11	Low
66E_290	41	Extreme
67E_291	21	Moderate



Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (nautical charts 2300, 2400). Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. The innermost parts of the fjords are covered by shorefast ice until June, while heavy drift ice occur off the outer coast on in the outer parts of the fjords. Additional dangers to navigation are present here due to icebergs.

There is an anchorages identified N of Kap Gustav Holm.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map. There are five heliports/stops and one airport to the SW and W on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

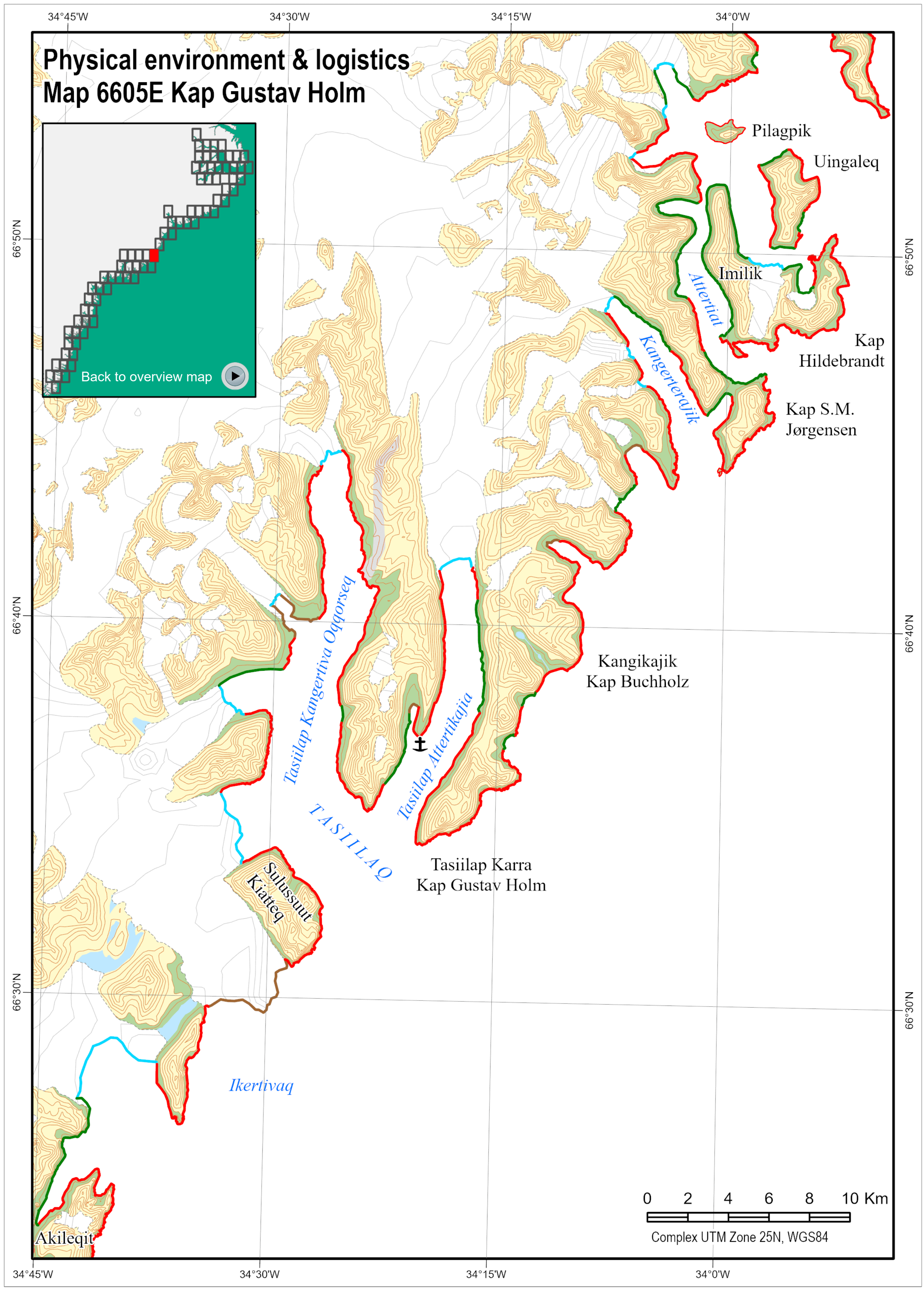
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

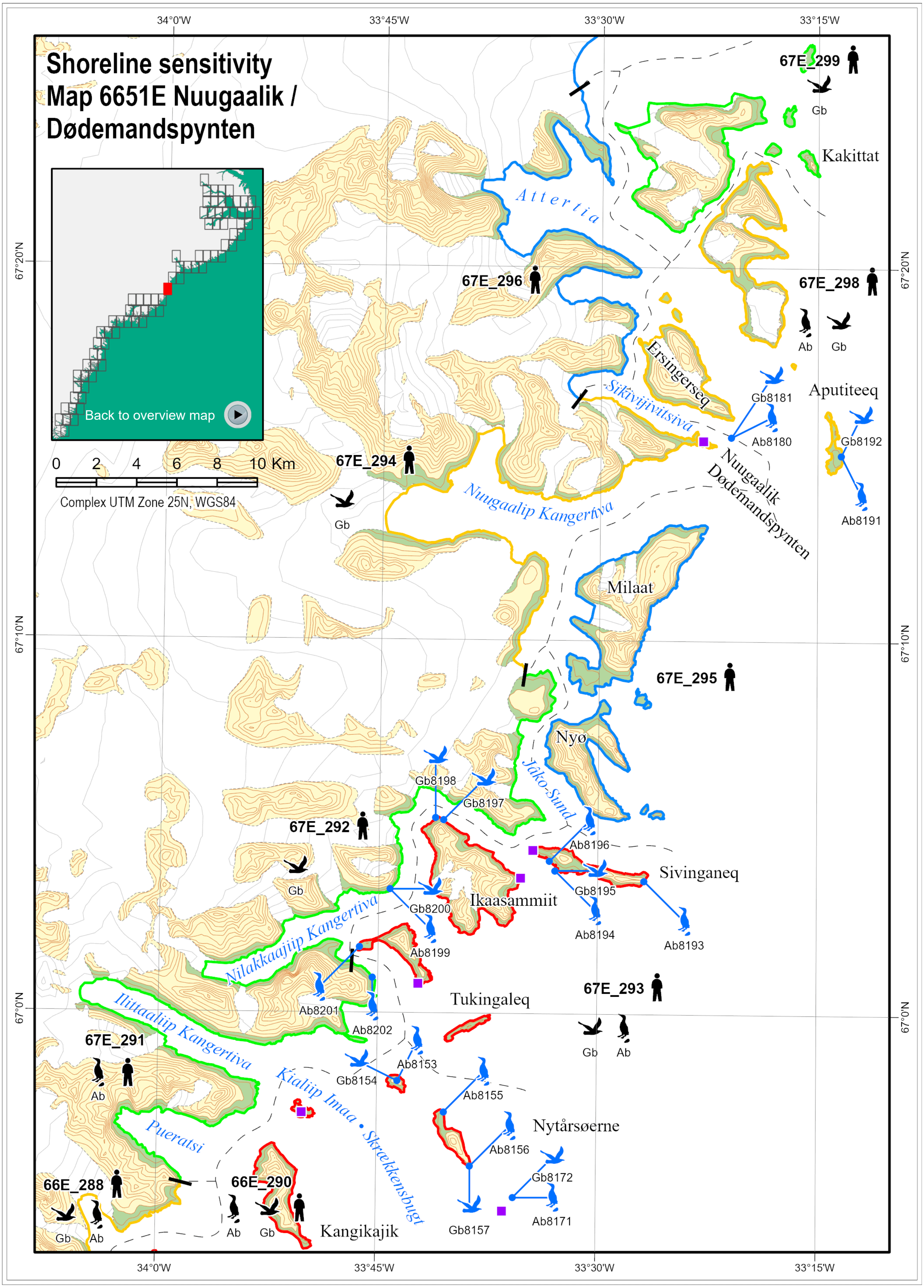
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6605E Kap Gustav Holm
Back to overview map
34°45'W
34°30'W
34°15'W
34°0'W
66°50'N
66°40'N
66°30'N
Pilagpik
Uingaleq
Imilik
Alteriaat
Kangerterajik
Kap Hildebrandt
Kap S.M. Jørgensen
Kangikajik Kap Buchholz
Tasiilap Kangertiva Oqqorseq
Tasiilap Altertikajia
TASIILAQ
Tasiilap Karra Kap Gustav Holm
Sulussuut Kiatteq
Ikertivaq
Akileqit
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 6651E Nuugaalik / Dødemandspynten
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
34°0'W
33°45'W
33°30'W
33°15'W
67°20'N
67°10'N
67°0'N
67E_299
67E_298
67E_296
67E_295
67E_294
67E_293
67E_292
67E_291
66E_290
66E_288
Kakittat
Aputiteeq
Attertia
Ersingerseq
Sikivijivitsiva
Nuugaalik
Dødemandspynten
Nuugaalip Kangertiva
Milaat
Nyø
Jako-Sund
Sivinganeq
Ikaasammiit
Tukingaleq
Nilakkaajiip Kangertiva
Iliitaalip Kangertiva
Kialiip Imaa • Skrækkensbugt
Pueratsi
Nytårsøerne
Kangikajik
Gb
Ab
Gb8181
Ab8180
Gb8192
Ab8191
Gb8198
Gb8197
Ab8196
Gb8195
Ab8194
Ab8193
Gb8200
Ab8199
Ab8201
Ab8202
Ab8153
Gb8154
Ab8155
Ab8156
Gb8157
Gb8172
Ab8171

8.40 Map 6651E – Nuugaalik/Dødemandspynten

Shoreline sensitivity map

Human use

66E_288	Traffic through and occasional use of the area by hunters en-route to the northern narwhal hunting grounds in Jul-Sep.
66E_290 – 67E_293	Traffic through and occasional use of the area by hunters en-route to the northern narwhal hunting grounds in Jul-Sep.
67E_294 – 67E_296	According to hunters, this area is occasionally used for narwhal hunting in Jul-Sep.
67E_297	Close proximity to narwhal hunting grounds means traffic through and occasional use of the area by hunters during the narwhal hunting season in Jul-Sep.
67E_298, 67E_299	According to hunters, this area is occasionally used for narwhal hunting in Jul-Sep.

Species occurrence

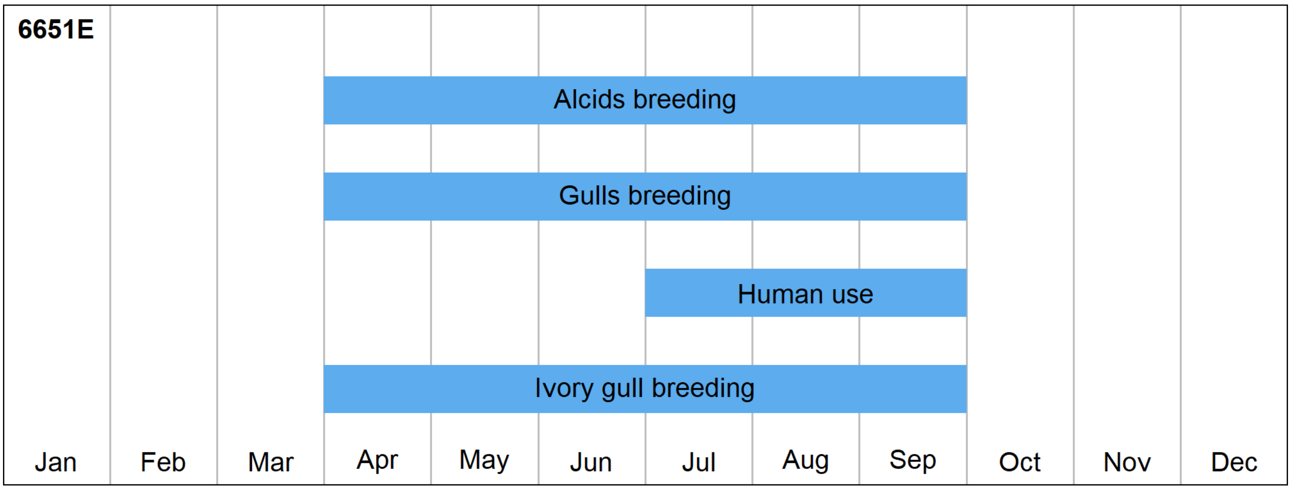
Ab66E_288	1 colony of black guillemots
Gb67E_298, Gb67E_292	1 colony of glaucous gulls
Gb67E_299	1 colony of glaucous gulls
Ab66E_290, Ab67E_293	4 colonies of black guillemots
Ab67E_298, Ab67E_291	1 colony of black guillemots
Gb66E_288	1 colony of black-legged kittiwakes, 1 colony of Iceland gulls and 1 colony of glaucous gulls
Gb66E_290	3 colonies of glaucous gulls and 1 colony of Iceland gulls
Gb67E_294	1 colony of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Gb67E_293	2 colonies of glaucous gulls and 1 colony of Iceland gulls
Ib67E_297	1 colony of ivory gulls

Site specific occurrence: blue icons

Ab8153, Ab8155	Breeding black guillemots
Ab8156	Breeding black guillemots
Ab8171, Ab8180	Breeding black guillemots
Ab8191, Ab8193	Breeding black guillemots
Ab8194, Ab8196	Breeding black guillemots
Ab8199, Ab8201	Breeding black guillemots
Ab8202	Breeding black guillemots
Gb8154	Breeding glaucous gulls
Gb8172, Gb8200	Breeding glaucous gulls
Gb8181	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls
Gb8157, Gb8195	Breeding Iceland gulls and glaucous gulls
Gb8197	Breeding Iceland gulls and glaucous gulls
Gb8198	Breeding Iceland gulls
Gb8190, Gb8192	Breeding Iceland gulls, black-legged kittiwakes and glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
66E_288	26	High
66E_290	41	Extreme
67E_291	21	Moderate
67E_292	19	Moderate
67E_293	38	Extreme
67E_294	25	High
67E_295	11	Low
67E_296	13	Low
67E_297	9	Low
67E_298	26	High
67E_299	15	Moderate



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Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (nautical chart 2400). Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July, but shorefast ice are found in the inner parts in some parts through August. Additional dangers to navigation are present here due to icebergs.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is an abandoned settlement at Nuugaalik/Dødemandspynten. There are no airports on this map. There are five heliports/stops and one airport to the W on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

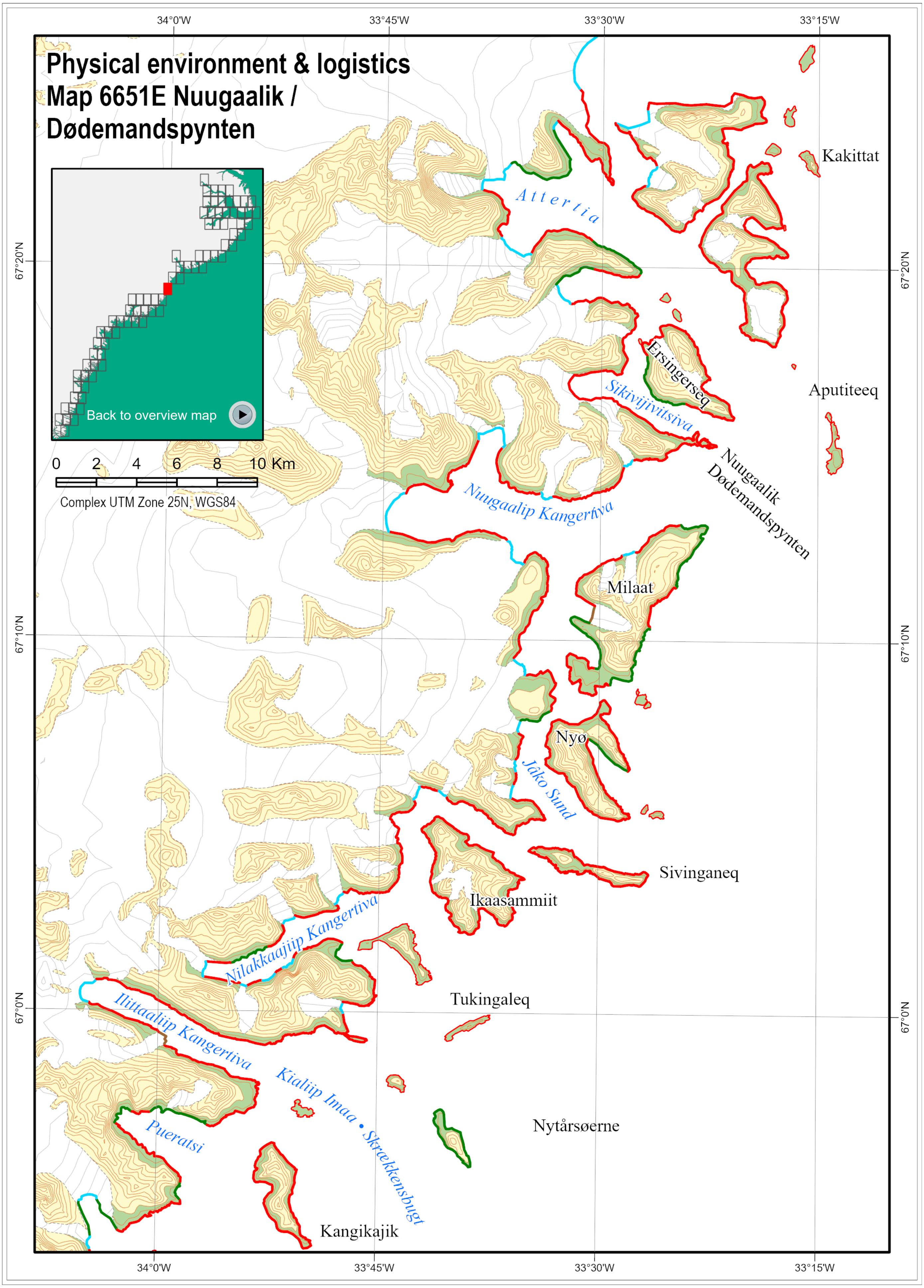
There are few opportunities for nearshore booming in this map area. Booming to restrict oil movement may be possible at the southern tip of the island (Milaat) at ca 67°10’N, 33°30’W (500 m), and in the channel between the two islands ca 67°22’W, 33°20’W (500 m).

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

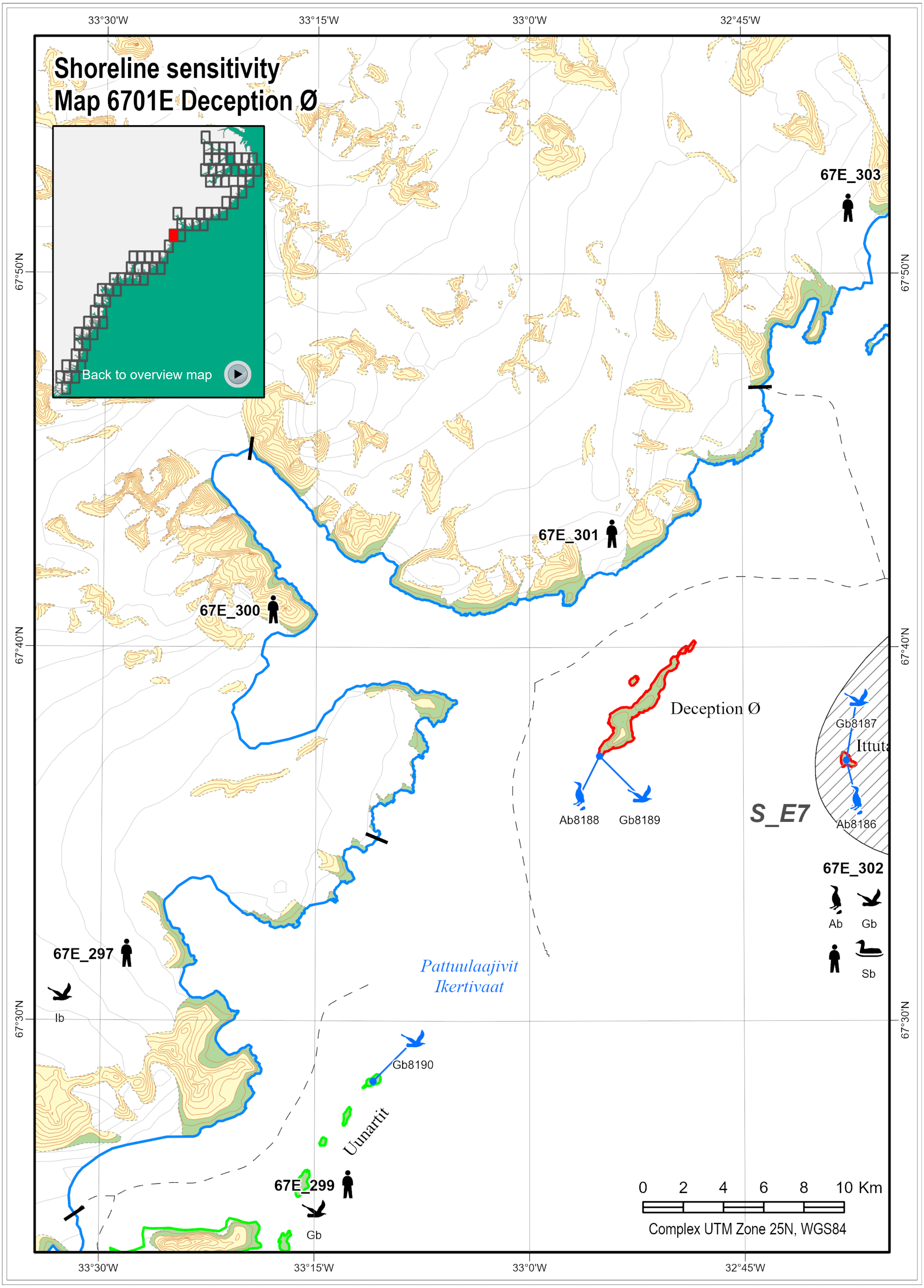
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6651E Nuugaalik /
Dødemandspynten
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
34°0'W
33°45'W
33°30'W
33°15'W
67°20'N
67°10'N
67°0'N
Attertia
Kakittat
Aputiteeq
Ersingerseq
Sikivijivitsiva
Nuugaalik
Dødemandspynten
Nuugaalip Kangertiva
Milaat
Nyø
Jáko Sund
Sivinganeq
Ikaasammiit
Nilakkaajiip Kangertiva
Tukingaleq
Ilittaalip Kangertiva
Kialiip Imaa
Skrækkensbugt
Pueratsi
Nytårsøerne
Kangikajik


Shoreline sensitivity
Map 6701E Deception Ø
Back to overview map
33°30'W
33°15'W
33°0'W
32°45'W
67°50'N
67°40'N
67°30'N
67E_303
67E_301
67E_300
67E_302
67E_297
67E_299
Deception Ø
Gb8187
Ab8188
Gb8189
Ab8186
S_E7
Ab
Gb
Sb
Ib
Pattuulaajivit
Ikertivaat
Gb8190
Uunartit
Gb
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.41 Map 6701E – Deception Ø

Shoreline sensitivity map

Human use

67E_296	According to hunters, this area is occasionally used for narwhal hunting in Jul-Sep.
67E_297	Close proximity narwhal hunting grounds means traffic through and occasional use of the area by hunters during the narwhal hunting season in Jul-Sep.
67E_299	According to hunters, this area is occasionally used for narwhal hunting in Jul-Sep.
67E_300 – 67E_302	Occasional narwhal hunting in this area during Jul-Sep.
67E_303	Close proximity to important narwhal hunting grounds means traffic through and occasional use of the area by hunters during the narwhal hunting season in Jul-Sep.

Species occurrence

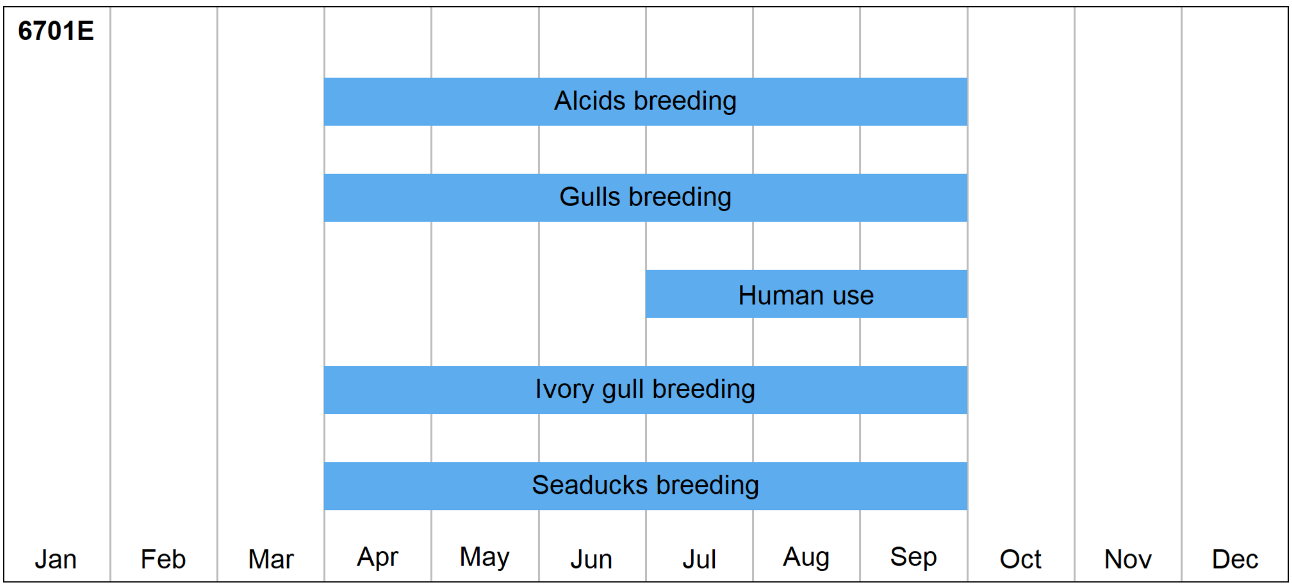
Sb67E_302	1 colony of common eiders
Ab67E_302	3 colonies of black guillemots
Gb67E_302	1 colony of Arctic terns and 3 colonies of glaucous gulls
Gb67E_299	1 colony of glaucous gulls
Ib67E_297	1 colony of ivory gulls

Site specific occurrence: blue icons

Ab8186 **(SE_7)**	Breeding black guillemots
Ab8188	Breeding black guillemots
Gb8187 **(SE_7)**, Gb8189	Breeding glaucous gulls
Gb8190	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	**Sensitivity**	**Ranking**
67E_296	13	Low
67E_297	9	Low
67E_299	15	Moderate
67E_300	9	Low
67E_301	8	Low
67E_302	45	Extreme
67E_303	11	Low



Access
The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

Coasts and fjords are usually inaccessible due to shorefast ice, drift ice and glacier ice and icebergs are numerous.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock and glacier allowing little opportunity for marine access.

There are no airports or airstrips on this map. There are five heliports/stops and one airport to the W on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

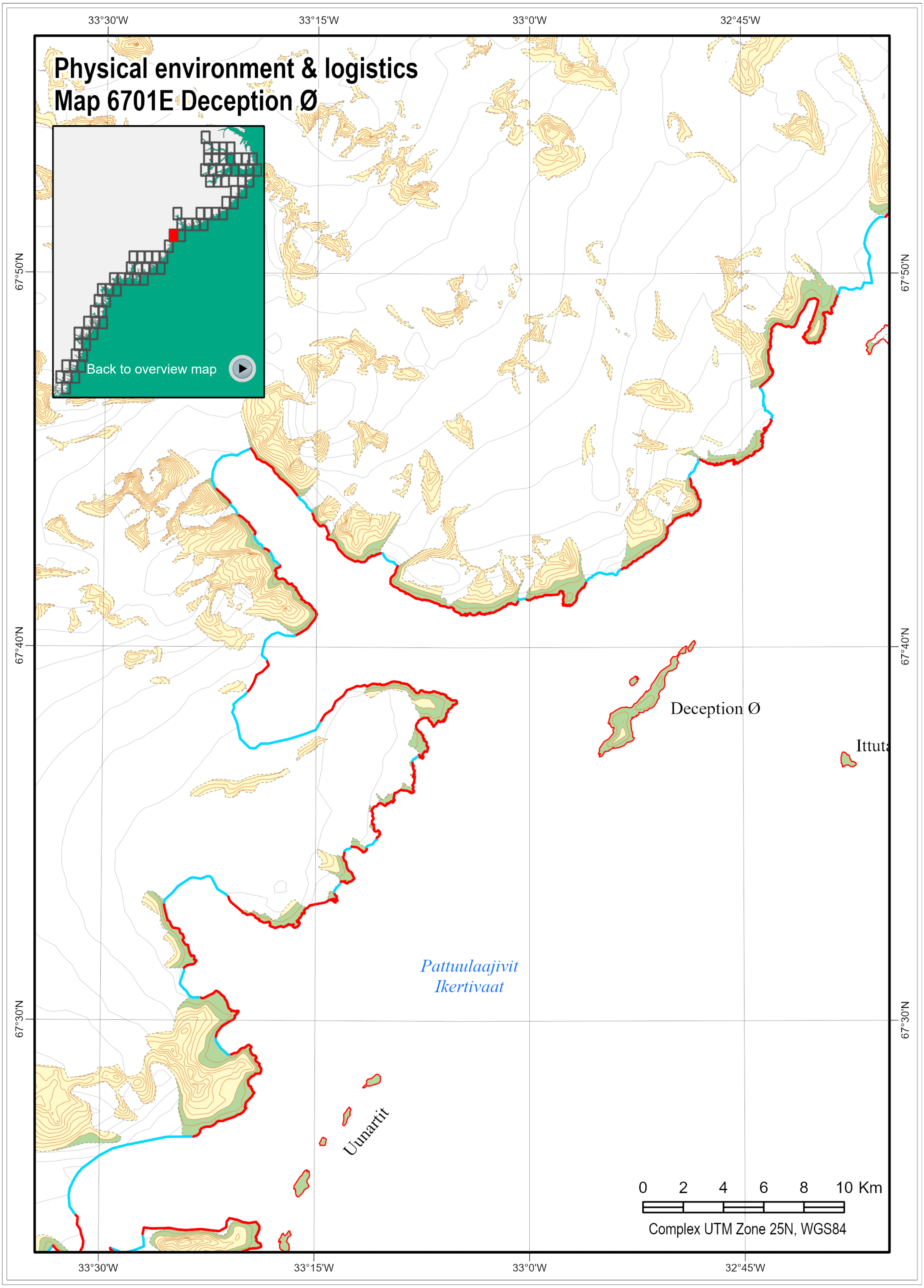
There are no opportunities for nearshore booming in this map area.

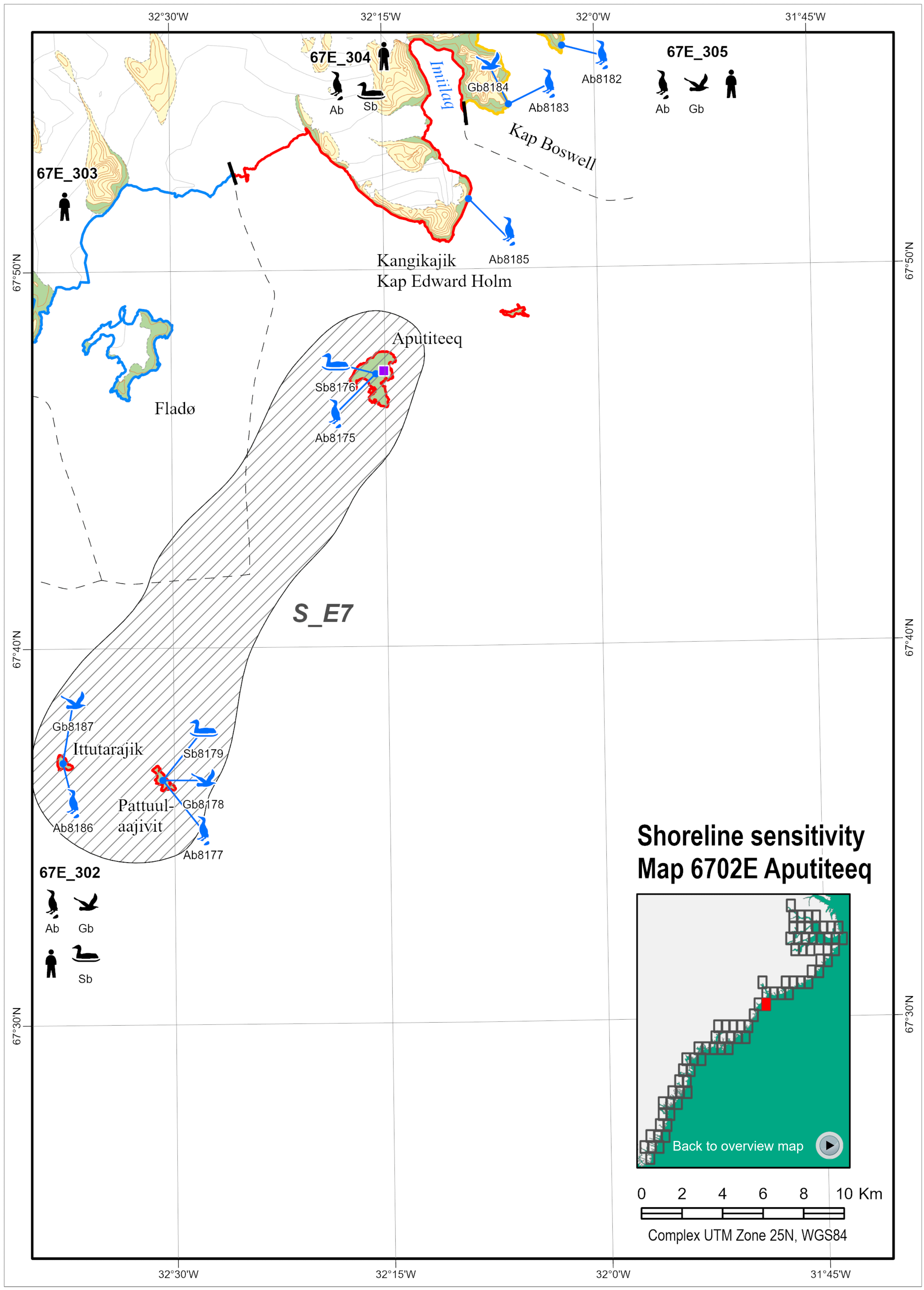
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and glacier with mostly high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6701E Deception Ø
Back to overview map
33°30'W
33°15'W
33°0'W
32°45'W
67°50'N
67°40'N
67°30'N
Deception Ø
Ittut
Pattuulaajivit
Ikertivaat
Uunartit
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



32°30'W
32°15'W
32°0'W
31°45'W
67°50'N
67°40'N
67°30'N
67E_304
Ab
Sb
Imitiaq
Gb8184
Ab8182
Ab8183
67E_305
Ab
Gb
Kap Boswell
67E_303
Kangikajik
Kap Edward Holm
Ab8185
Aputiteeq
Sb8176
Ab8175
Fladø
S_E7
Gb8187
Ittutarajik
Sb8179
Pattuul-
aajivit
Gb8178
Ab8186
Ab8177
67E_302
Ab
Gb
Sb
Shoreline sensitivity
Map 6702E Aputiteeq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.42 Map 6702E – Aputiteeq

Shoreline sensitivity map

Human use

67E_302	Occasional narwhal hunting in this area during Jul-Sep.
67E_303 – 67E_305	Close proximity to important narwhal hunting grounds means traffic through and occasional use of the area by hunters during the narwhal hunting season in Jul-Sep.

Species occurrence

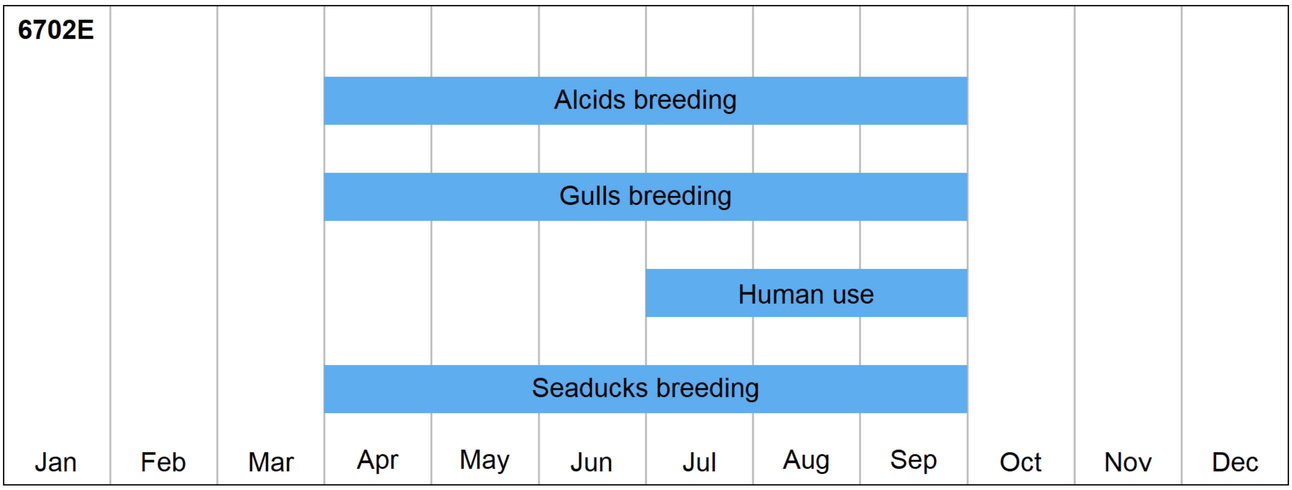
Gb67E_305	1 colony of glaucous gulls
Sb67E_302Sb67E_304	1 colony of common eiders
Ab67E_304	2 colonies of black guillemots
Ab67E_302	3 colonies of black guillemots
Ab67E_305	2 colonies of black guillemots
Gb67E_302	1 colony of Arctic terns and 3 colonies of glaucous gulls

Site specific occurrence: blue icons

Ab8175 **(SE_7)**	Breeding black guillemots
Ab8177 **(SE_7)**	Breeding black guillemots
Ab8182, Ab8183	Breeding black guillemots
Ab8185, Ab8186 **(SE_7)**	Breeding black guillemots
Gb8178 **(SE_7)**	Breeding glaucous gulls and Arctic terns
Gb8184, Gb8187**(SE_7)**	Breeding glaucous gulls
Sb8176 **(SE_7)**	Breeding common eiders
Sb8179 **(SE_7)**	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	**Sensitivity**	**Ranking**
67E_302	45	Extreme
67E_303	11	Low
67E_304	27	Extreme
67E_305	20	High



Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards. Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the glaciers.

Nordre Aputiteeq (67°48′N, 32°16′W), a small island, lies 7 km E of Fladø. An automatic unmanned weather station and an abandoned radio and weather station (Aputiteeq) stand on this island. A small quay, with a depth of 6 m alongside, is reported to be situated in a bay on the SW side of the island (see nautical chart 2650). No other anchorages are reported on this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map. There are five heliports/stops and one airport to the W on map areas 6502, 6503, 6505, 6551, 6552 and 6553.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

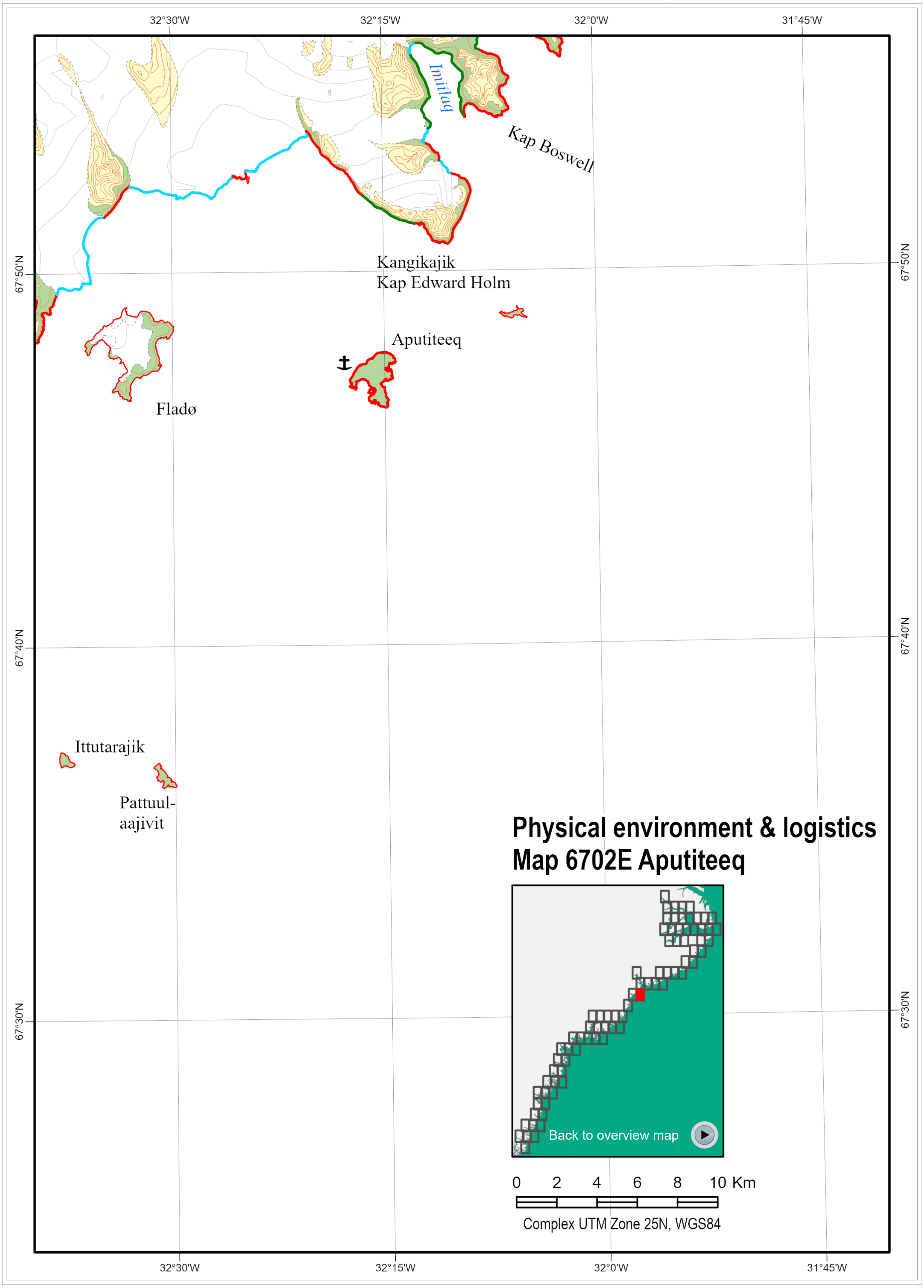
If oil is approaching Kap Boswell or Kangikajik/Kap Edvard Holm, consideration should be given to using the moderately sensitive bay between them as a sacrificial beach area.

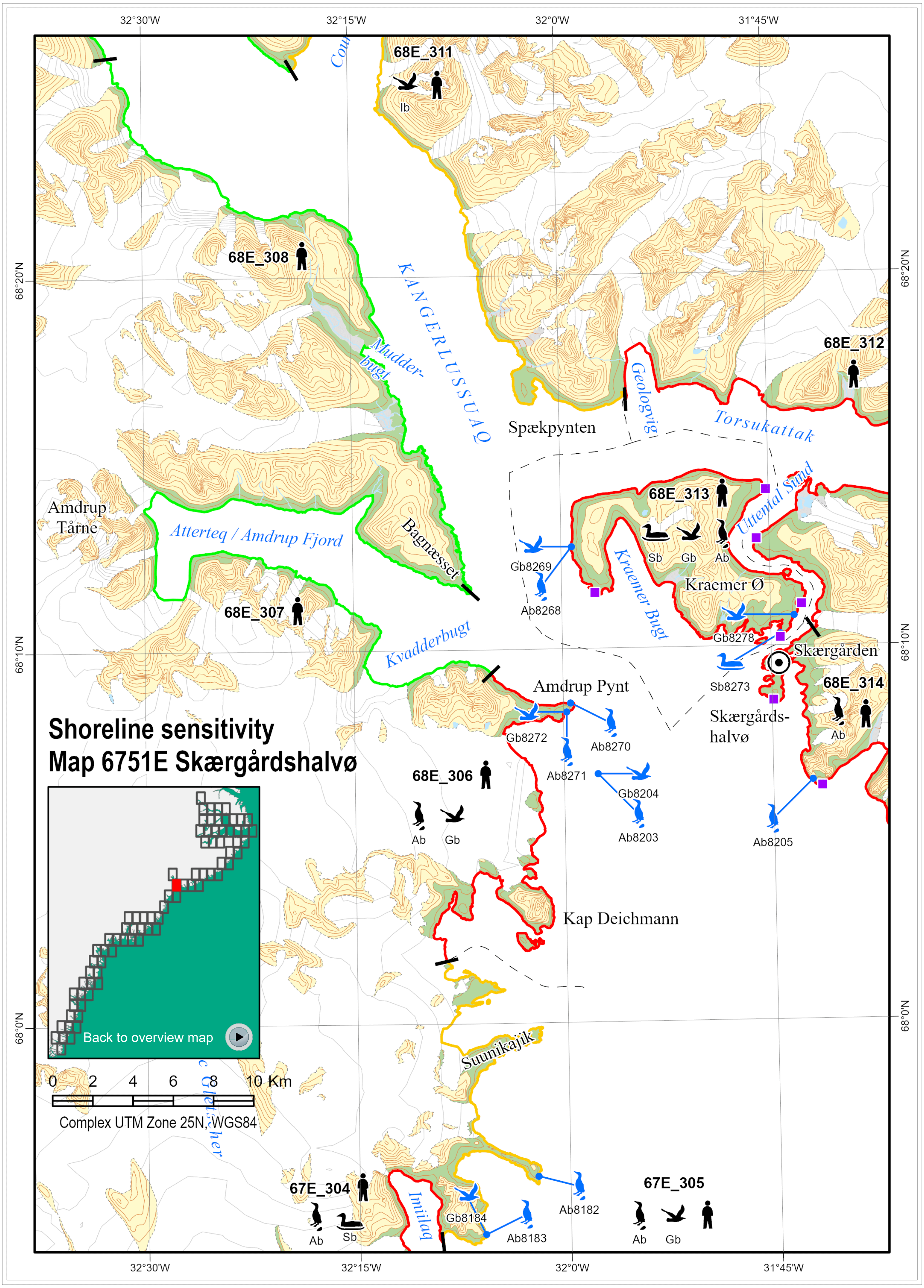
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


32°30'W
32°15'W
32°0'W
31°45'W
67°50'N
67°40'N
67°30'N
Imiilaq
Kap Boswell
Kangikajik
Kap Edward Holm
Aputiteeq
Fladø
Ittutarajik
Pattuul-
aajivit
Physical environment & logistics
Map 6702E Aputiteeq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84


Shoreline sensitivity
Map 6751E Skærgårdshalvø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
32°30'W
32°15'W
32°0'W
31°45'W
68°20'N
68°10'N
68°0'N
68E_311
Ib
68E_308
68E_312
68E_313
68E_307
68E_306
68E_314
67E_304
67E_305
KANGERLUSSUAQ
Mudder-
bugt
Spækpynten
Geologvig
Torsukattak
Uttental Sund
Amdrup
Tårne
Atterteq / Amdrup Fjord
Bagnæsset
Kraemer Bugt
Kraemer Ø
Kvadderbugt
Skærgården
Amdrup Pynt
Skærgårds-
halvø
Kap Deichmann
Suunikajik
Imilaq
Sb
Gb
Ab
Gb8269
Ab8268
Gb8278
Sb8273
Gb8272
Ab8270
Ab8271
Gb8204
Ab8203
Ab8205
Gb8184
Ab8183
Ab8182

8.43 Map 6751E – Skærgårdshalvø

Shoreline sensitivity map

Human use

67E_304, 67E_305	Close proximity to important narwhal hunting grounds means traffic through and occasional use of the area by hunters during the narwhal hunting season in Jul-Sep.
68E_306 – 68E_314	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-7) been reported from the same period.

Species occurrence

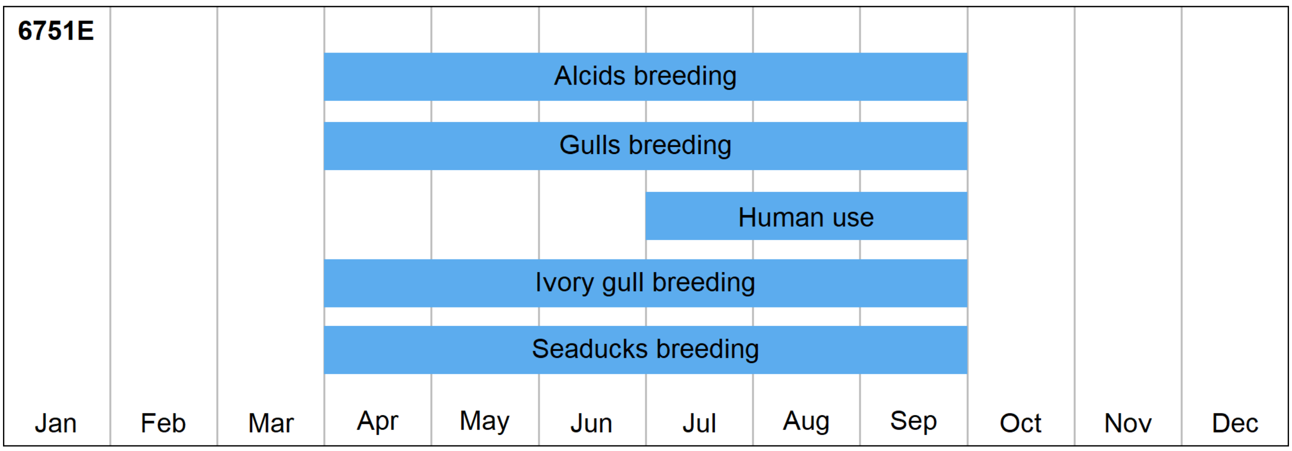
Ab68E_313	1 colony of black guillemots
Gb67E_305	1 colony of glaucous gulls
Sb67E_304, Sb68E_313	1 colony of common eiders
Ab67E_304, Ab67E_305	2 colonies of black guillemots
Ab68E_306, Ab68E_314	3 colonies of black guillemots
Gb68E_313	2 colonies of glaucous gulls
Gb68E_306	1 colony of Arctic terns, 1 colony of lesser black-backed gulls and 1 colony of glaucous gulls
Ib68E_311	1 colony of ivory gulls

Site specific occurrence: blue icons

Ab8182, Ab8183	Breeding black guillemots
Ab8203, Ab8205	Breeding black guillemots
Ab8268, Ab8270	Breeding black guillemots
Ab8271	Breeding black guillemots
Gb8204	Breeding lesser black-backed gulls and Arctic terns
Gb8269, Gb8272	Breeding glaucous gulls
Gb8278, Gb8184	Breeding glaucous gulls
Ib8211	Breeding ivory gulls
Sb8273	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
67E_304	27	Extreme
67E_305	20	High
68E_306	32	Extreme
68E_307	16	Moderate
68E_308	14	Moderate
68E_309	15	Moderate
68E_310	17	Moderate
68E_311	24	High
68E_312	25	Extreme
68E_313	66	Extreme
68E_314	47	Extreme



Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire offshore coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (nautical chart 2400). Local knowledge is essential for navigation.

The fjords are covered by shorefast ice until May/June, and driftice is frequent winter, spring and early summer. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Kangerlussuaq (68°22’N, 32°14’W), the second-largest fjord in the SE part of Greenland, is entered between Kap Deichmann and Kap Hammer (map area 6752), 16 km ENE, and extends 64 km NNW. Anchorage within the fiord itself is difficult due to its great depths and strong currents; however, vessels can obtain anchorage in Uttental Sund (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a temporarily occupied settlement – Skærgården – at Skærgårdshalvø.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

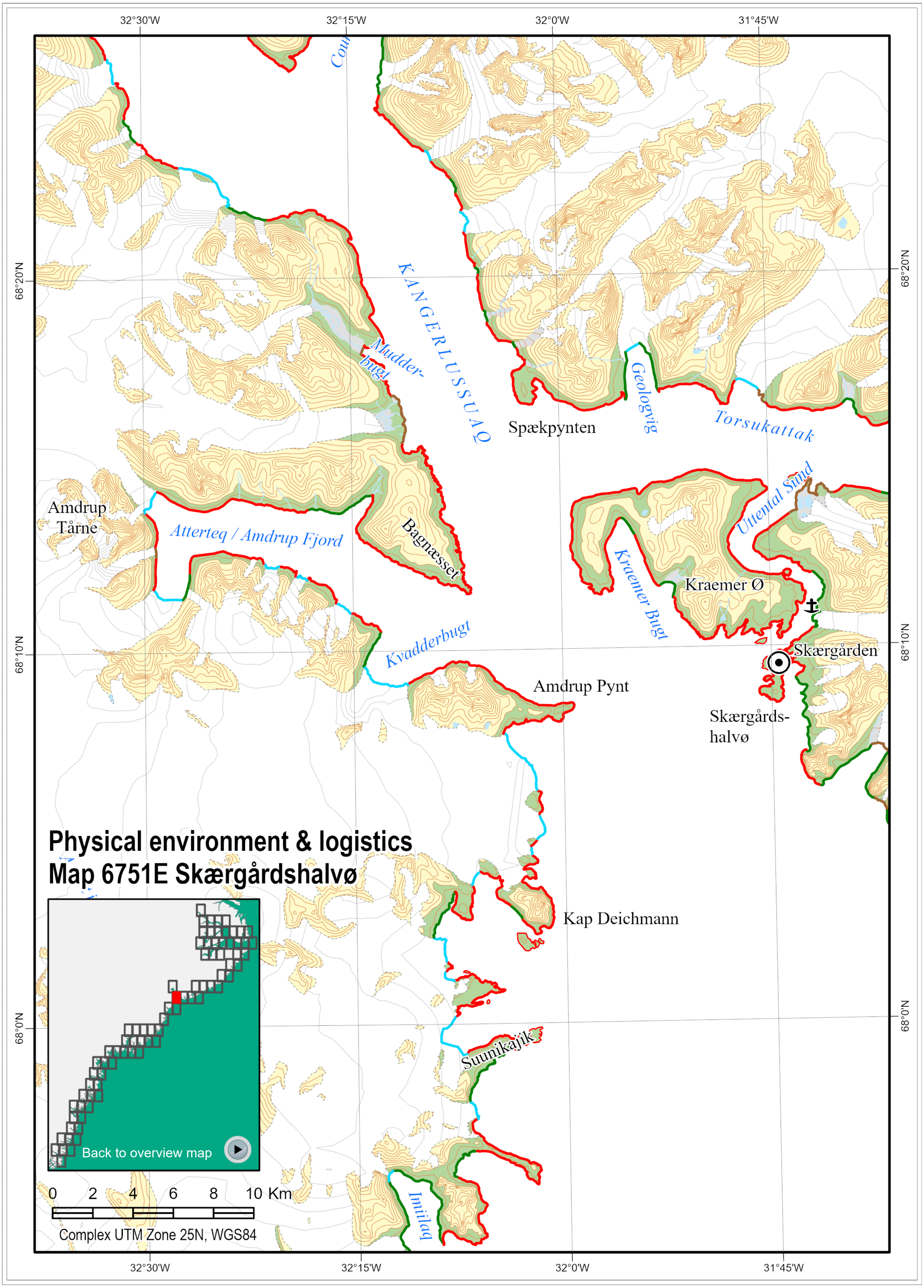
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

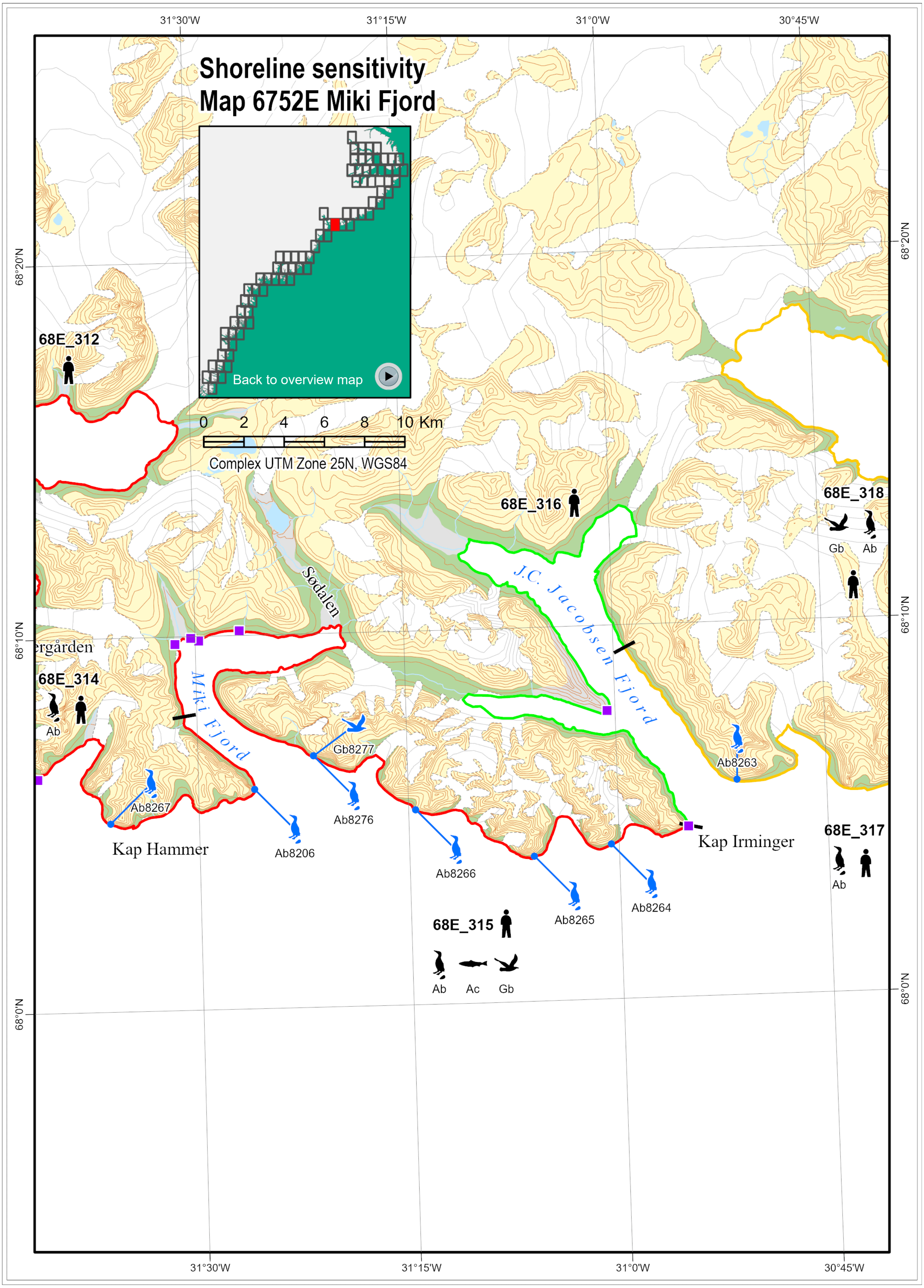
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



32°30'W
32°15'W
32°0'W
31°45'W
68°20'N
68°10'N
68°0'N
KANGERLUSSUAQ
Mudder-
bugt
Spækpynten
Geologvig
Torsukattak
Amdrup
Tårne
Atterteq / Amdrup Fjord
Bagnæsset
Uttental Sund
Kraemer Bugt
Kraemer Ø
Skærgården
Kvadderbugt
Amdrup Pynt
Skærgårds-
halvø
Kap Deichmann
Suunikajik
Imilaq
Physical environment & logistics
Map 6751E Skærgårdshalvø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84


Shoreline sensitivity
Map 6752E Miki Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
31°30'W
31°15'W
31°0'W
30°45'W
68°20'N
68°10'N
68°0'N
68E_312
68E_314
68E_315
68E_316
68E_317
68E_318
Ab
Ac
Gb
ergården
Sødalen
Miki Fjord
J.C. Jacobsen Fjord
Kap Hammer
Kap Irminger
Ab8267
Ab8206
Ab8276
Gb8277
Ab8266
Ab8265
Ab8264
Ab8263

8.44 Map 6752E – Miki Fjord

Shoreline sensitivity map

Human use

68E_312, 68E_314	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-7) been reported from the same period.
68E_315 – 68E_318	Highly important narwhal hunting area from early Jul to mid/late Sep.

Species occurrence

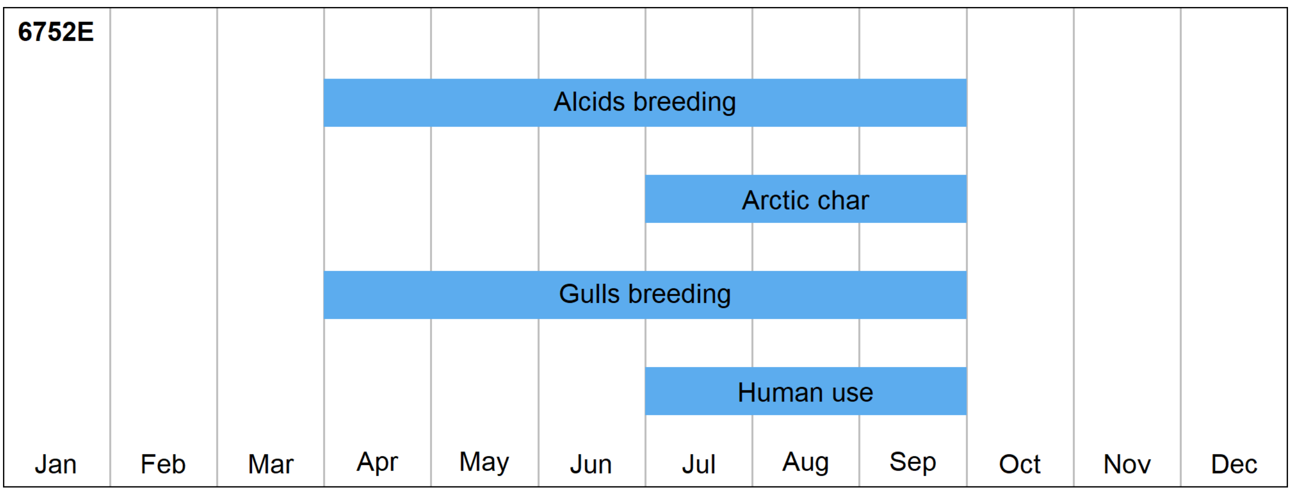
Ab68E_318	1 colony of black guillemots
Gb68E_315	1 colony of glaucous gulls
Ab68E_315	4 colonies of black guillemots
Ab68E_317Ab68E_314	3 colonies of black guillemots
Ac68E_315	Important Arctic char river
Gb68E_318	1 colony of glaucous gulls and 1 colony of Iceland gulls

Site specific occurrence: blue icons

Ab8206	Breeding black guillemots
Ab8259 – Ab8267	Breeding black guillemots
Ab8276	Breeding black guillemots
Gb8277	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_312	25	Extreme
68E_314	47	Extreme
68E_315	29	Extreme
68E_316	15	Moderate
68E_317	25	High
68E_318	24	High



Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (nautical chart 2400). Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

Anchorage may be obtained in Miki Fjord (68°08′N, 31°30′W), in depths of 18 to 20 m, within a small cove located abreast of a conspicuous hut on the W side of the fiord; local knowledge is required. Good anchorage is also available, in depths of 24 to 40 m, clay bottom, at the head of the fjord. There are no known dangers in this fjord, but icebergs may cause considerable inconvenience at either of these anchorages.

Shorelines in this area are predominantly rock and talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a STOL-airstrip in Sødalen (Appendix F).

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

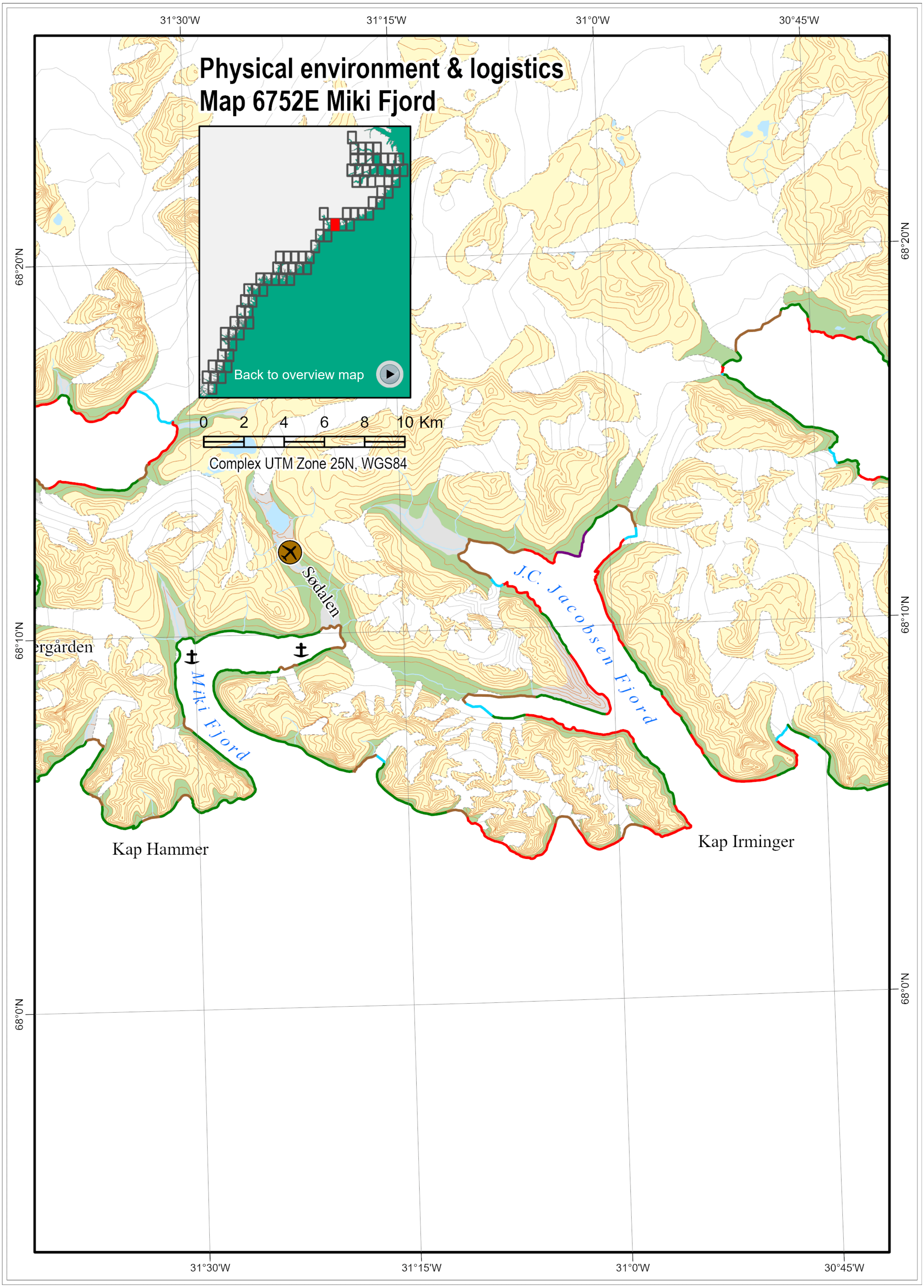
Shorelines shown on this map are predominantly rock, talus with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

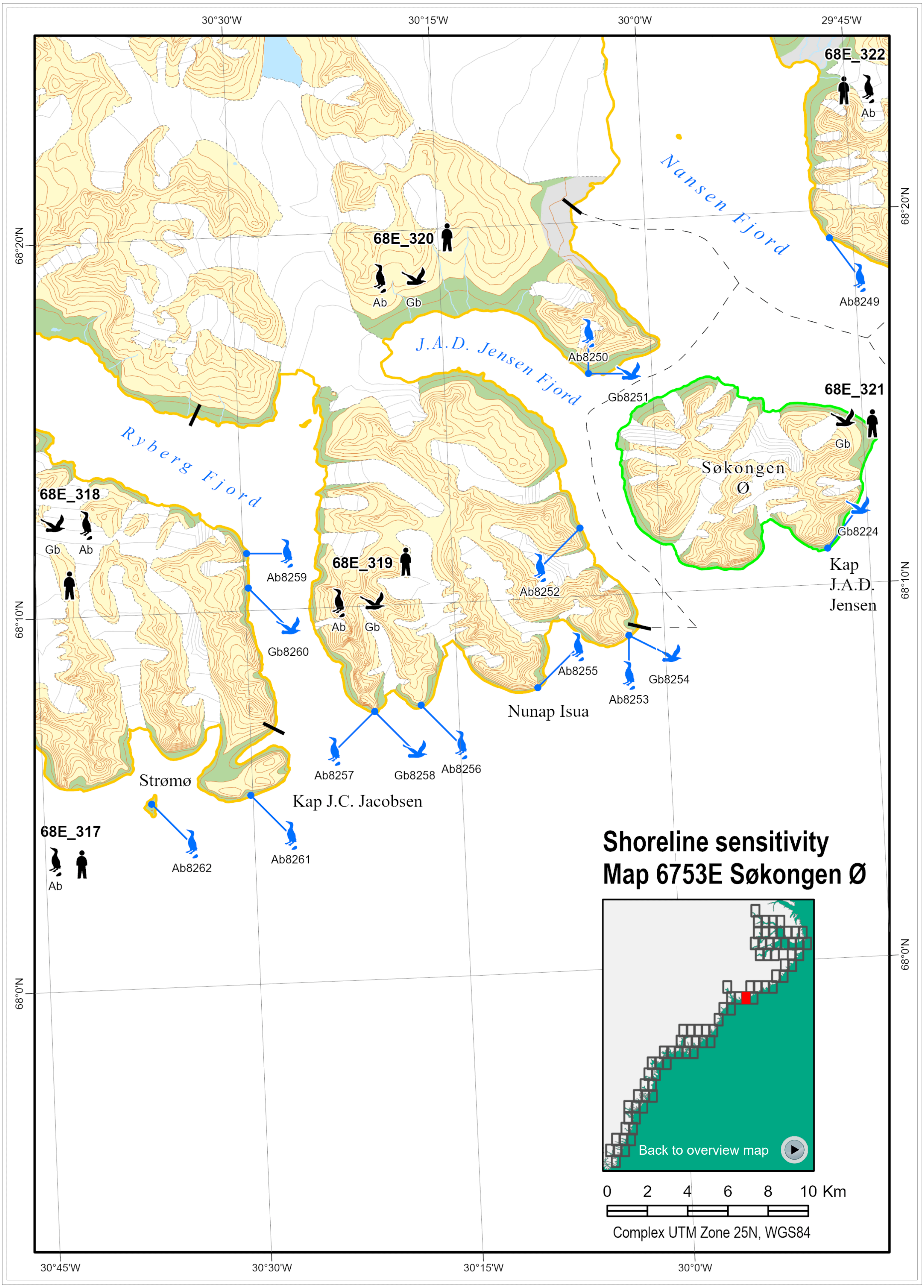
Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

Miki Fjord should be considered as a potential safe haven. It has moderate sensitivity for the most part. Exclusion booming would be impractical due to the width of the channel; however, the shape of the channel may afford natural containment depending on wind direction and tidal streams.


Physical environment & logistics
Map 6752E Miki Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
31°30'W
31°15'W
31°0'W
30°45'W
68°20'N
68°10'N
68°0'N
Sødalen
J.C. Jacobsen Fjord
Miki Fjord
ergården
Kap Hammer
Kap Irminger


30°30'W
30°15'W
30°0'W
29°45'W
68°20'N
68°10'N
68°0'N
30°45'W
68E_322
Ab
Nansen Fjord
68E_320
Ab
Gb
Ab8249
J.A.D. Jensen Fjord
Ab8250
Gb8251
68E_321
Gb
Søkongen Ø
Gb8224
Kap J.A.D. Jensen
Ryberg Fjord
68E_318
Gb
Ab
Ab8259
68E_319
Ab
Gb
Ab8252
Gb8260
Ab8255
Gb8254
Ab8253
Nunap Isua
Ab8257
Gb8258
Ab8256
Strømø
Kap J.C. Jacobsen
68E_317
Ab
Ab8262
Ab8261
Shoreline sensitivity
Map 6753E Søkongen Ø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.45 Map 6753E – Søkongen Ø

Shoreline sensitivity map

Human use

68E_317 – 68E_319	Highly important narwhal hunting area from early Jul to mid/late Sep.
68E_320	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-7) been reported from the same period.
68E_321	Highly important narwhal hunting area from early Jul to mid/late Sep.
68E_322	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-7) been reported from the same period.

Species occurrence

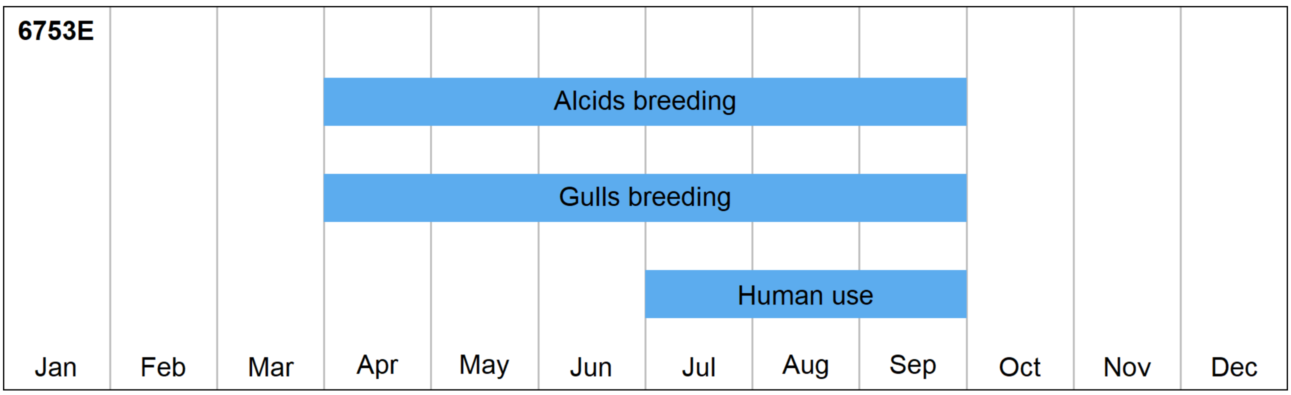
Ab68E_318	1 colony of black guillemots
Gb68E_319	2 colonies of glaucous gulls
Gb68E_320	1 colony of glaucous gulls
Ab68E_320	2 colonies of black guillemots
Ab68E_317	3 colonies of black guillemots
Ab68E_322	1 colony of black guillemots
Ab68E_319	4 colonies of black guillemots
Gb68E_318	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb68E_321	1 colony of Iceland gulls

Site specific occurrence: blue icons

Ab8249, Ab8250	Breeding black guillemots
Ab8252, Ab8253	Breeding black guillemots
Ab8255, Ab8256	Breeding black guillemots
Ab8257, Ab8259	Breeding black guillemots
Ab8261 – Ab8262	Breeding black guillemots
Gb8224	Breeding Iceland gulls
Gb8251, Gb8254	Breeding glaucous gulls
Gb8258	Breeding glaucous gulls
Gb8260	Breeding Iceland gulls and glaucous gulls

Shoreline sensitivity summary

SEG_ID	**Sensitivity**	**Ranking**
68E_317	25	High
68E_318	24	High
68E_319	24	High
68E_320	22	High
68E_321	14	Moderate
68E_322	20	High



Physical environment and logistics, 6753E – Søkongen Ø

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul (nautical chart 2400). Local knowledge is essential for navigation.

The presence of drift ice varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

Kap J.A.D. Jensen (68°10’N, 29°49’W), is separated from the mainland by short and narrow channel. A vessel anchored about 365 m from the S end of this channel, 1.6 km W of its E entrance, in a depth of 83 m; however, the berth was reported to be poor. Subsequent examination disclosed a more suitable anchorage, in depths of 27 to 46 m, off the NW extremity of Søkongen Ø, at the W entrance to the channel, 365 m offshore.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

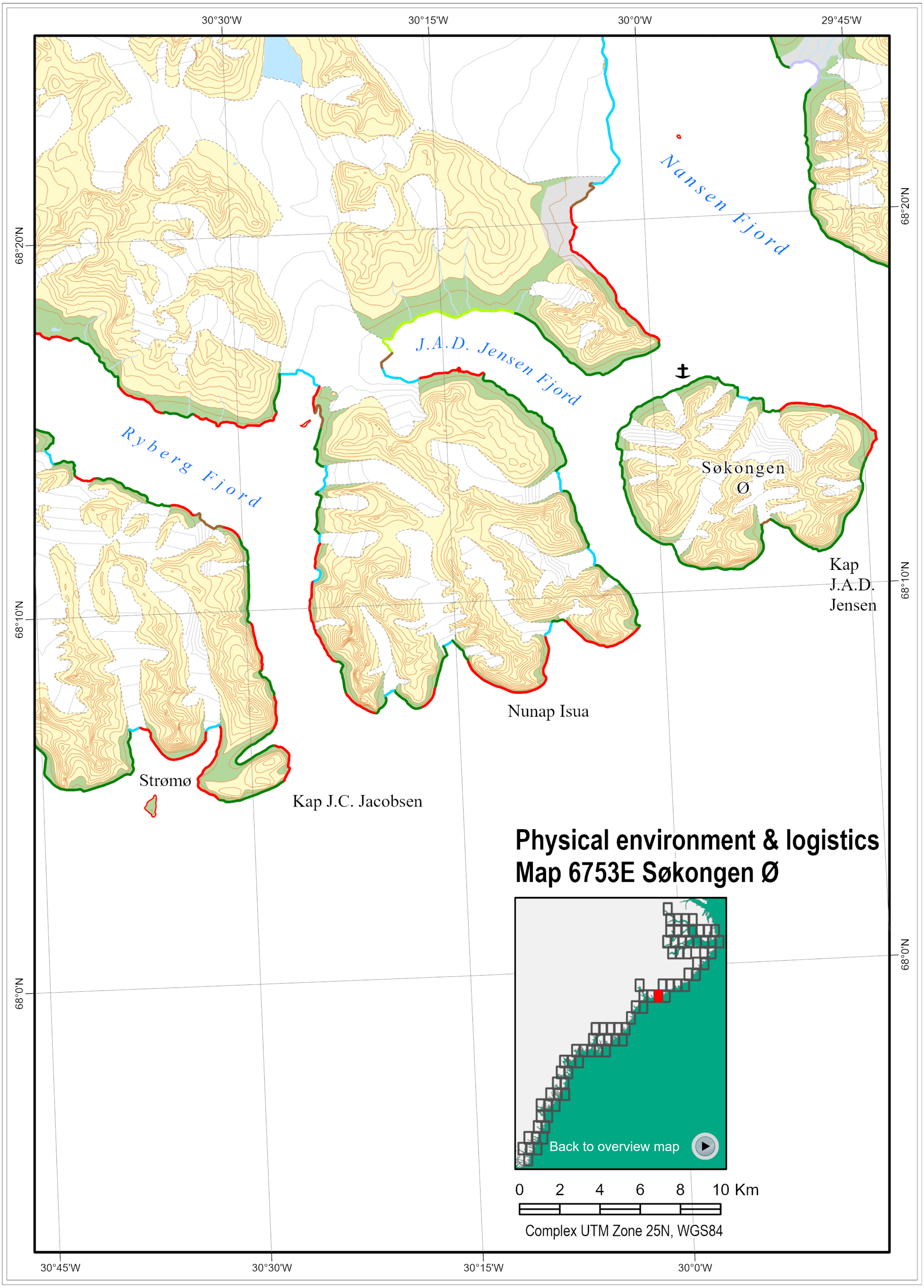
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Should oil approach this area, consideration should be given to using one or more of the several moderately sensitive shorelines at the head of the fjords to limit the overall contamination.

Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.


Physical environment & logistics
Map 6753E Søkongen Ø
30°30'W
30°15'W
30°0'W
29°45'W
30°45'W
68°20'N
68°10'N
68°0'N
Nansen Fjord
J.A.D. Jensen Fjord
Ryberg Fjord
Søkongen Ø
Kap J.A.D. Jensen
Nunap Isua
Strømø
Kap J.C. Jacobsen
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

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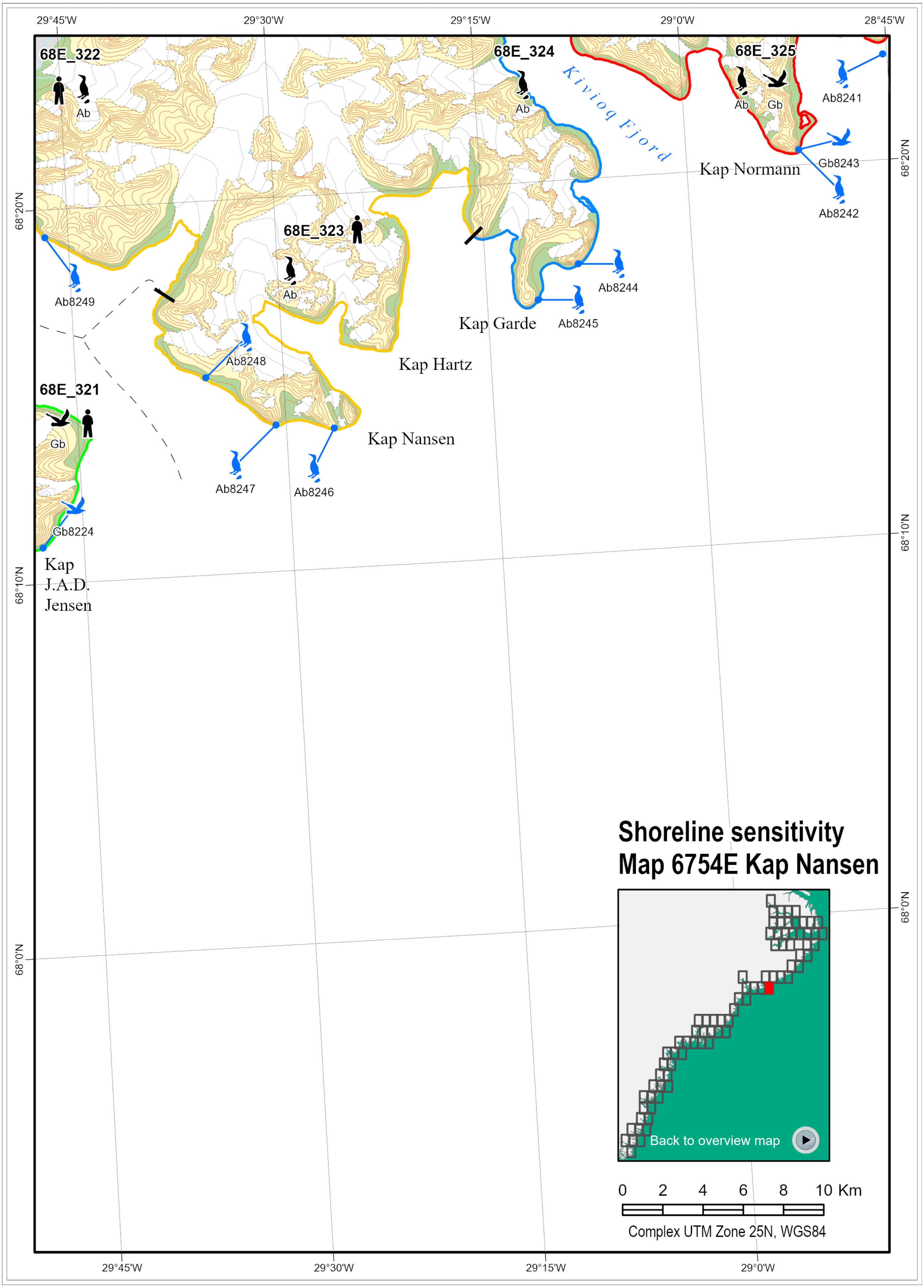

29°45'W
29°30'W
29°15'W
29°0'W
28°45'W
68°20'N
68°10'N
68°0'N
68E_322
68E_323
68E_324
68E_325
68E_321
Ab
Gb
Kivioq Fjord
Kap Normann
Kap Garde
Kap Hartz
Kap Nansen
Kap J.A.D. Jensen
Ab8241
Ab8242
Gb8243
Ab8244
Ab8245
Ab8246
Ab8247
Ab8248
Ab8249
Gb8224
Shoreline sensitivity
Map 6754E Kap Nansen
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.46 Map 6754E – Kap Nansen

Shoreline sensitivity map

Human use

68E_321	Highly important narwhal hunting area from early Jul to mid/late Sep.
68E_322	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-7) been reported from the same period.
68E_323	Highly important narwhal hunting area from early Jul to mid/late Sep.

Species occurrence

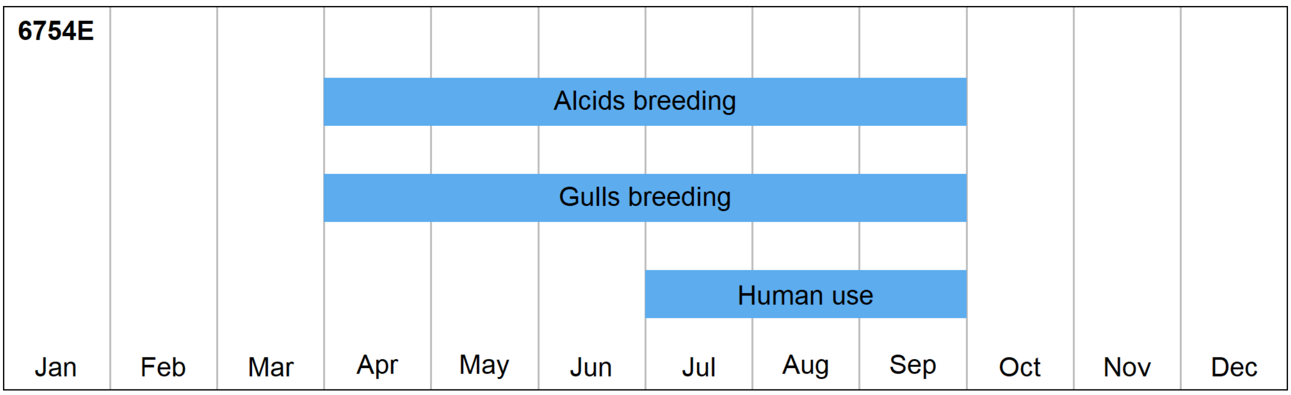
Ab68E_323	3 colonies of black guillemots
Ab68E_322	1 colony of black guillemots
Ab68E_325	3 colonies of black guillemots
Ab68E_324	2 colonies of black guillemots
Gb68E_321	1 colony of Iceland gulls
Gb68E_325	1 colony of glaucous gulls

Site specific occurrence: blue icons

Ab8241 – Ab8242	Breeding black guillemots
Ab8244 – Ab8249	Breeding black guillemots
Gb8224	Breeding Iceland gulls
Gb8243	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_321	14	Moderate
68E_322	20	High
68E_323	19	High
68E_324	9	Low
68E_325	25	Extreme



Physical environment and logistics, 6754E – Kap Nansen

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings (nautical chart 2400). Local knowledge is essential for navigation.

The presence of drift ice varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

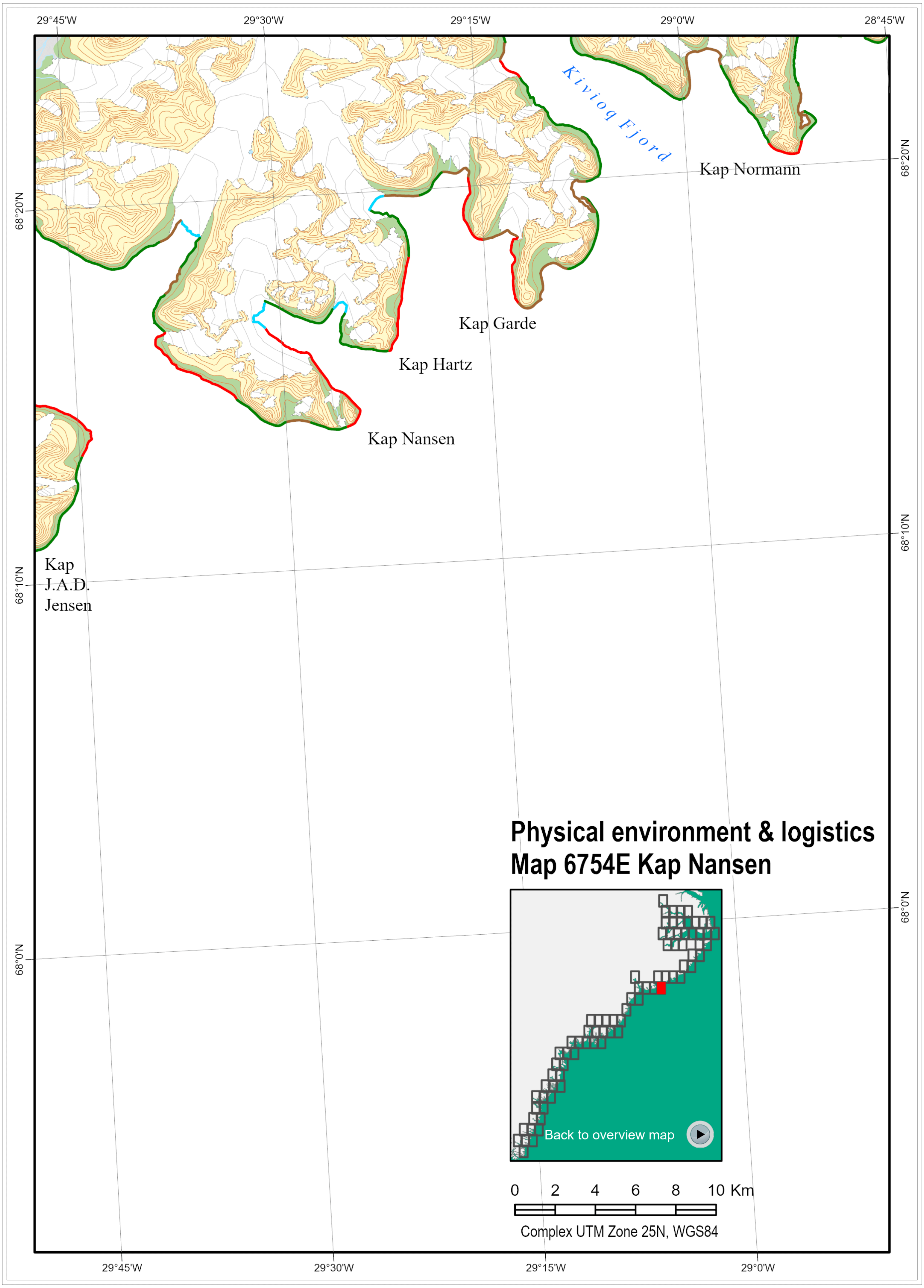
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

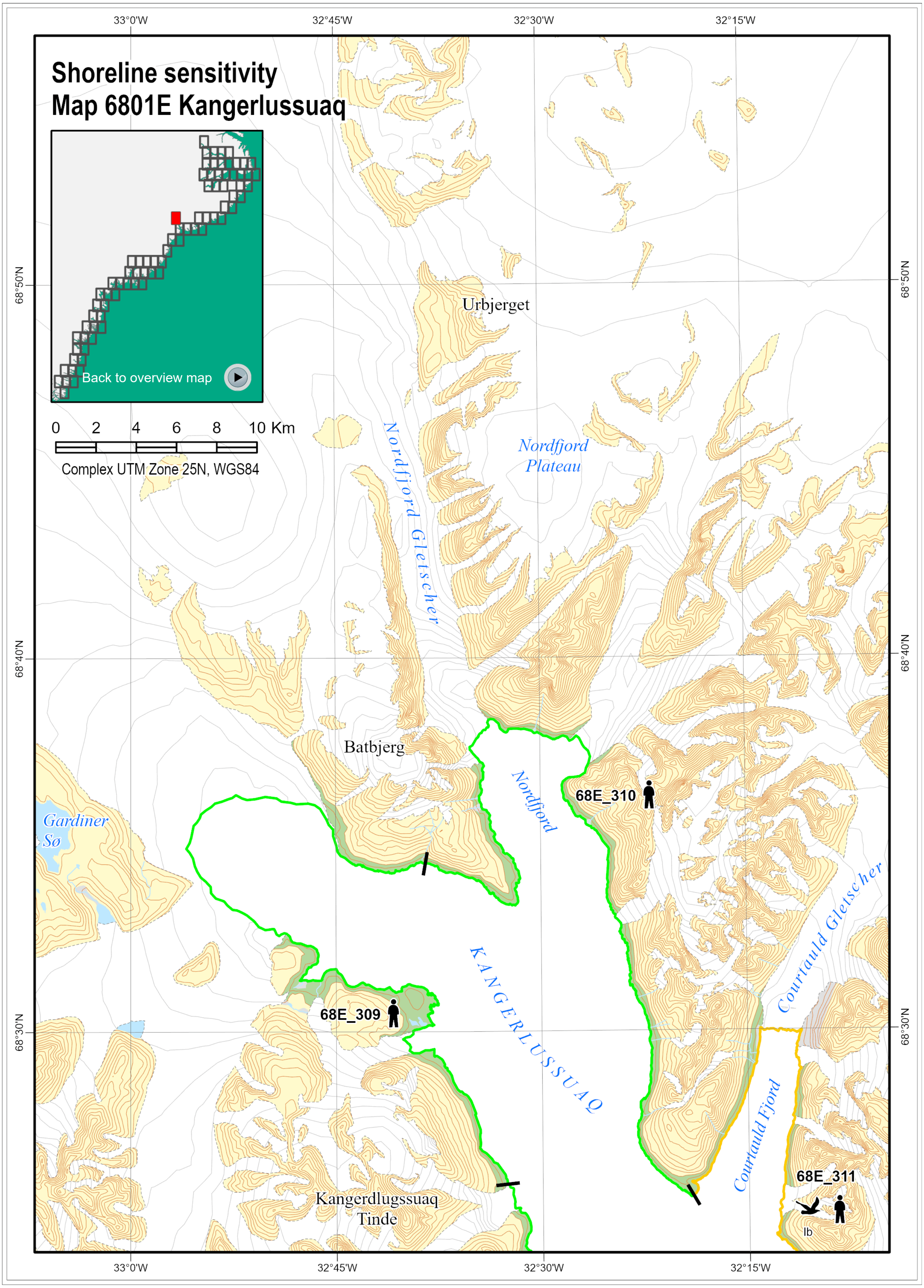
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



29°45'W
29°30'W
29°15'W
29°0'W
28°45'W
68°20'N
68°10'N
68°0'N
Kivioq Fjord
Kap Normann
Kap Garde
Kap Hartz
Kap Nansen
Kap
J.A.D.
Jensen
Physical environment & logistics
Map 6754E Kap Nansen
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 6801E Kangerlussuaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
33°0'W
32°45'W
32°30'W
32°15'W
68°50'N
68°40'N
68°30'N
Urbjerget
Nordfjord Gletscher
Nordfjord Plateau
Batbjerg
Nordfjord
68E_310
Gardiner Sø
68E_309
KANGERLUSSUAQ
Courtauld Gletscher
Courtauld Fjord
68E_311
Ib
Kangerdlugssuaq Tinde

8.47 Map 6801E – Kangerlussuaq

Shoreline sensitivity map

Human use

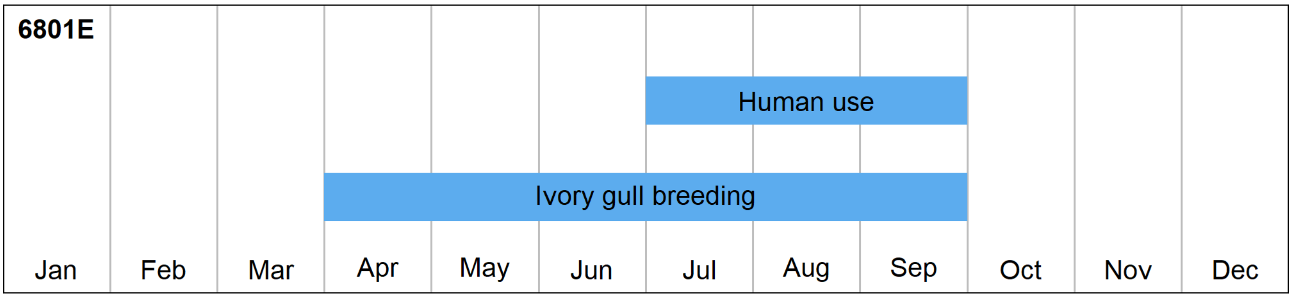
68E_308 – 68E_311	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-2007) been reported from the same period.

Species occurrence

Ib68E_311	1 colony of ivory gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_308	14	Moderate
68E_309	15	Moderate
68E_310	17	Moderate
68E_311	24	High



Physical environment and logistics, 6801E – Kangerlussuaq

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation. The inner parts of the fjords are probably inaccessible due to glacier ice.

The fjords are covered by shorefast ice until May, but glacier ice and icebergs cover the waters most of the open water season.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

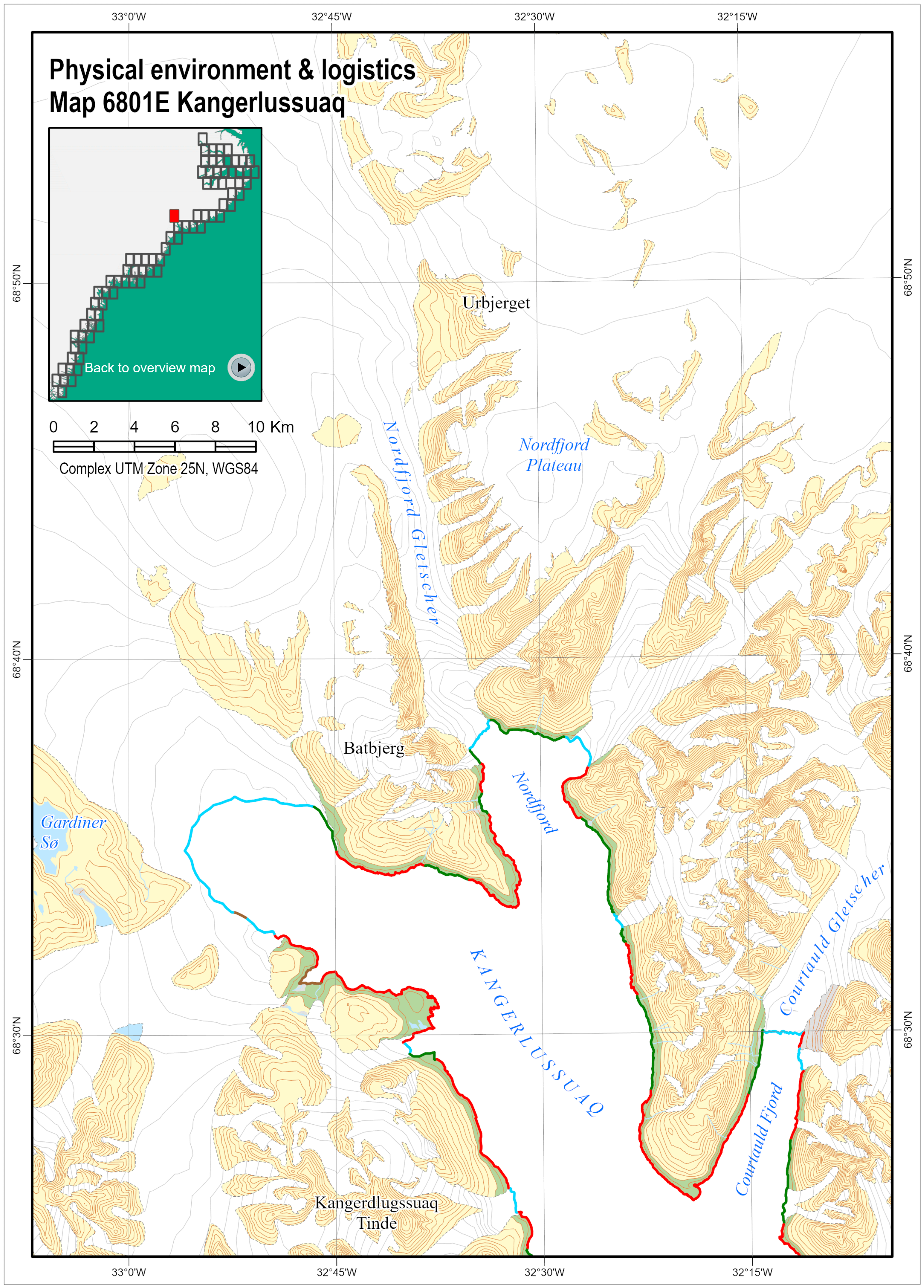
There are no opportunities for nearshore booming in this map area.

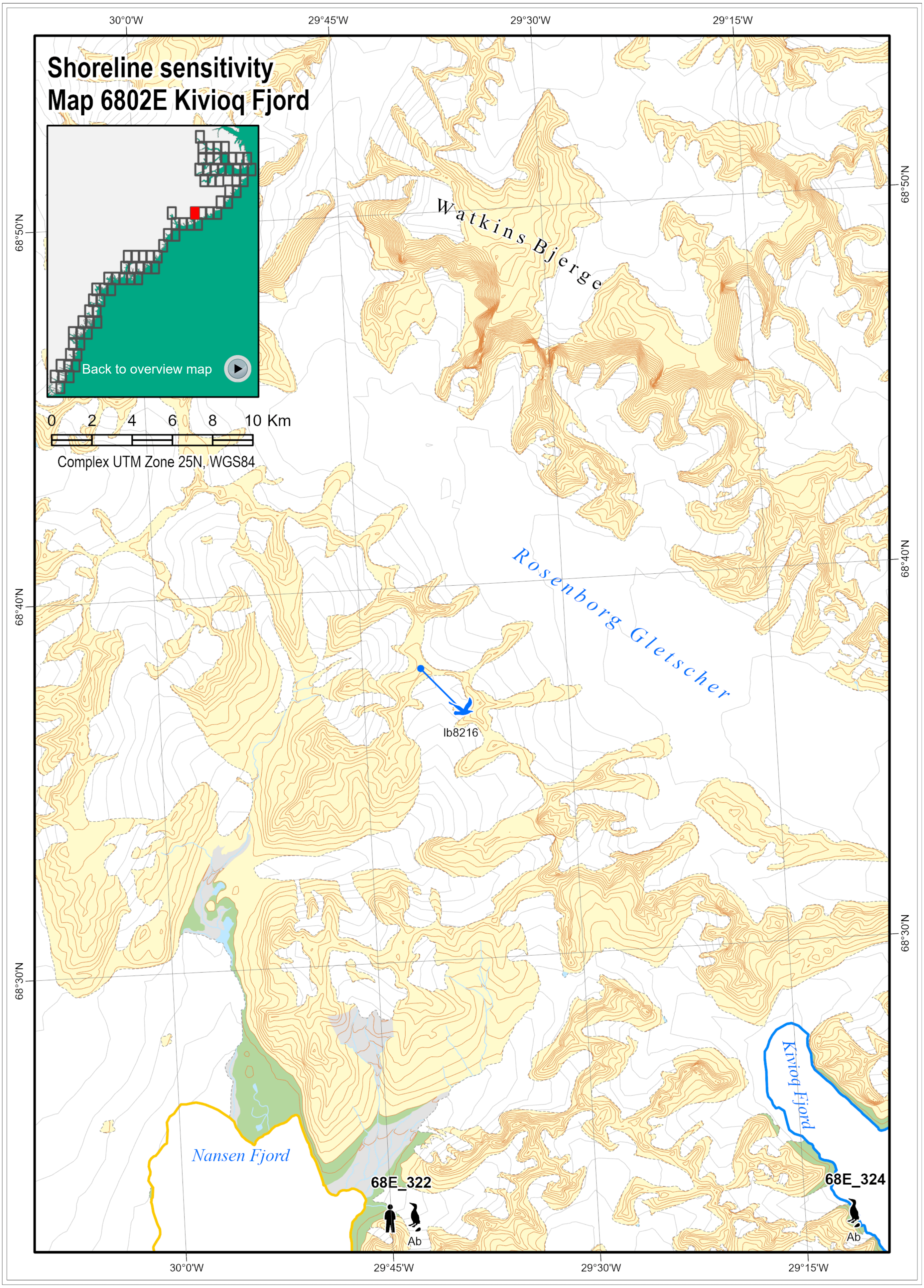
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6801E Kangerlussuaq
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
33°0'W
32°45'W
32°30'W
32°15'W
68°50'N
68°40'N
68°30'N
Urbjerget
Nordfjord Gletscher
Nordfjord Plateau
Batbjerg
Nordfjord
Gardiner Sø
KANGERLUSSUAQ
Courtauld Gletscher
Courtauld Fjord
Kangerdlugssuaq Tinde



Shoreline sensitivity
Map 6802E Kivioq Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
30°0'W
29°45'W
29°30'W
29°15'W
68°50'N
68°40'N
68°30'N
Watkins Bjerge
Rosenborg Gletscher
Ib8216
Nansen Fjord
Kivioq Fjord
68E_322
68E_324
Ab
Ab

8.48 Map 6802E – Kivioq Fjord

Shoreline sensitivity map

Human use

R 68E_322	Extremely important narwhal hunting area from early Jul to mid/late Sep. A few polar bear catches have earlier (2006-2007) been reported from the same period.

Species occurrence

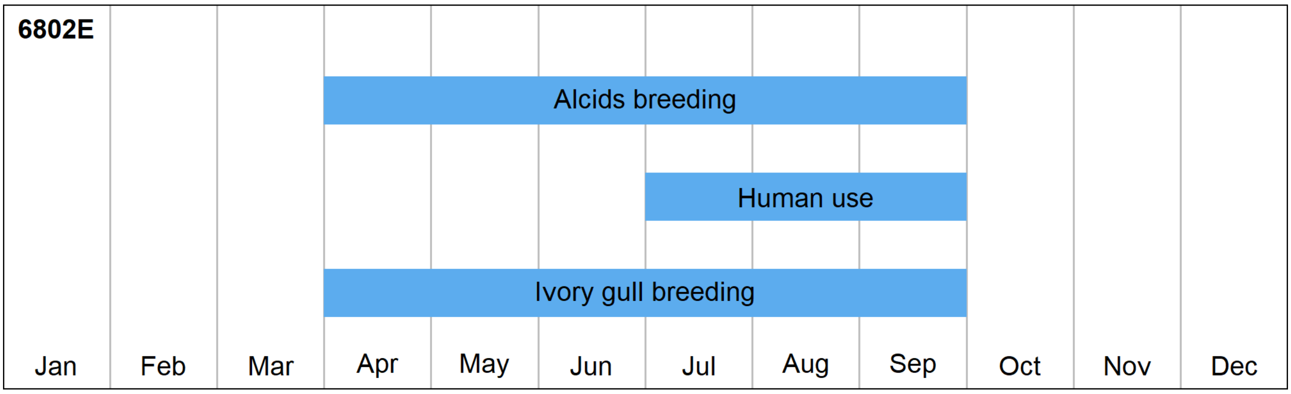
Ab68E_322	1 colony of black guillemots
Ab68E_324	2 colonies of black guillemots

Site specific occurrence: blue icons

Ib8216	Breeding ivory gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_322	20	High
68E_324	9	Low



Operational Map, 6802E – Kivioq Fjord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2400). Local knowledge is essential for navigation.

The fjords are covered by shorefast ice until May, and glacier ice and icebergs cover the waters most of the open water season. Driftice occur winter, spring and early summer.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

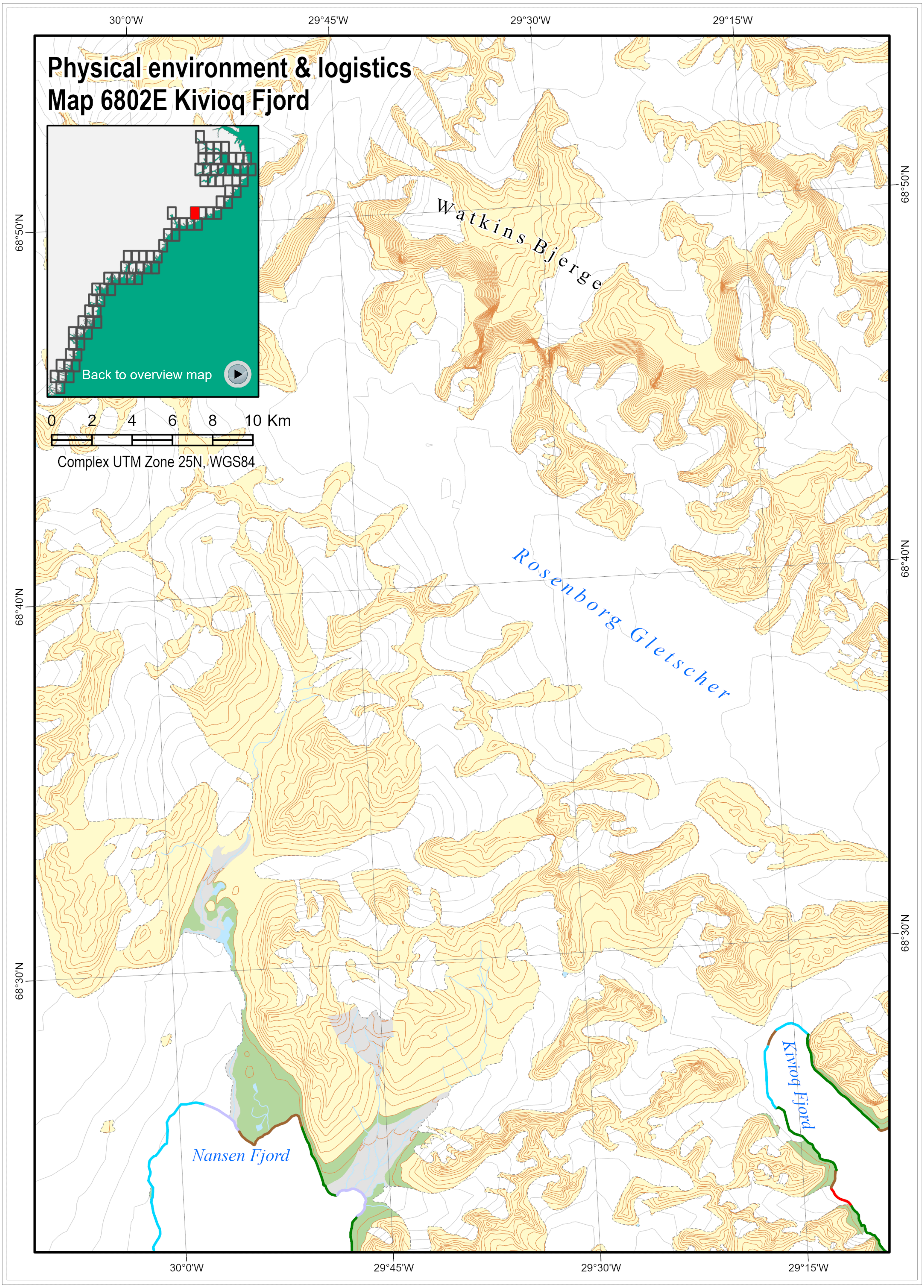
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

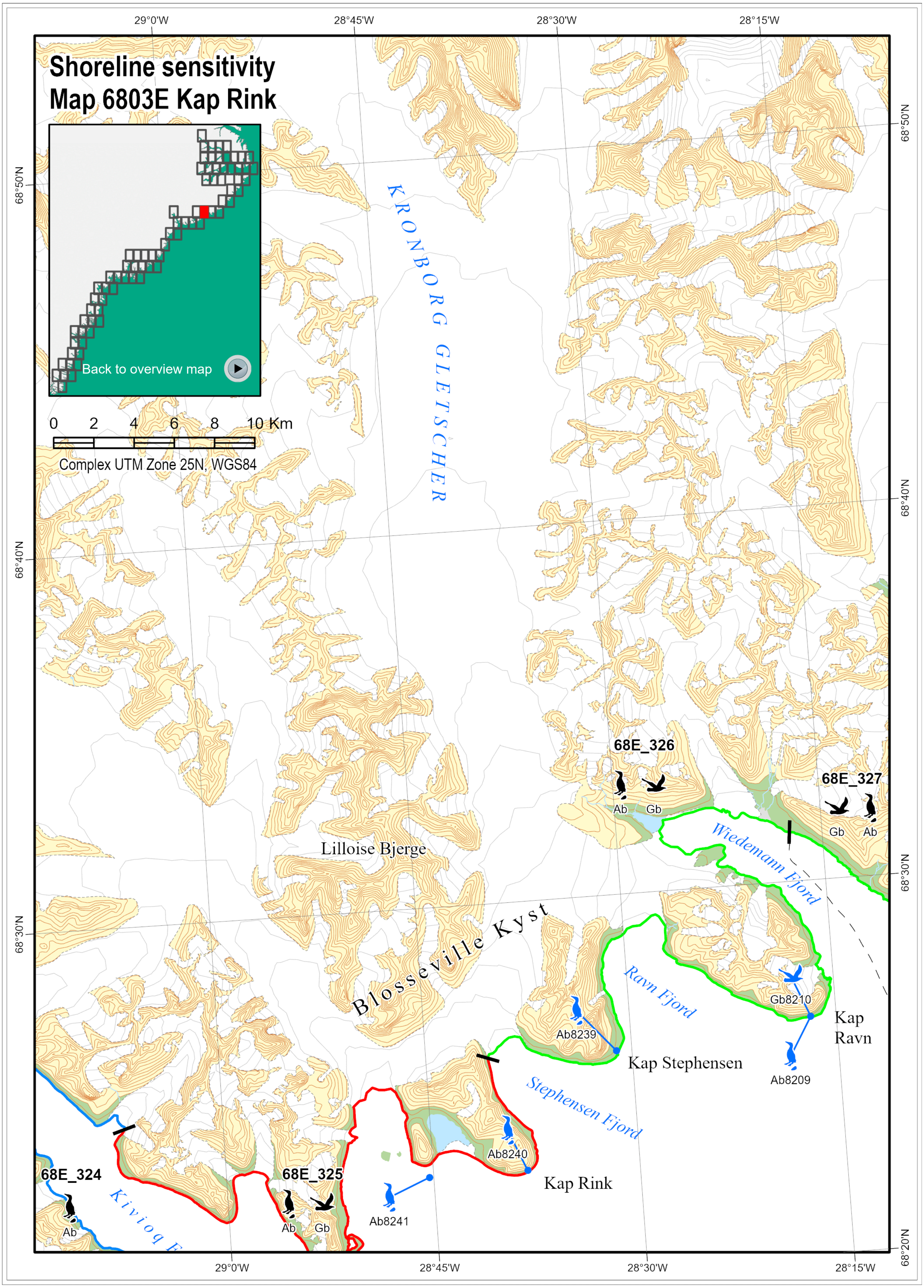
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6802E Kivioq Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
30°0'W
29°45'W
29°30'W
29°15'W
68°50'N
68°40'N
68°30'N
Watkins Bjerge
Rosenborg Gletscher
Nansen Fjord
Kivioq Fjord



Shoreline sensitivity
Map 6803E Kap Rink
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
29°0'W
28°45'W
28°30'W
28°15'W
68°50'N
68°40'N
68°30'N
68°20'N
KRONBORG GLETSCHER
Lilloise Bjerge
Blosseville Kyst
68E_326
Ab
Gb
68E_327
Gb
Ab
Wiedemann Fjord
Ravn Fjord
Gb8210
Kap Ravn
Ab8239
Kap Stephensen
Ab8209
Stephensen Fjord
Ab8240
Kap Rink
Ab8241
68E_324
Ab
Kivioq F
68E_325
Ab
Gb

8.49 Map 6803E – Kap Rink

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

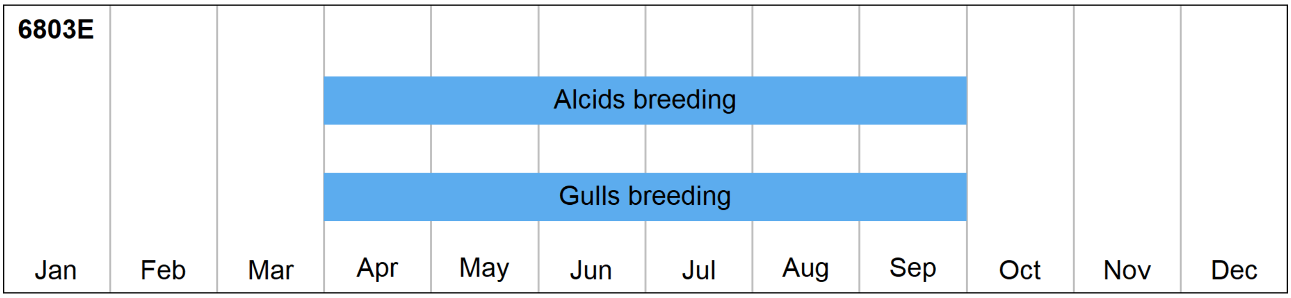
Gb68E_326	1 colony of glaucous gulls
Ab68E_325	3 colonies of black guillemots
Ab68E_324, Ab68E_326	2 colonies of black guillemots
Ab68E_327	1 colony of black guillemots
Gb68E_327	1 colony of glaucous gulls and 1 colony of Iceland gulls
Gb68E_325	1 colony of glaucous gulls

Site specific occurrence: blue icons

Ab8209, Ab8239	Breeding black guillemots
Ab8240, Ab8241	Breeding black guillemots
Gb8210	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_324	9	Low
68E_325	25	Extreme
68E_326	13	Moderate
68E_327	13	Moderate



Physical environment and logistics, 6803E – Kap Rink

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

It is possible to anchor on the E side of Wiedemann Fjord (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

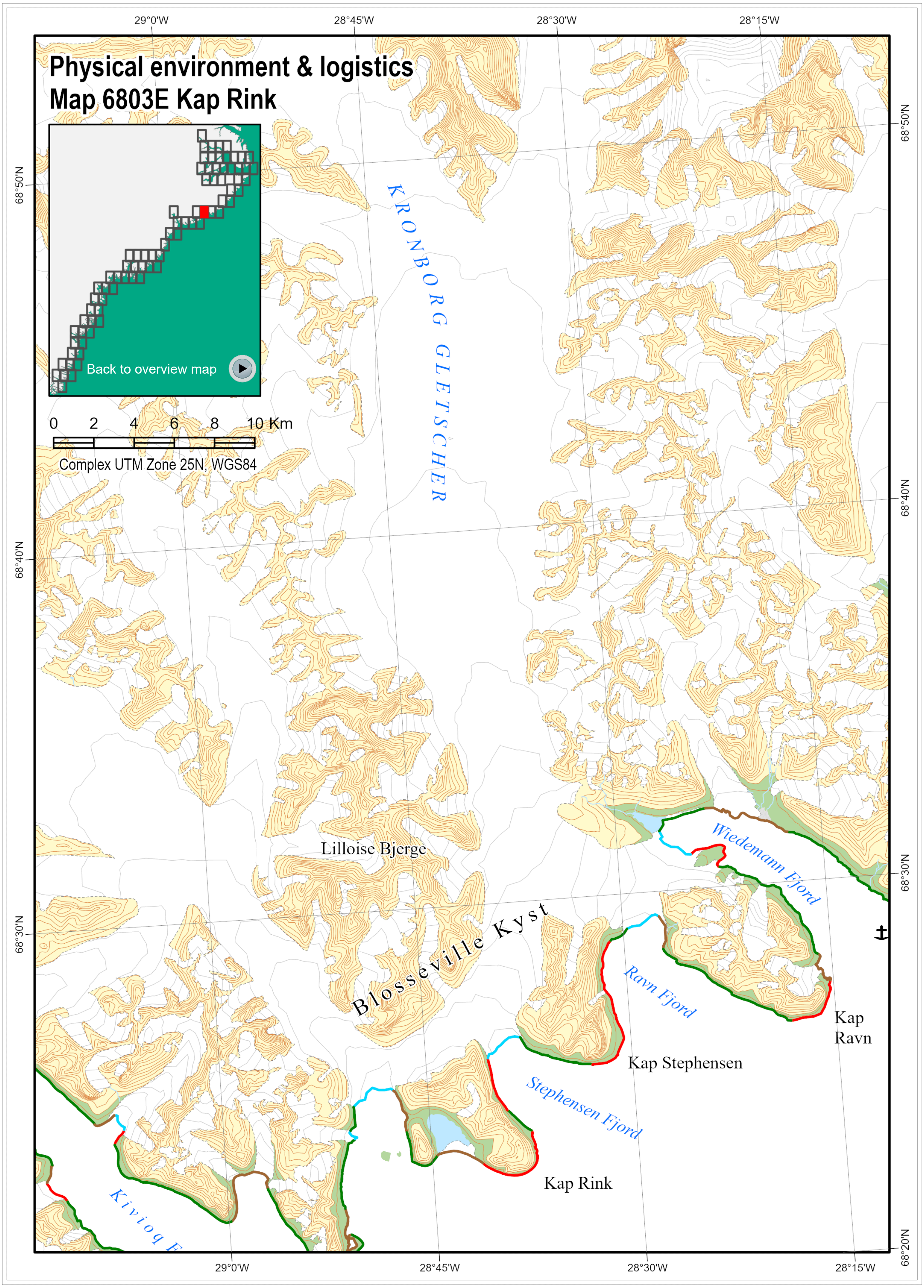
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

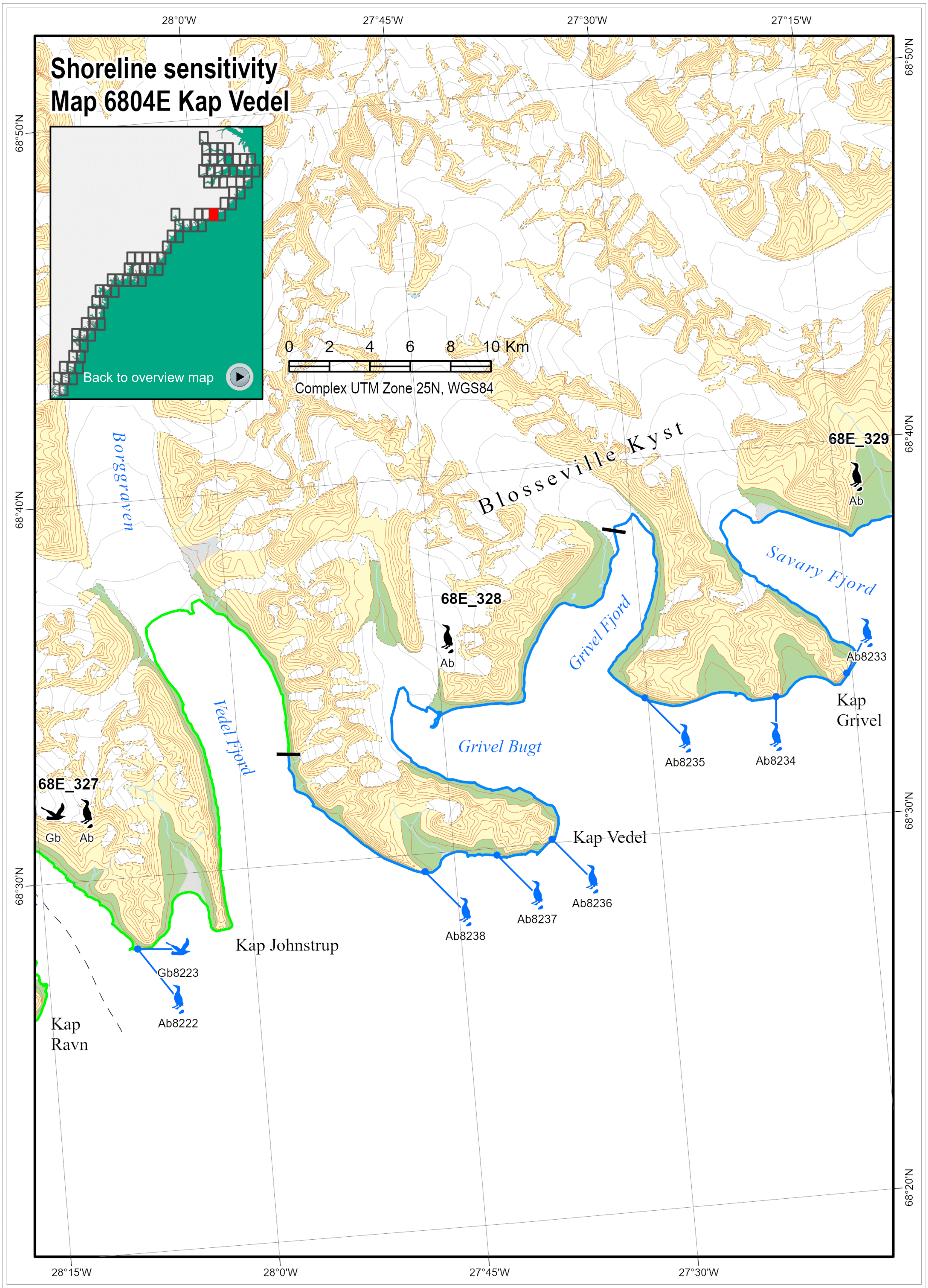
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

Physical environment & logistics
Map 6803E Kap Rink





Shoreline sensitivity
Map 6804E Kap Vedel
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°0'W
27°45'W
27°30'W
27°15'W
28°15'W
68°50'N
68°40'N
68°30'N
68°20'N
Borggraven
Blosseville Kyst
68E_329
Ab
Savary Fjord
68E_328
Grivel Fjord
Ab8233
Kap
Grivel
Grivel Bugt
Ab8235
Ab8234
Vedel Fjord
68E_327
Gb
Kap Vedel
Ab8236
Ab8237
Ab8238
Kap Johnstrup
Gb8223
Ab8222
Kap
Ravn

8.50 Map 6804E – Kap Vedel

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

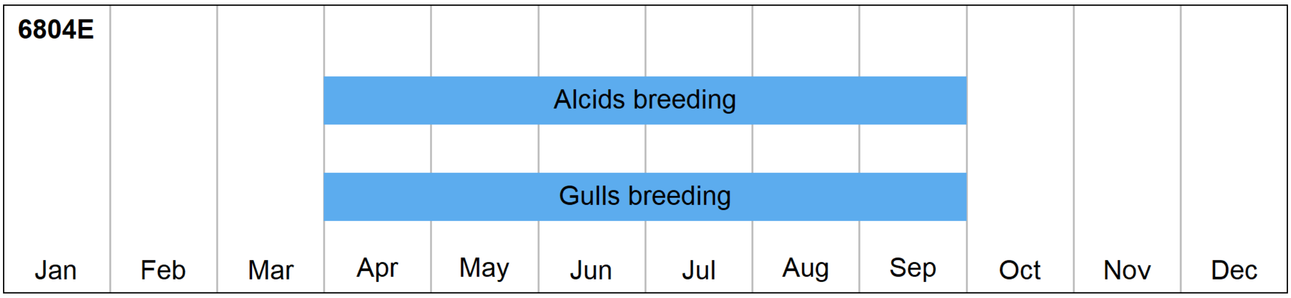
Gb68E_326	1 colony of glaucous gulls
Ab68E_328	3 colonies of black guillemots
Ab68E_329	4 colonies of black guillemots
Ab68E_327	1 colony of black guillemots
Ab68E_326	2 colonies of black guillemots
Gb68E_327	1 colony of glaucous gulls and 1 colony of Iceland gulls

Site specific occurrence: blue icons

Ab8222	Breeding black guillemots
Ab8233 – Ab8238	Breeding black guillemots
Gb8223	Breeding Iceland gulls and glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_326	13	Moderate
68E_327	13	Moderate
68E_328	12	Low
68E_329	6	Low



Physical environment and logistics, 6804E – Kap Vedel

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2400). Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

It is possible to anchor on the E side of Wiedemann Fjord (Appendix E).

Shorelines in this area are predominantly talus, with some rock, moraine, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

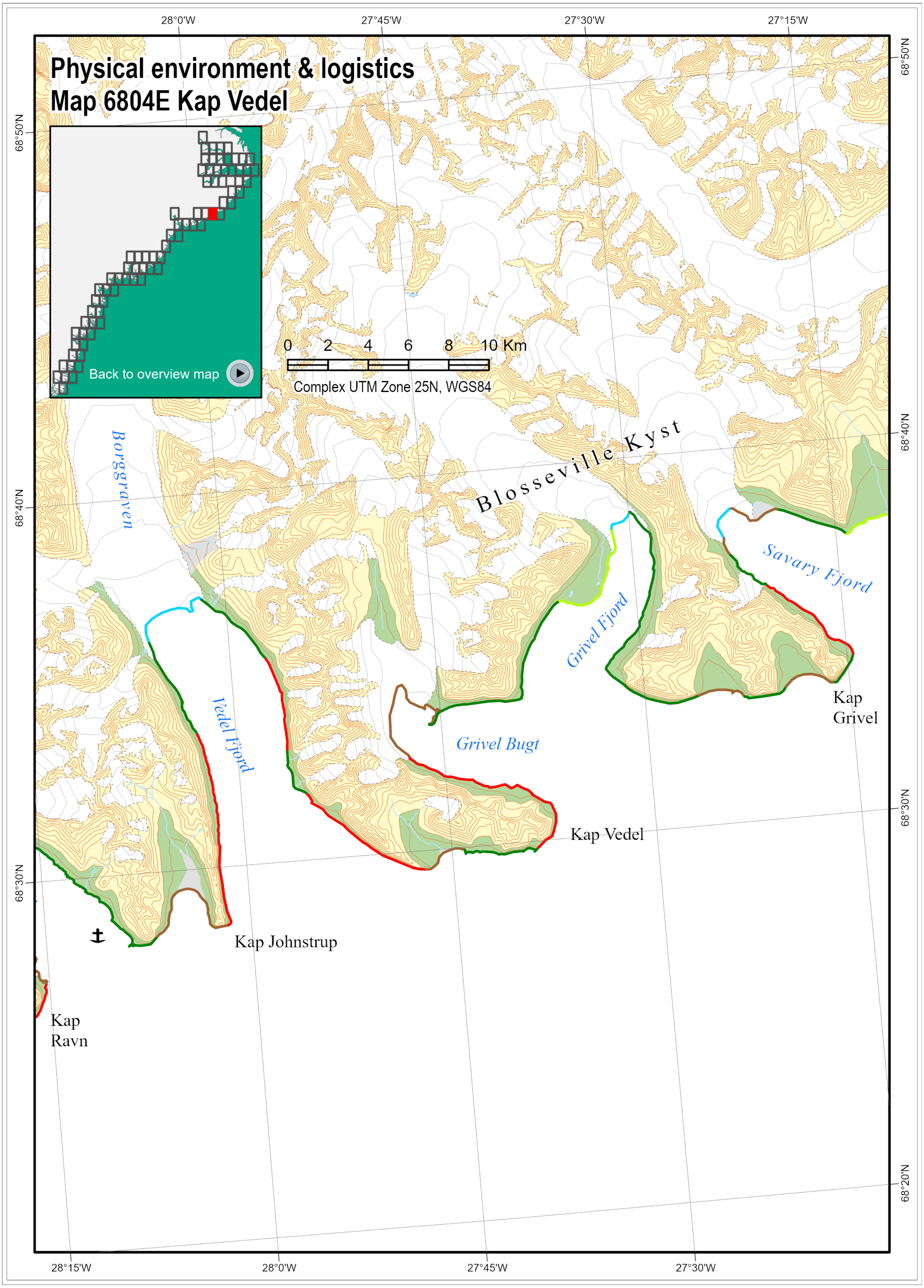
There are no opportunities for nearshore booming in this map area.

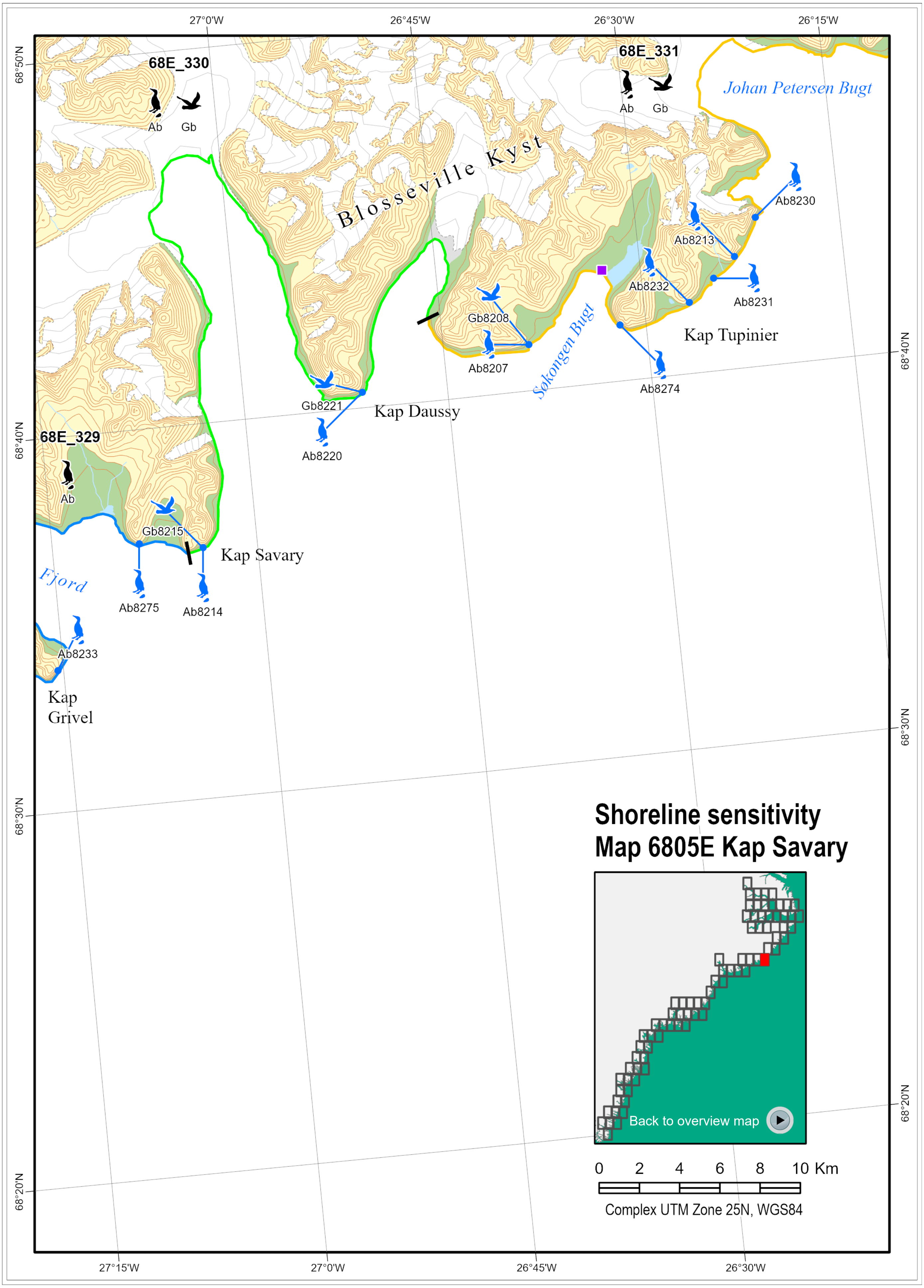
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly talus, with some rock, moraine, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6804E Kap Vedel
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°0'W
27°45'W
27°30'W
27°15'W
68°50'N
68°40'N
68°30'N
68°20'N
28°15'W
Borggraven
Blosseville Kyst
Savary Fjord
Grivel Fjord
Vedel Fjord
Grivel Bugt
Kap Grivel
Kap Vedel
Kap Johnstrup
Kap Ravn


27°0'W
26°45'W
26°30'W
26°15'W
68°50'N
68°40'N
68°30'N
68°20'N
27°15'W
68E_330
Ab
Gb
68E_331
Johan Petersen Bugt
Blosseville Kyst
Ab8230
Ab8213
Ab8232
Ab8231
Gb8208
Ab8207
Søkongen Bugt
Kap Tupinier
Ab8274
Gb8221
Kap Daussy
Ab8220
68E_329
Gb8215
Kap Savary
Fjord
Ab8275
Ab8214
Ab8233
Kap
Grivel
Shoreline sensitivity
Map 6805E Kap Savary
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.51 Map 6805E – Kap Savary

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

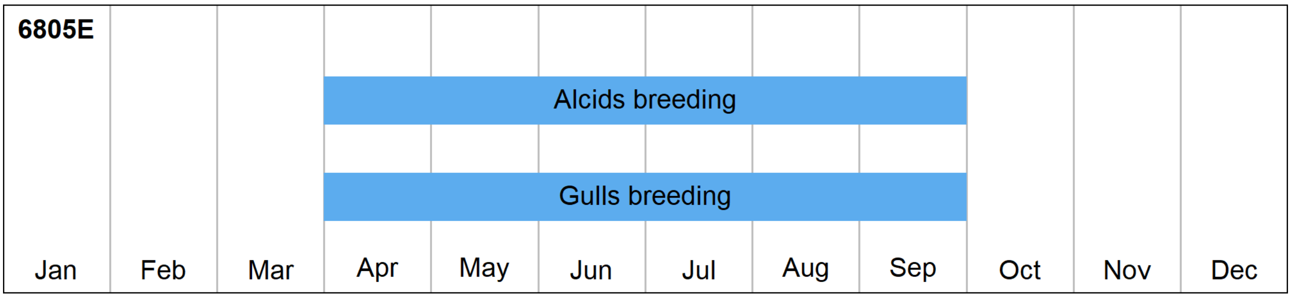
Gb68E_331	1 colony of glaucous gulls
Ab68E_329	4 colonies of black guillemots
Ab68E_330	2 colonies of black guillemots
Ab68E_331	6 colonies of black guillemots
Gb68E_330	2 colonies of glaucous gulls and 1 colony of Iceland gulls

Site specific occurrence: blue icons

Ab8207, Ab8213	Breeding black guillemots
Ab8214, Ab8220	Breeding black guillemots
Ab8230 – Ab8233	Breeding black guillemots
Ab8274, Ab8275	Breeding black guillemots
Gb8208, Gb8215	Breeding glaucous gulls
Gb8221	Breeding Iceland gulls and glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_329	6	Low
68E_330	16	Moderate
68E_331	21	High



Physical environment and logistics, 6805E – Kap Savary

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

It is possible to anchor in Søkongen Bugt (Appendix E).

Shorelines in this area are predominantly talus, with some rock, moraine, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

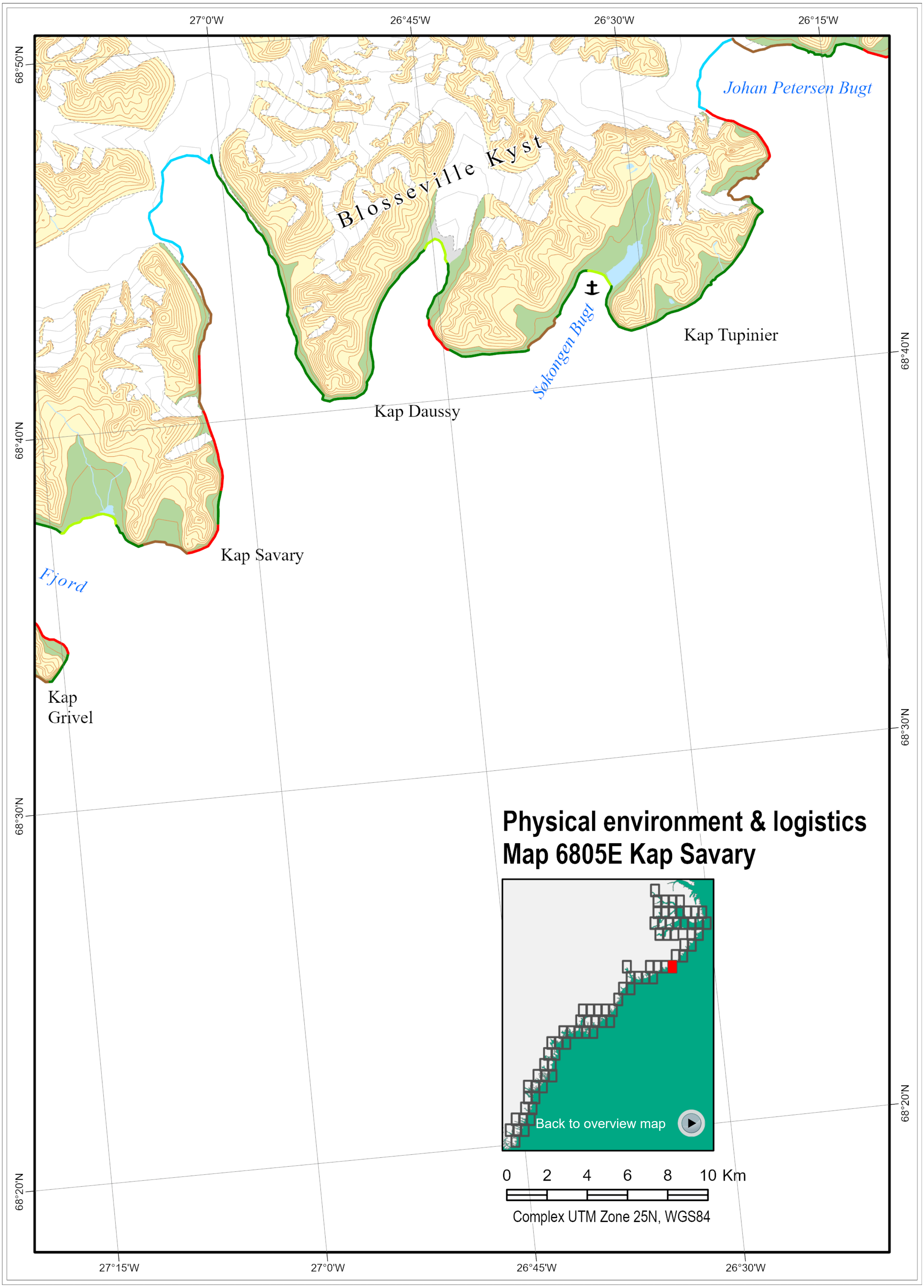
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

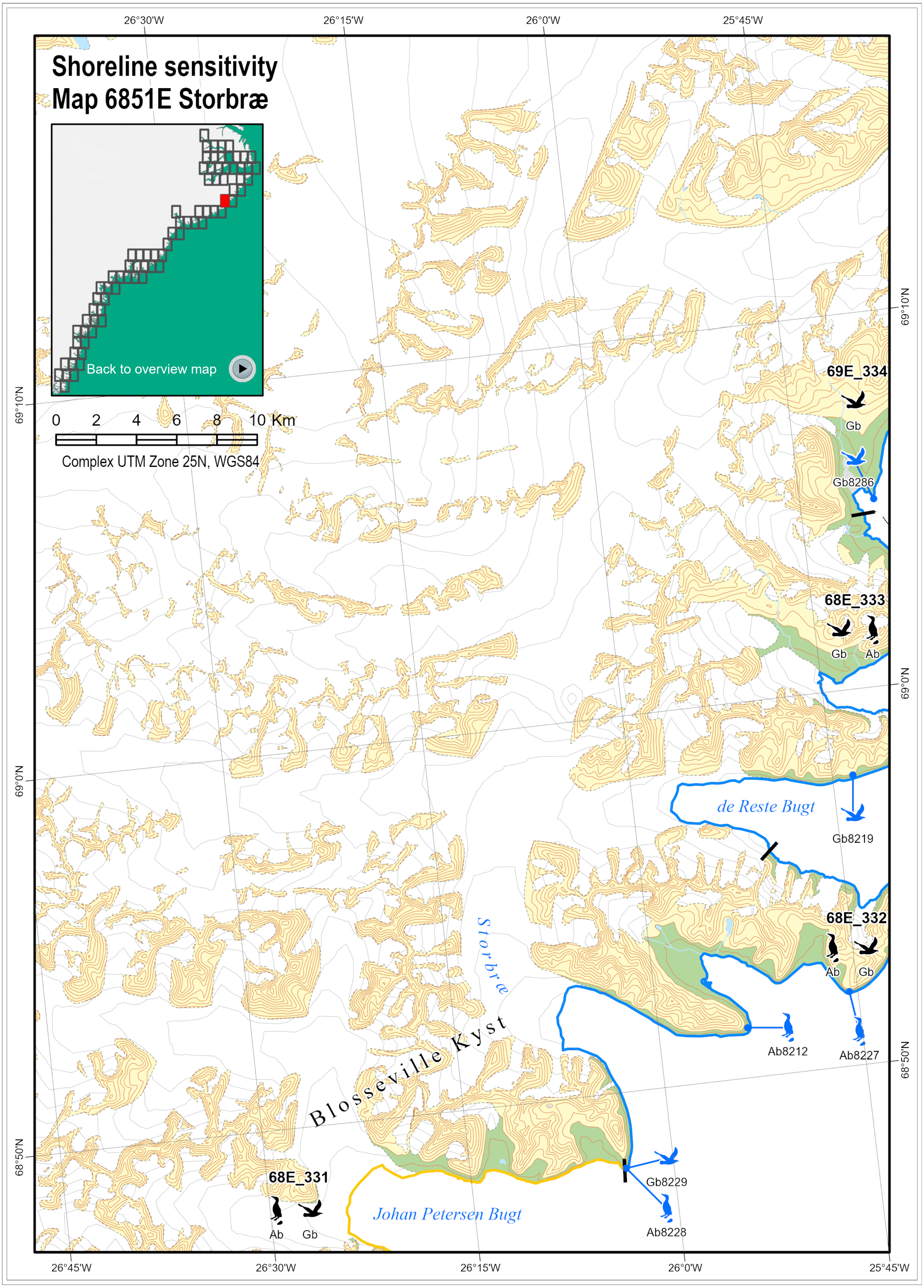
Shorelines shown on this map are predominantly talus, with some rock, moraine, and glacier with relatively high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6805E Kap Savary
27°0'W
26°45'W
26°30'W
26°15'W
27°15'W
68°50'N
68°40'N
68°30'N
68°20'N
Johan Petersen Bugt
Blosseville Kyst
Kap Tupinier
Søkongen Bugt
Kap Daussy
Kap Savary
Fjord
Kap
Grivel
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 6851E Storbræ
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
26°30'W
26°15'W
26°0'W
25°45'W
26°45'W
69°10'N
69°0'N
68°50'N
69E_334
Gb
Gb8286
68E_333
Gb
Ab
de Reste Bugt
Gb8219
68E_332
Ab
Gb
Ab8212
Ab8227
Storbræ
Blosseville Kyst
Gb8229
Ab8228
68E_331
Ab
Gb
Johan Petersen Bugt

8.52 Map 6851E – Storbrœ

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

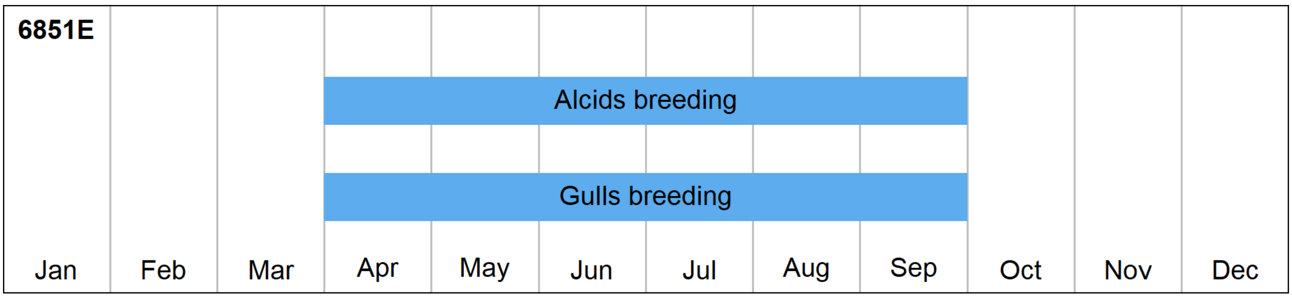
Gb68E_332	2 colonies of glaucous gulls
Gb68E_331, Gb69E_334	1 colony of glaucous gulls
Ab68E_331	6 colonies of black guillemots
Ab68E_332	4 colonies of black guillemots
Ab68E_333	1 colony of black guillemots
Gb68E_333	2 colonies of glaucous gulls

Site specific occurrence: blue icons

Ab8212, Ab8227	Breeding black guillemots
Ab8228	Breeding black guillemots
Gb8219	Breeding glaucous gulls
Gb8229, Gb8286	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_331	21	High
68E_332	12	Low
68E_333	9	Low
69E_334	3	Low



Physical environment and logistics, 6851E – Storbræ

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year, the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly talus, with some rock, moraine, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

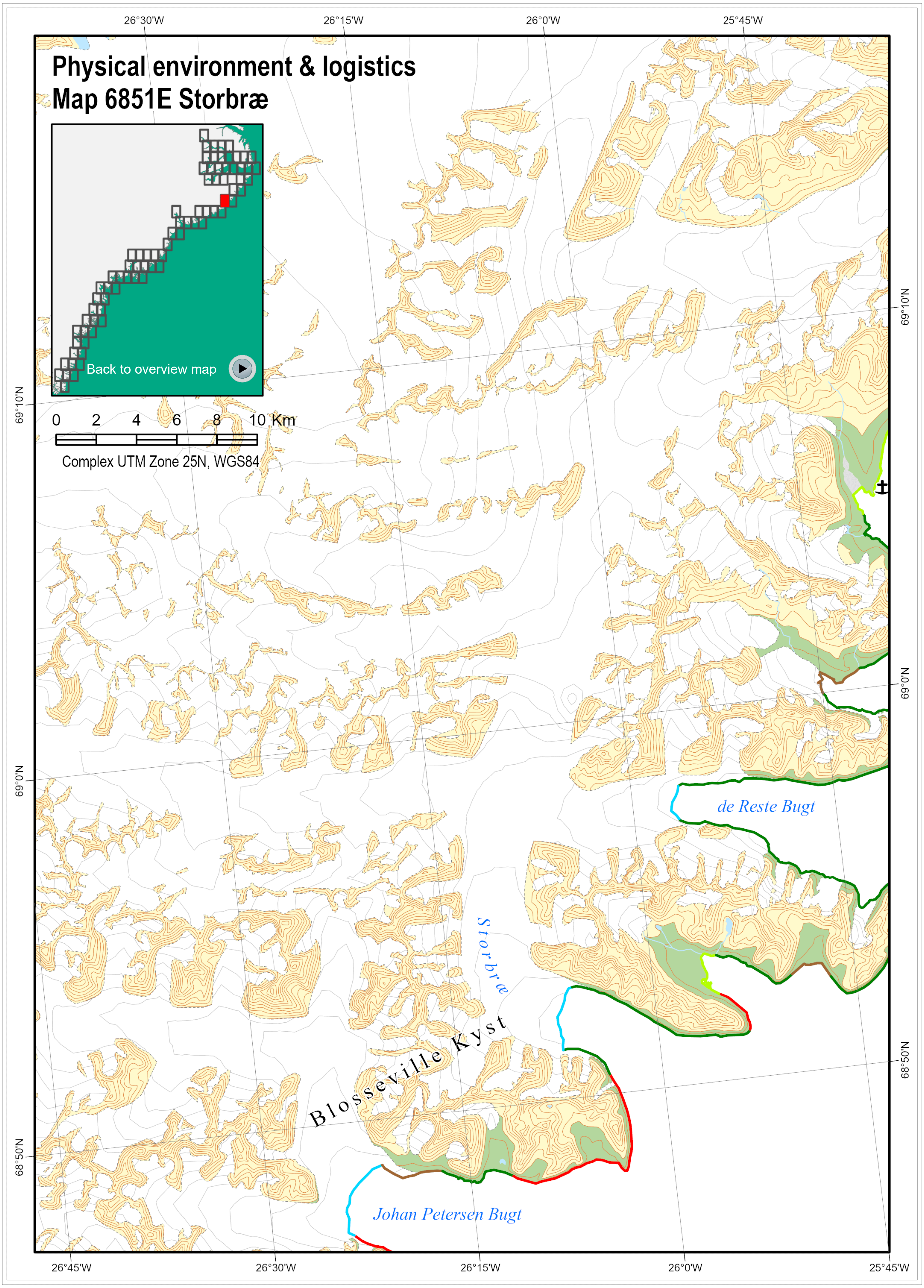
Should oil approach this area, consideration should be given to using one or more of the several moderately sensitive shorelines at the head of the fjords to limit the overall contamination.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

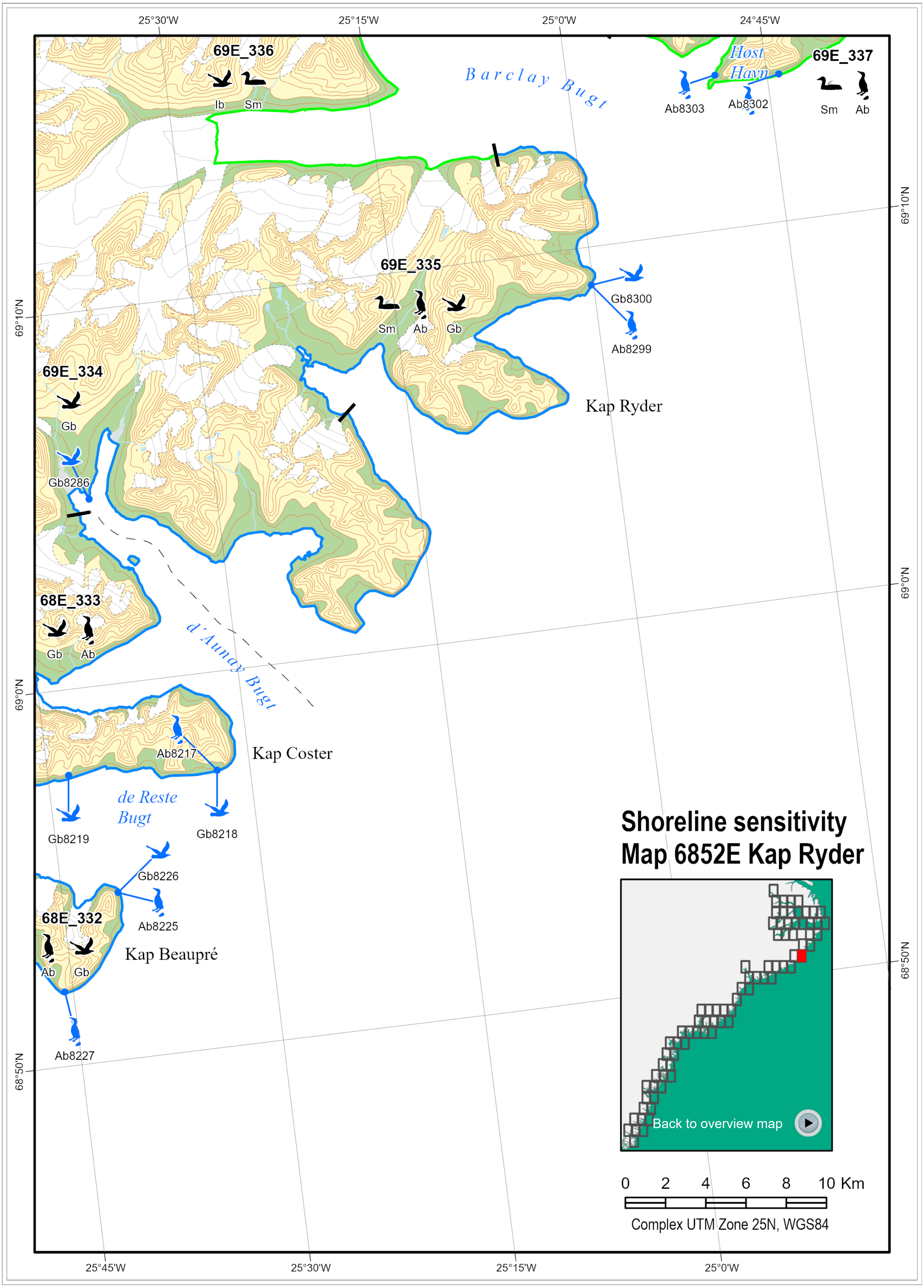
Shorelines shown on this map are predominantly talus, with some rock, moraine, and glacier with relatively high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 6851E Storbræ
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
26°30'W
26°15'W
26°0'W
25°45'W
26°45'W
69°10'N
69°0'N
68°50'N
de Reste Bugt
Storbræ
Blosseville Kyst
Johan Petersen Bugt



Shoreline sensitivity
Map 6852E Kap Ryder
25°30'W
25°15'W
25°0'W
24°45'W
25°45'W
69°10'N
69°0'N
68°50'N
Barclay Bugt
Høst Havn
69E_336
Ib
Sm
69E_337
Ab8303
Ab8302
Sm
Ab
69E_335
Sm
Ab
Gb
Gb8300
Ab8299
Kap Ryder
69E_334
Gb
Gb8286
68E_333
Gb
Ab
d'Aunay Bugt
Ab8217
Kap Coster
de Reste Bugt
Gb8219
Gb8218
Gb8226
Ab8225
68E_332
Ab
Gb
Kap Beaupré
Ab8227
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.53 Map 6852E – Kap Ryder

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

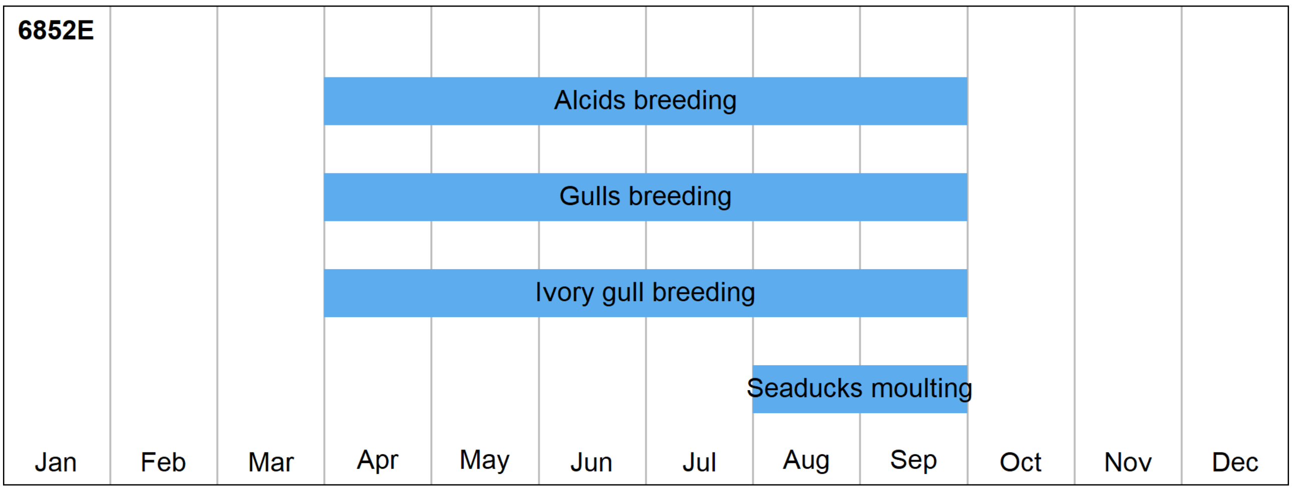
Gb68E_332	2 colonies of glaucous gulls
Gb69E_334, Gb69E_335	1 colony of glaucous gulls
Ab68E_332	4 colonies of black guillemots
Ab68E_333	1 colony of black guillemots
Ab69E_337	2 colonies of black guillemots
Ab69E_335	1 colony of black guillemots
Gb68E_333	2 colonies of glaucous gulls
Ib69E_336	1 colony of ivory gulls
Sm69E_335 – Sm69E_337	Common eider and king eider moulting

Site specific occurrence: blue icons

Ab8217, Ab8225	Breeding black guillemots
Ab8227, Ab8299	Breeding black guillemots
Ab8302, Ab8303	Breeding black guillemots
Gb8218, Gb8219	Breeding glaucous gulls
Gb8226	Breeding glaucous gulls
Gb8286, Gb8300	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
68E_332	12	Low
68E_333	9	Low
69E_334	3	Low
69E_335	10	Low
69E_336	16	Moderate
69E_337	13	Moderate



Physical environment and logistics, 6852E – Kap Ryder

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

The head of d'Aunay Bugt (ca 69°00'N, 25°30'W) is divided into three branches. The W branch is generally full of icebergs and the NE branch is open to the prevailing swell. The center branch, which has an islet lying in its entrance, offers excellent anchorage near its head. Vessels can anchor, in a depth of about 27 m, soft mud, sheltered from all quarters. In this branch, as soon as the soundings shoal from 73 to 55 m, the depths decrease very rapidly and caution is necessary when anchoring.

Barclay Bugt extends WNW for about 14 km and is often filled with glacier ice in summer.

Høst Havn, an inlet located on the W side of the promontory terminating in Kap Barclay (on map area 6901), is reported to afford sheltered anchorage, in depths of 13 to 20 m, clay.

Shorelines in this area are predominantly rock and talus, with some moraine and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

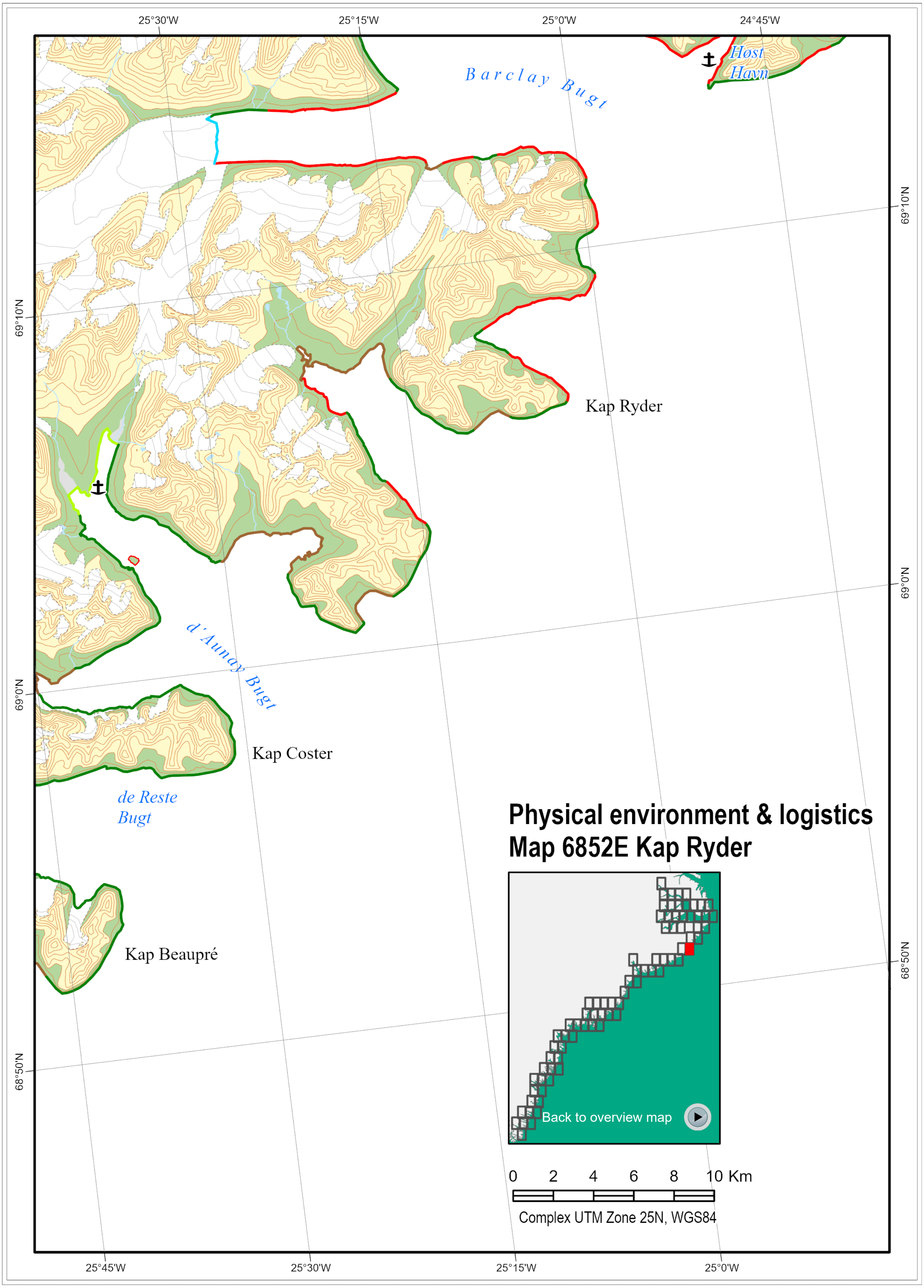
There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.


25°30'W
25°15'W
25°0'W
24°45'W
Barclay Bugt
Høst Havn
69°10'N
Kap Ryder
69°0'N
d'Aunay Bugt
Kap Coster
de Reste Bugt
Kap Beaupré
68°50'N
Physical environment & logistics
Map 6852E Kap Ryder
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°45'W
25°30'W
25°15'W
25°0'W

Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

Consideration as a *safe haven* could be given to the anchorage at d'Aunay Bugt given its relatively moderate sensitivity; exclusion booming would be impossible due to the inlet width but natural containment may be afforded by the shape of the channel depending on wind and tidal conditions.

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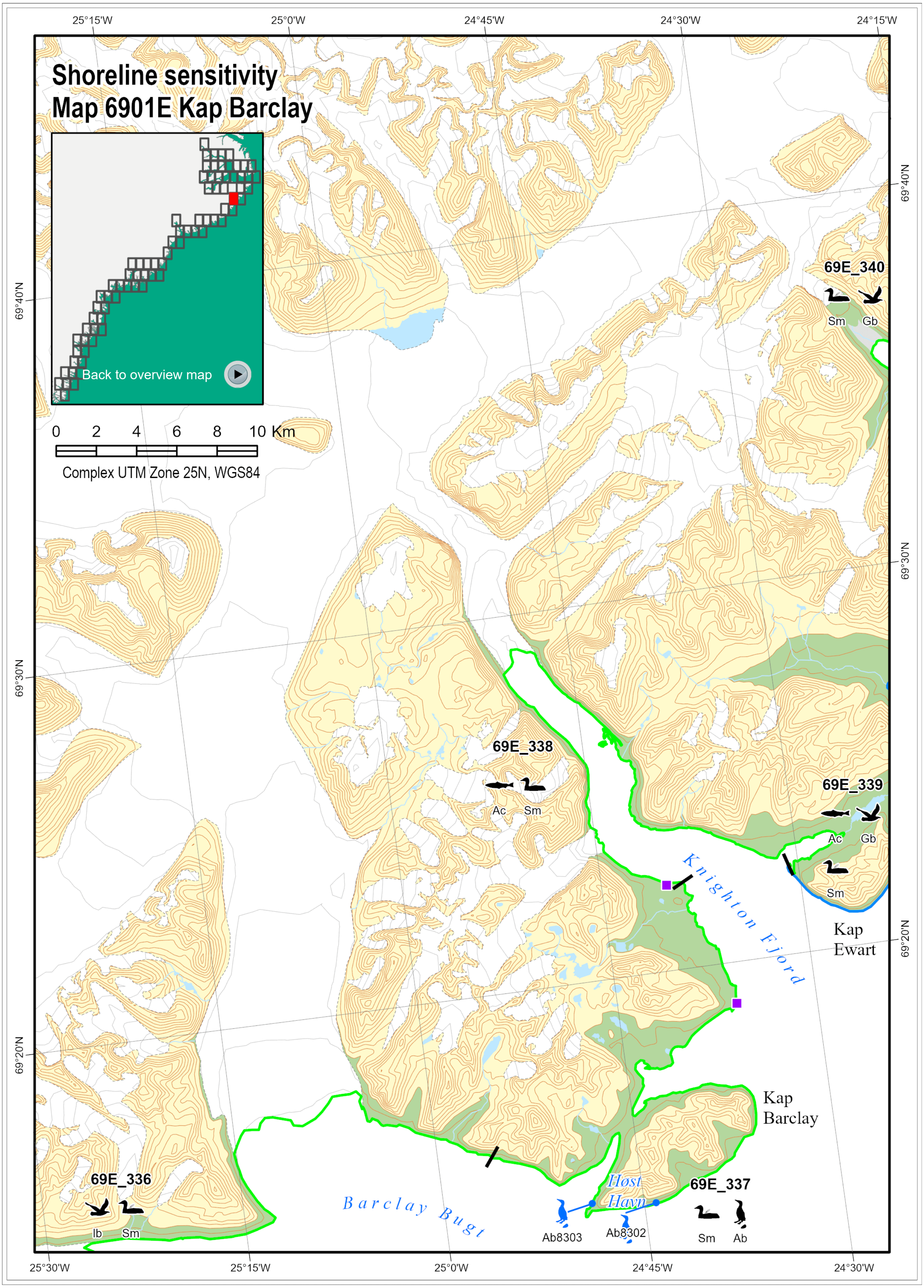

Shoreline sensitivity
Map 6901E Kap Barclay
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°15'W
25°0'W
24°45'W
24°30'W
24°15'W
25°30'W
69°40'N
69°30'N
69°20'N
69E_340
Sm
Gb
69E_338
Ac
Sm
69E_339
Ac
Gb
Sm
Knighton Fjord
Kap Ewart
Kap Barclay
Barclay Bugt
Høst Havn
69E_337
Ab8303
Ab8302
Sm
Ab
69E_336
Ib
Sm

8.54 Map 6901E – Kap Barclay

Shoreline sensitivity map

Human use

Small scale hunting/fishing and leasure trips are presumed to take place on rare occasions

Species occurrence

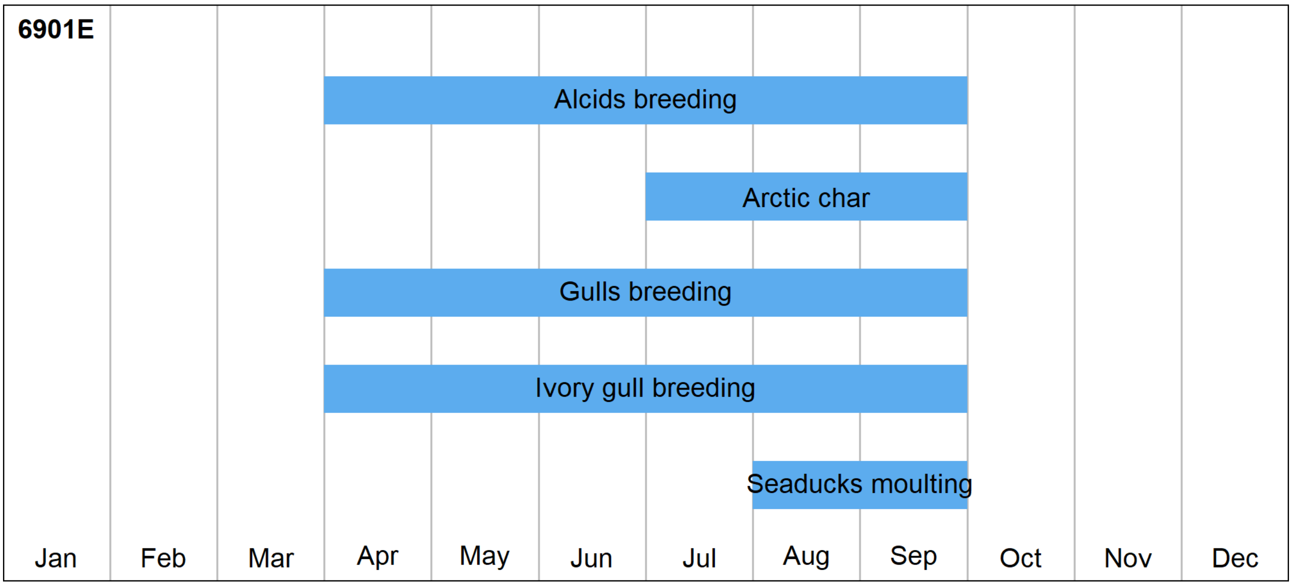
Ab69E_337	2 colonies of black guillemots
Ac69E_338, Ac69E_339	Important Arctic char river
Gb69E_339	2 colonies of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Gb69E_340	1 colony of glaucous gulls
Ib69E_336	1 colony of ivory gulls
Sm69E_336 – Sm69E_340	Common eider and king eider moulting

Site specific occurrence: blue icons

Ab8302, Ab8303	Breeding black guillemots

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
69E_336	16	Moderate
69E_337	13	Moderate
69E_338	14	Moderate
69E_339	11	Low
69E_340	13	Moderate



Physical environment and logistics, 6901E – Kap Barclay

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

Barclay Bugt extends WNW for about 14 km and is often filled with glacier ice in summer.

Høst Havn, an inlet located on the W side of the promontory terminating in Kap Barclay, is reported to afford sheltered anchorage, in depths of 13 to 20 m, clay.

Vessels can obtain sheltered anchorage in an inlet that extends 3 km NNE from close NW of Kap Ewart in a depth of about 20 m, mud. Its entrance is narrowed by a spit that extends from the SE shore (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures

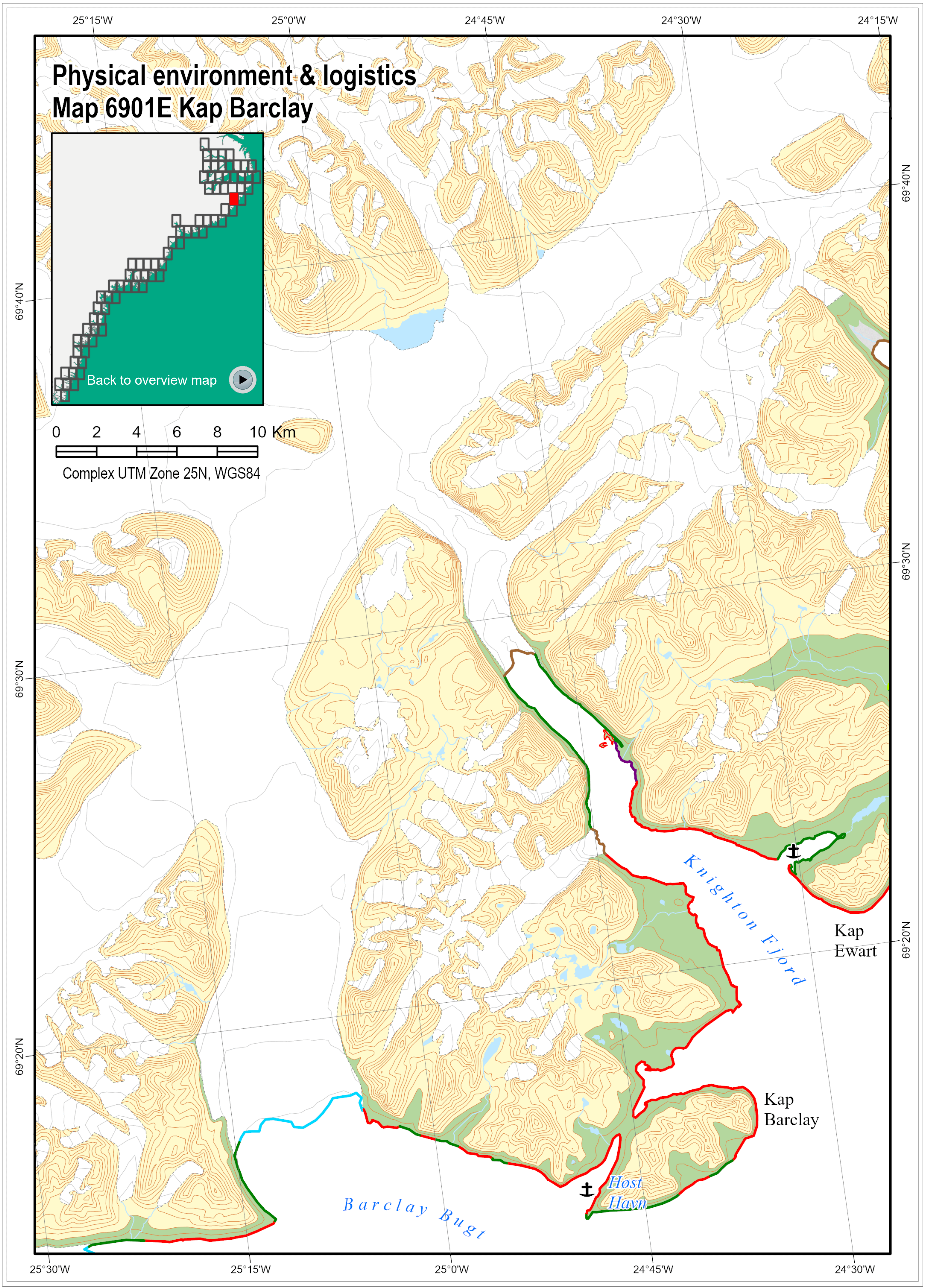
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.



Physical environment & logistics
Map 6901E Kap Barclay
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°15'W
25°0'W
24°45'W
24°30'W
24°15'W
25°30'W
25°15'W
25°0'W
24°45'W
24°30'W
69°40'N
69°30'N
69°20'N
69°40'N
69°30'N
69°20'N
Knighton Fjord
Kap
Ewart
Kap
Barclay
Høst
Havn
Barclay Bugt

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

The anchorage identified near Kap Ewart could be considered as a potential *safe haven* given its relatively moderate sensitivity rating. Exclusion booming would be impractical due to the width of the channel; however, the shape of the channel may afford natural containment depending on wind direction and tidal streams.

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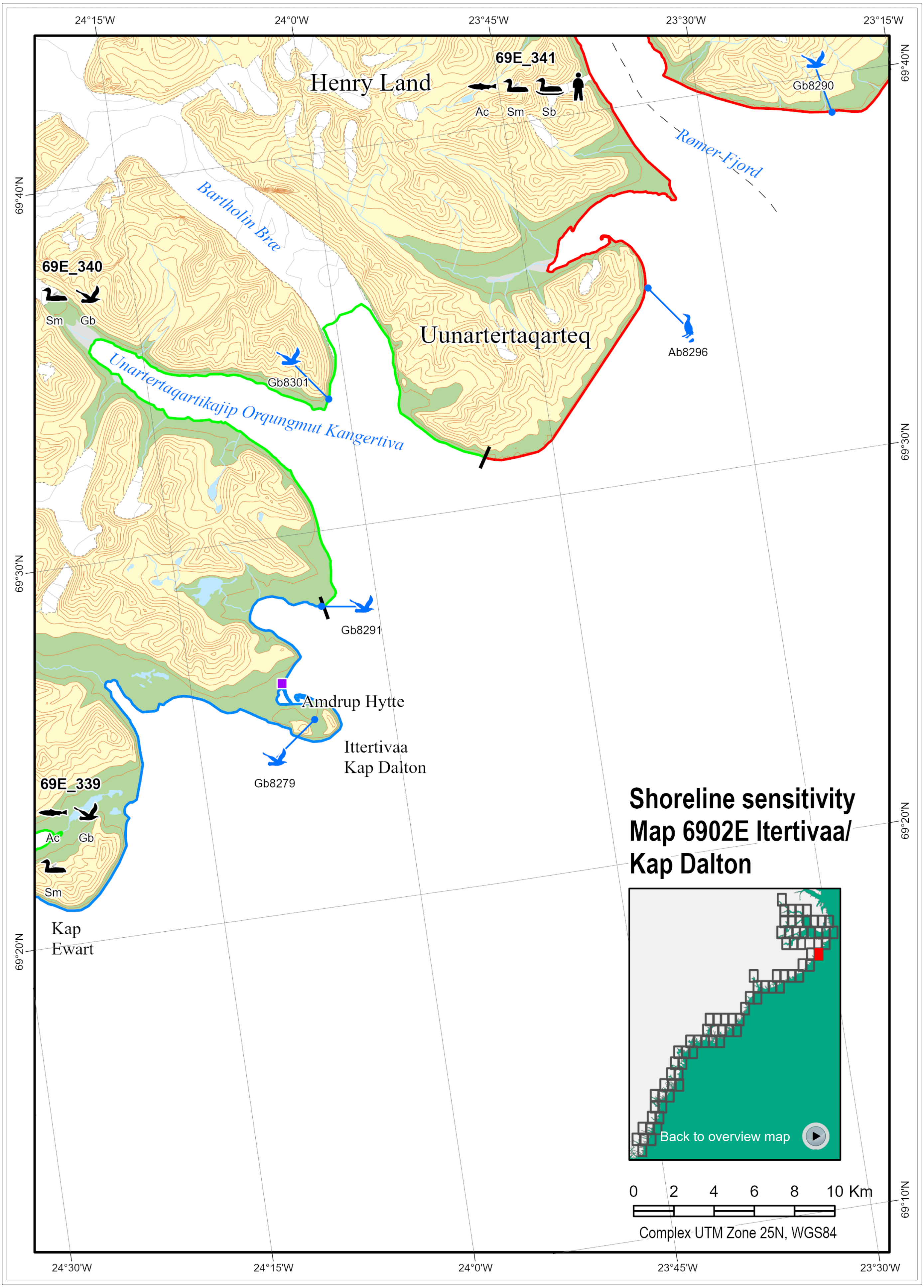

24°15'W
24°0'W
23°45'W
23°30'W
23°15'W
69°40'N
69°30'N
69°20'N
69°10'N
Henry Land
69E_341
Ac
Sm
Sb
Rømer Fjord
Gb8290
Bartholin Bræ
69E_340
Sm
Gb
Uunartertaqarteq
Ab8296
Gb8301
Unartertaqartikajip Orqungmut Kangertiva
Gb8291
Amdrup Hytte
Ittertivaa
Kap Dalton
Gb8279
69E_339
Ac
Gb
Sm
Kap
Ewart
Shoreline sensitivity
Map 6902E Itertivaa/
Kap Dalton
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°30'W
24°15'W
24°0'W
23°45'W
23°30'W

8.55 Map 6902E – Itertivaa/Kap Dalton

Shoreline sensitivity map

Human use

69E_341, 69E_343	The area around Rømer Fjord og Immikkeertikajik (Turner Ø) is a highly important narwhal hunting site during Jun-Sep. A few polar bear catches have been reported from the same period.

Species occurrence

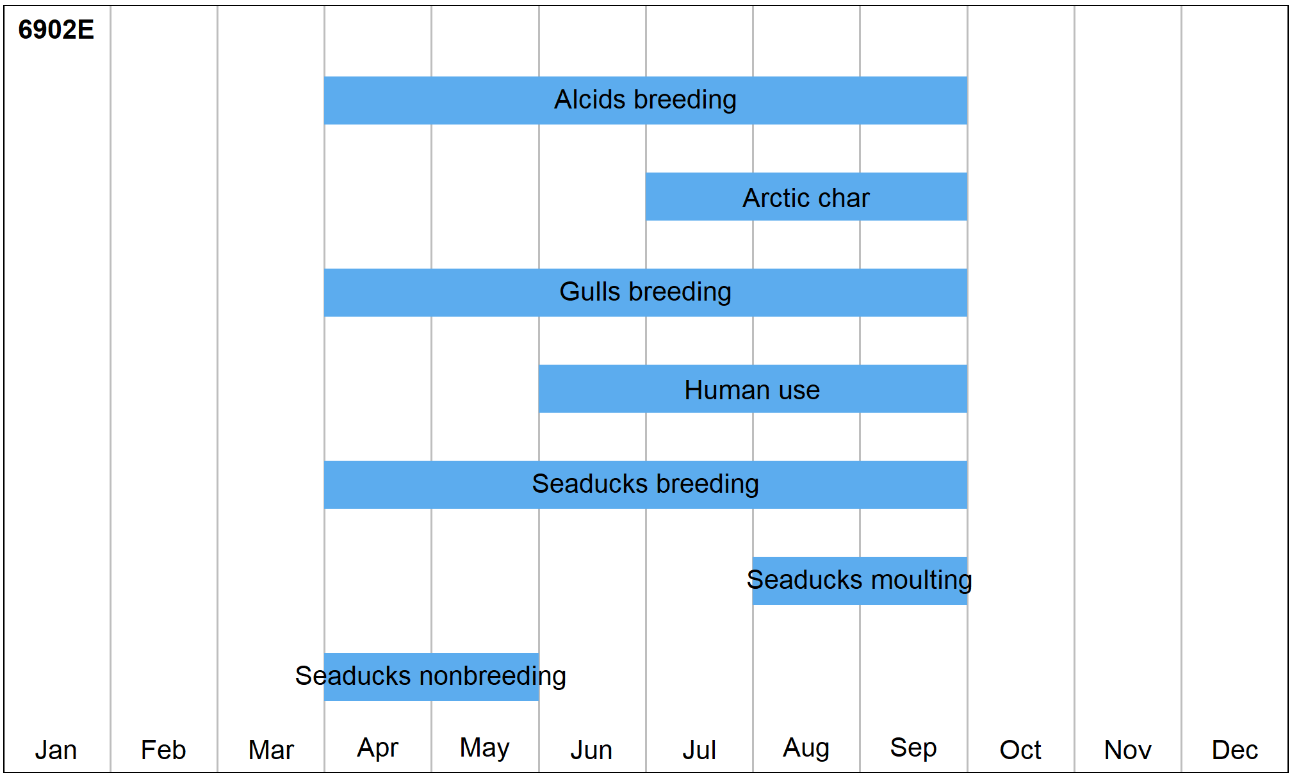
Sb69E_341	1 colony of common eiders
Ac69E_338, Ac69E_339	Important Arctic char river
Ac69E_341, Ac69E_343	Important Arctic char river
Gb69E_340, Gb69E_343	1 colony of glaucous gulls
Gb69E_339	2 colonies of glaucous gulls, 1 colony of lesser black-backed gulls and 1 colony of Iceland gulls
Sm69E_338 – Sm69E_341	Common eider and king eider moulting
Sn69E_343	Spring concentrations of common eider and king eider

Site specific occurrence: blue icons

Ab8296	Breeding black guillemots
Gb8279, Gb8290	Breeding glaucous gulls
Gb8301	Breeding glaucous gulls
Gb8291	Breeding lesser black-backed gulls, glaucous gulls and Iceland gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
69E_338	14	Moderate
69E_339	11	Low
69E_340	13	Moderate
69E_341	33	Extreme
69E_343	30	Extreme



Physical environment and logistics, 6902E – Itertivaa/Kap Dalton

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

Driftice occur winter, spring and early summer and in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

Vessels can obtain sheltered anchorage in an inlet that extends 3 km NNE from close NW of Kap Ewart in a depth of about 20 m, mud. Its entrance is narrowed by a spit that extends from the SE shore.

Amdrup Hytte is an old expedition house, now almost a ruin. It is possible to anchor here (Appendix E).

Rømer Fjord has been used as shelter for the driftice (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

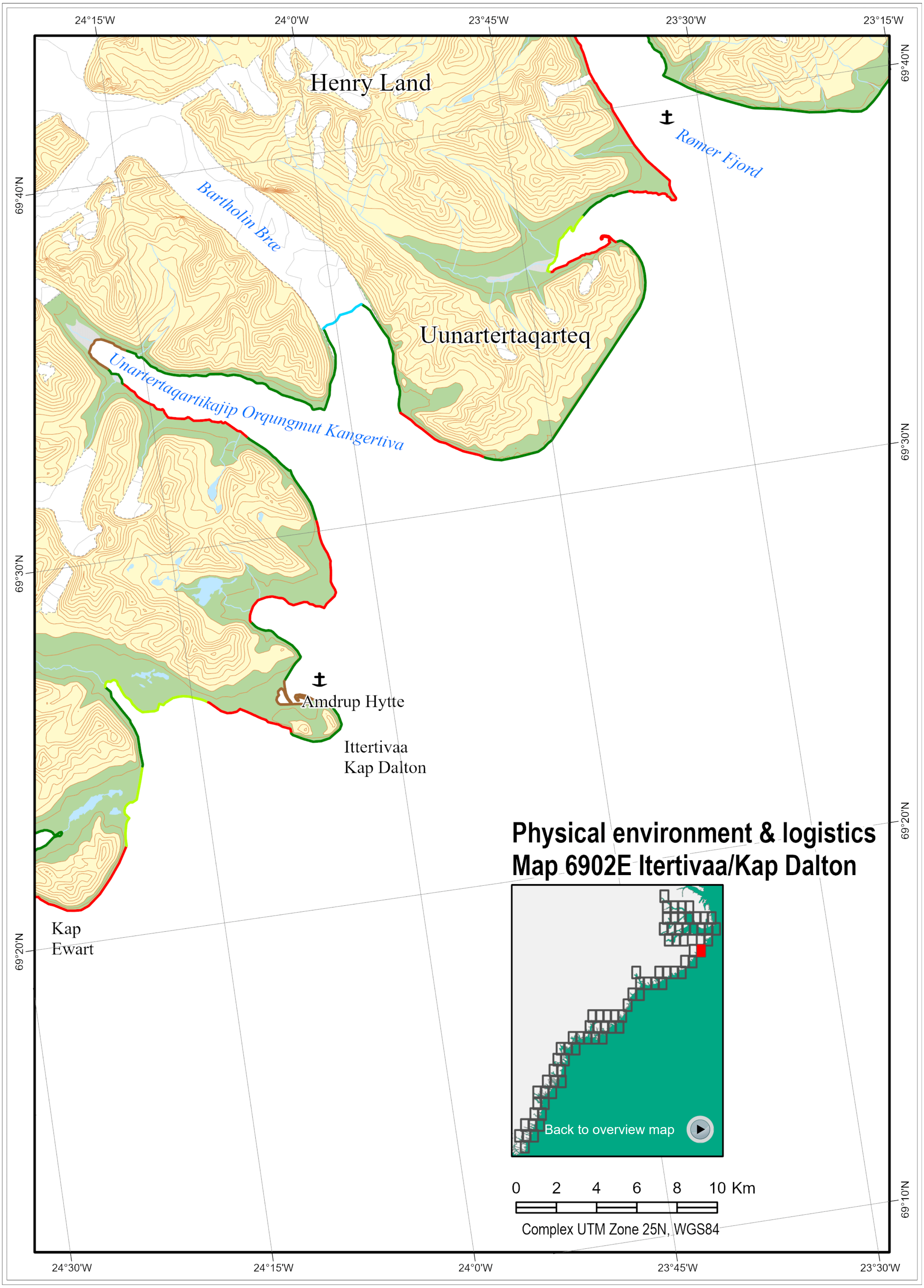
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.


Henry Land
Rømer Fjord
Bartholin Bræ
Uunartertaqarteq
Unartertaqartikajip Orqungmut Kangertiva
Amdrup Hytte
Ittertivaa
Kap Dalton
Kap
Ewart
Physical environment & logistics
Map 6902E Itertivaa/Kap Dalton
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°15'W
24°0'W
23°45'W
23°30'W
23°15'W
24°30'W
69°40'N
69°30'N
69°20'N
69°10'N

Safe Havens
There are no potential *safe havens* identified on this map.

The anchorage identified near Kap Ewart could be considered as a potential *safe haven* given its relatively moderate sensitivity rating. Exclusion booming would be impractical due to the width of the channel; however, the shape of the channel may afford natural containment depending on wind direction and tidal streams.

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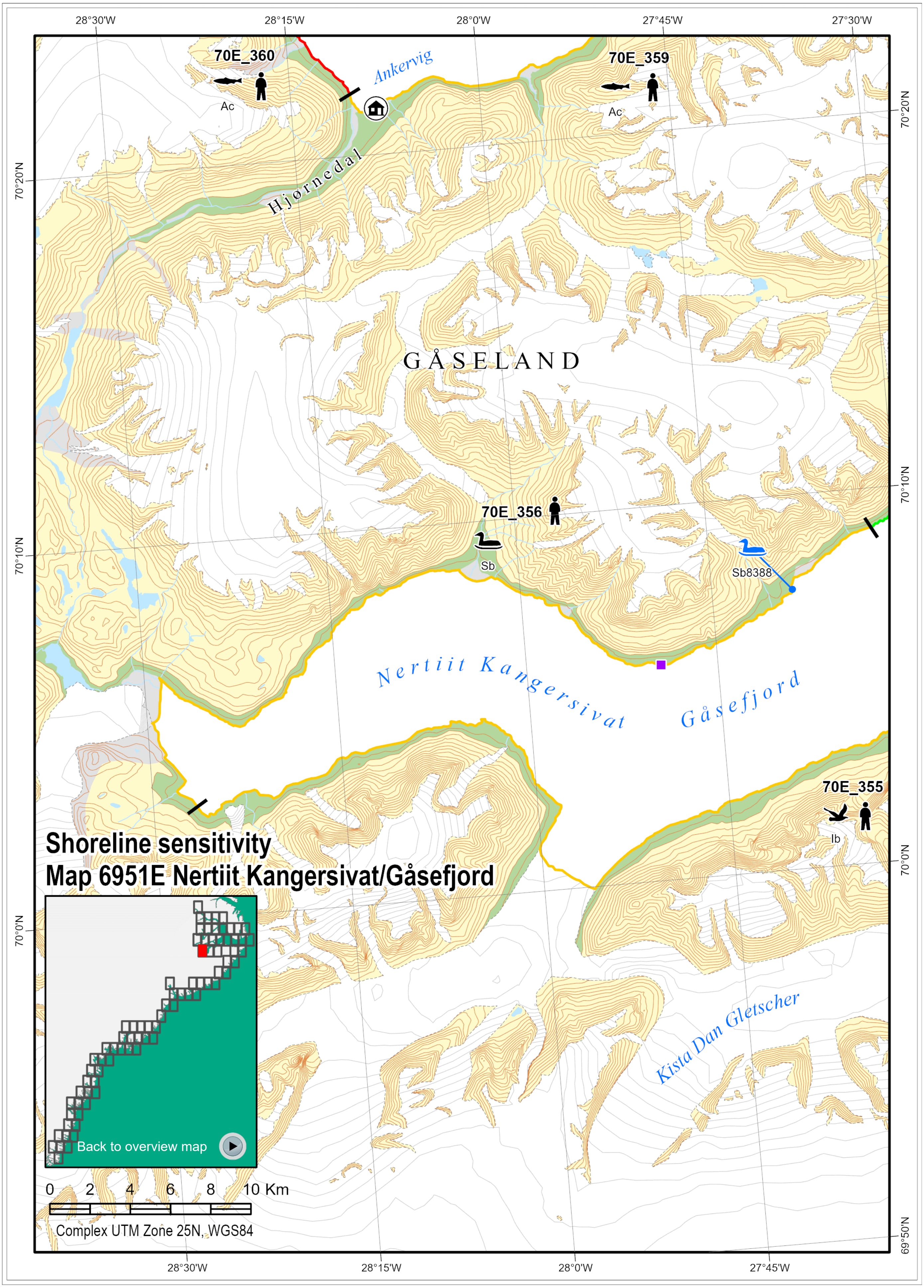


28°30'W
28°15'W
28°0'W
27°45'W
27°30'W
70°20'N
70°10'N
70°0'N
69°50'N
70E_360
Ac
Ankervig
70E_359
Ac
Hjørnedal
GÅSELAND
70E_356
Sb
Sb8388
Nertiit Kangersivat
Gåsefjord
70E_355
Ib
Shoreline sensitivity
Map 6951E Nertiit Kangersivat/Gåsefjord
Back to overview map
Kista Dan Gletscher
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.56 Map 6951E – Nertiit Kangersivat/Gåsefjord

Shoreline sensitivity map

Human use

70E_355 – 70E_357	Nertiit Kangersivat (Gåsefjord) is an extremely important narwhal hunting area during the open water season (Jul-Sep). Tourism in the area during summer.
70E_359, 70E_360	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Ankervig/Hjørnedal is also a reaserch site.

Species occurrence

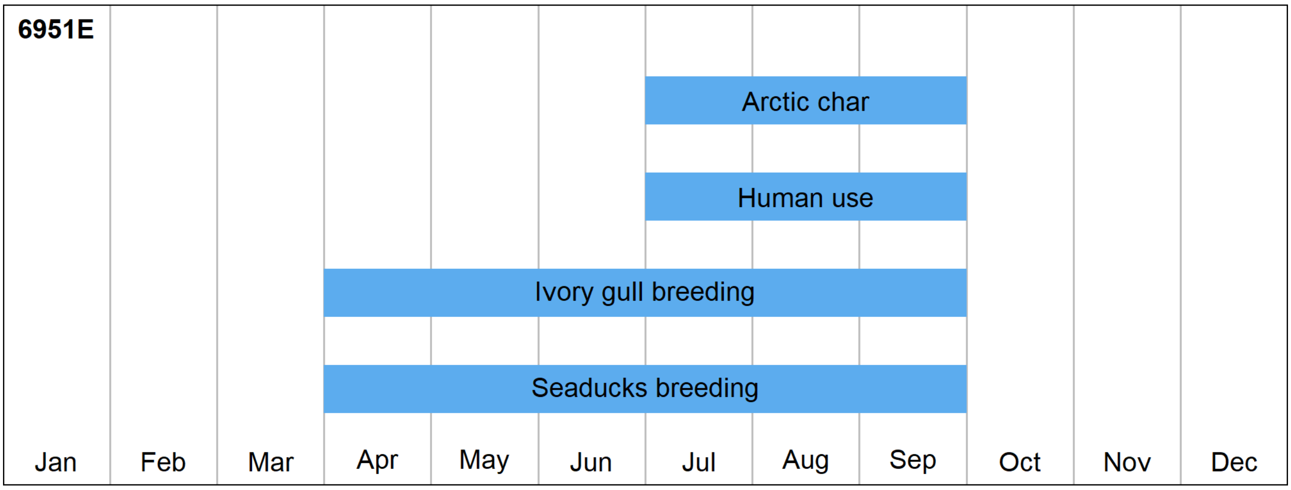
Ac70E_359Ac70E_360	Important Arctic char river
Ib70E_355	1 colony of ivory gulls
Sb70E_356	1 colony of common eiders

Site specific occurrence: blue icons

Sb8388	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_355	21	High
70E_356	22	High
70E_357	16	Moderate
70E_359	25	High
70E_360	25	Extreme



Physical environment and logistics, 6951E – Nertiit Kangersivat/ Gåsefjord

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There is an anchor site in Ankervig in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a STOL-airstrip in Hjørnedal.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

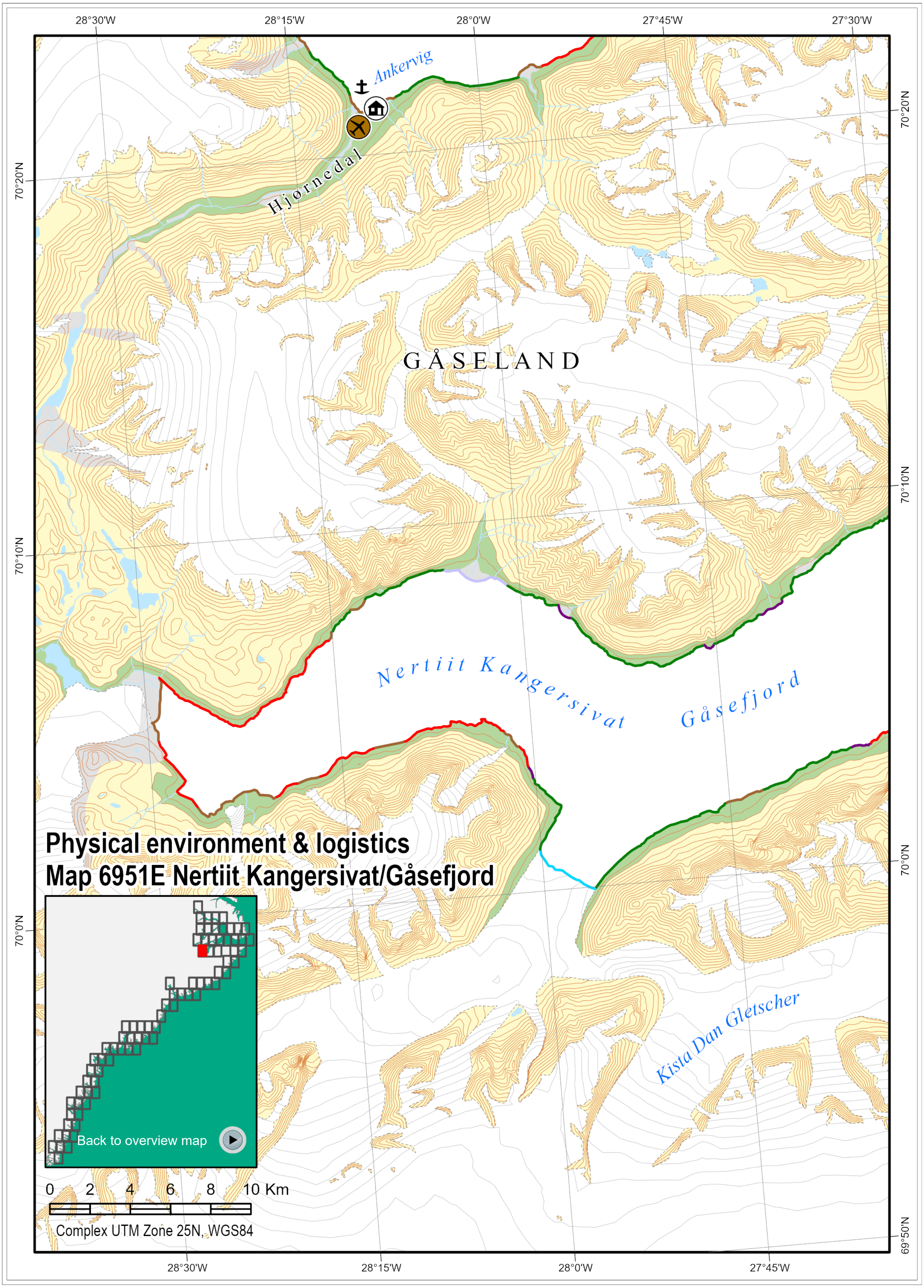
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

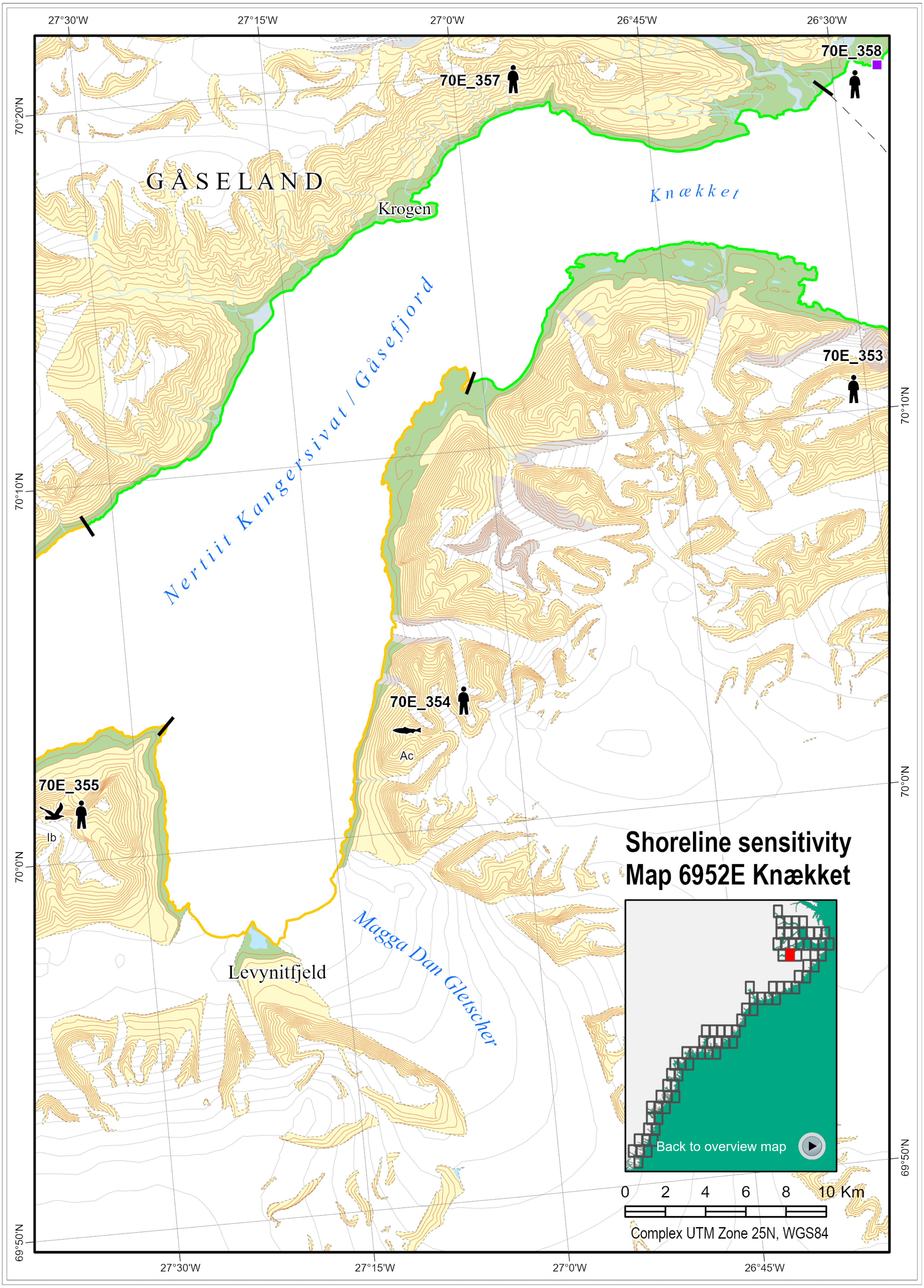
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 6951E Nertiit Kangersivat/Gåsefjord
Ankervig
Hjørnedal
GÅSELAND
Nertiit Kangersivat
Gåsefjord
Kista Dan Gletscher
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°30'W
28°15'W
28°0'W
27°45'W
27°30'W
70°20'N
70°10'N
70°0'N
69°50'N



Shoreline sensitivity
Map 6952E Knækket
GÅSELAND
Krogen
Knækket
Nertiit Kangersivat / Gåsefjord
Levynitfjeld
Magga Dan Gletscher
70E_357
70E_358
70E_353
70E_354
70E_355
Ac
Ib
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
27°30'W
27°15'W
27°0'W
26°45'W
26°30'W
70°20'N
70°10'N
70°0'N
69°50'N

8.57 Map 6952E – Knækket

Shoreline sensitivity map

Human use

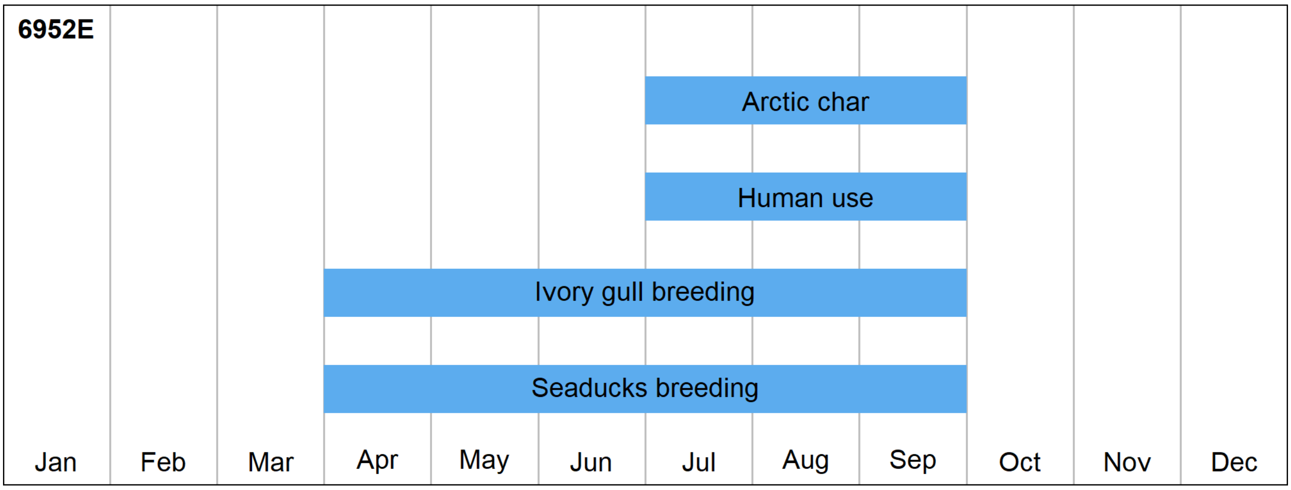
70E_353 – 70E_357	Nertiit Kangersivat (Gåsefjord) is an extremely important narwhal hunting area during the open water season (Jul-Sep). Tourism in the area during summer.
70E_358	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

Ac70E_354	Important Arctic char river
Ib70E_355	1 colony of ivory gulls
Sb70E_356	1 colony of common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_353	14	Moderate
70E_354	23	High
70E_355	21	High
70E_356	22	High
70E_357	16	Moderate
70E_358	15	Moderate



Physical environment and logistics, 6952E – Knækket

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

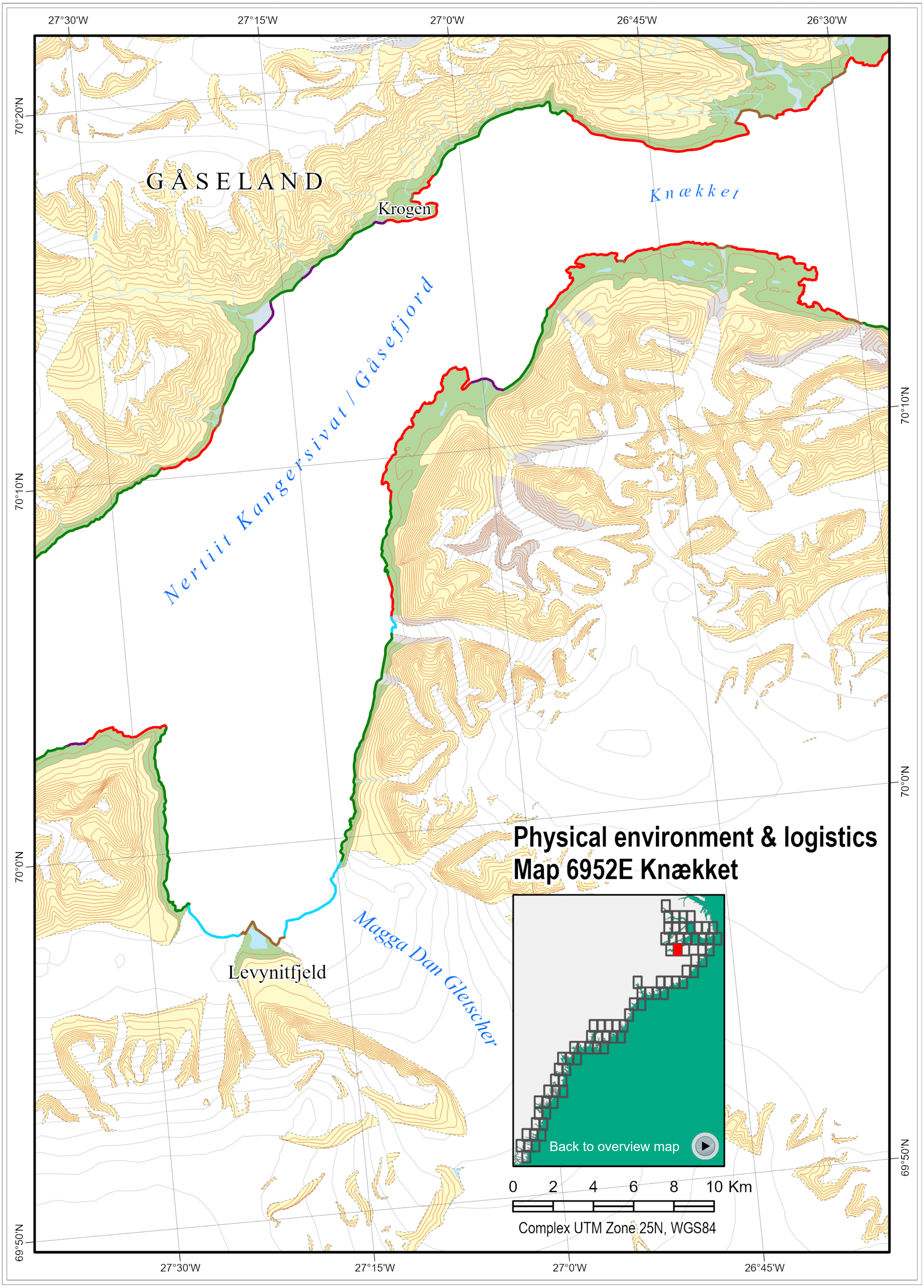
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

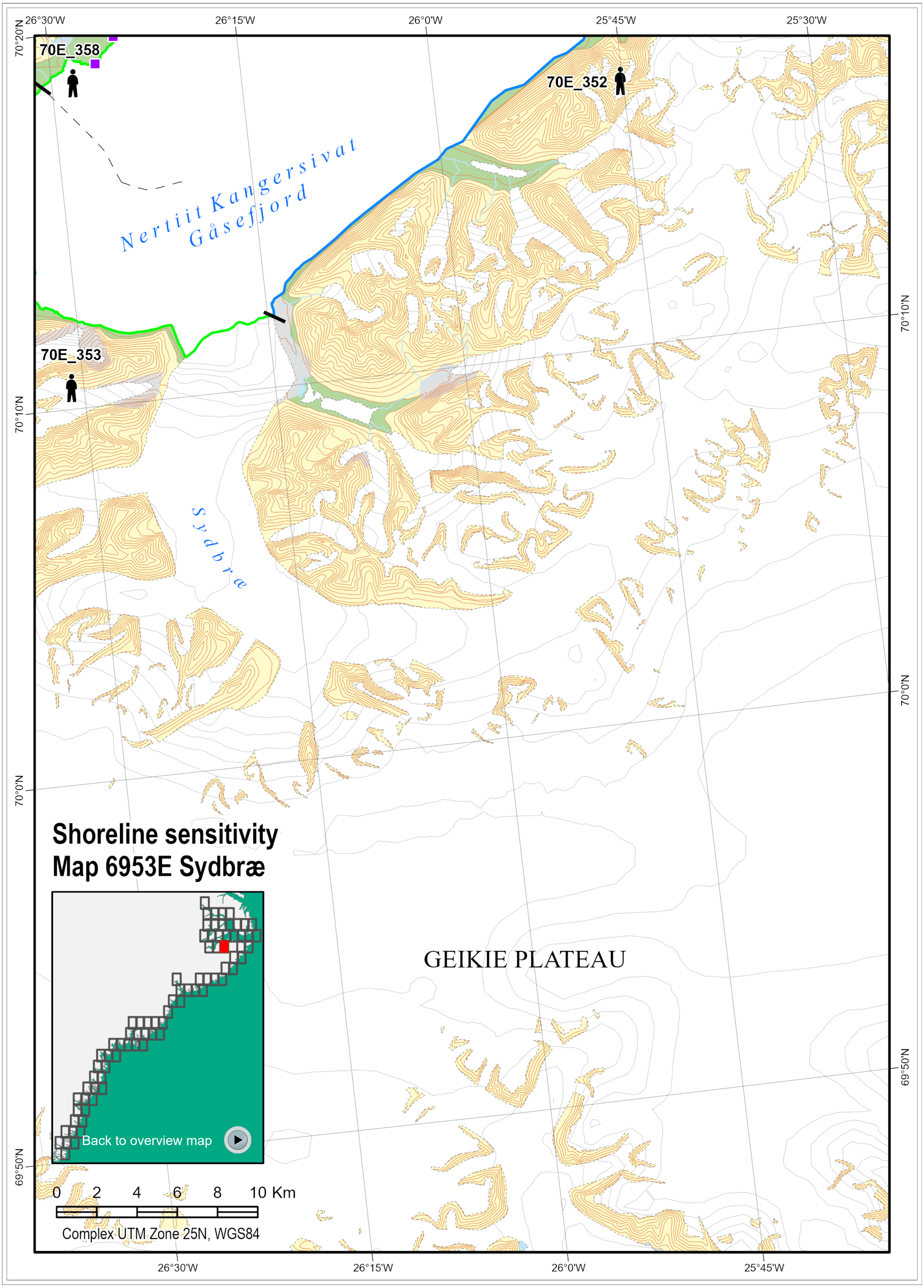
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



27°30'W
27°15'W
27°0'W
26°45'W
26°30'W
70°20'N
70°10'N
70°0'N
69°50'N
GÅSELAND
Krogen
Knækket
Nertiit Kangersivat / Gåsefjord
Levynitfjeld
Magga Dan Gletscher
Physical environment & logistics
Map 6952E Knækket
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



26°30'W
26°15'W
26°0'W
25°45'W
25°30'W
70°20'N
70°10'N
70°0'N
69°50'N
70E_358
70E_352
70E_353
Nertiit Kangersivat
Gåsefjord
Sydbræ
GEIKIE PLATEAU
Shoreline sensitivity
Map 6953E Sydbræ
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.58 Map 6953E – Sydbræ

Shoreline sensitivity map

Human use

70E_352	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
70E_353	Nertiit Kangersivat (Gåsefjord) is an extremely important narwhal hunting area during the open water season (Jul-Sep). Tourism in the area during summer.
70E_358	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

Very little species occurrence is registrered on this map, however some Arctic char may occur

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_352	8	Low
70E_353	14	Moderate
70E_358	15	Moderate

6953E											
						Human use	Human use	Human use			
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 6953E – Sydbræ

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly talus, with some rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area, but there is an airport on map area 7056 to the ENE.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

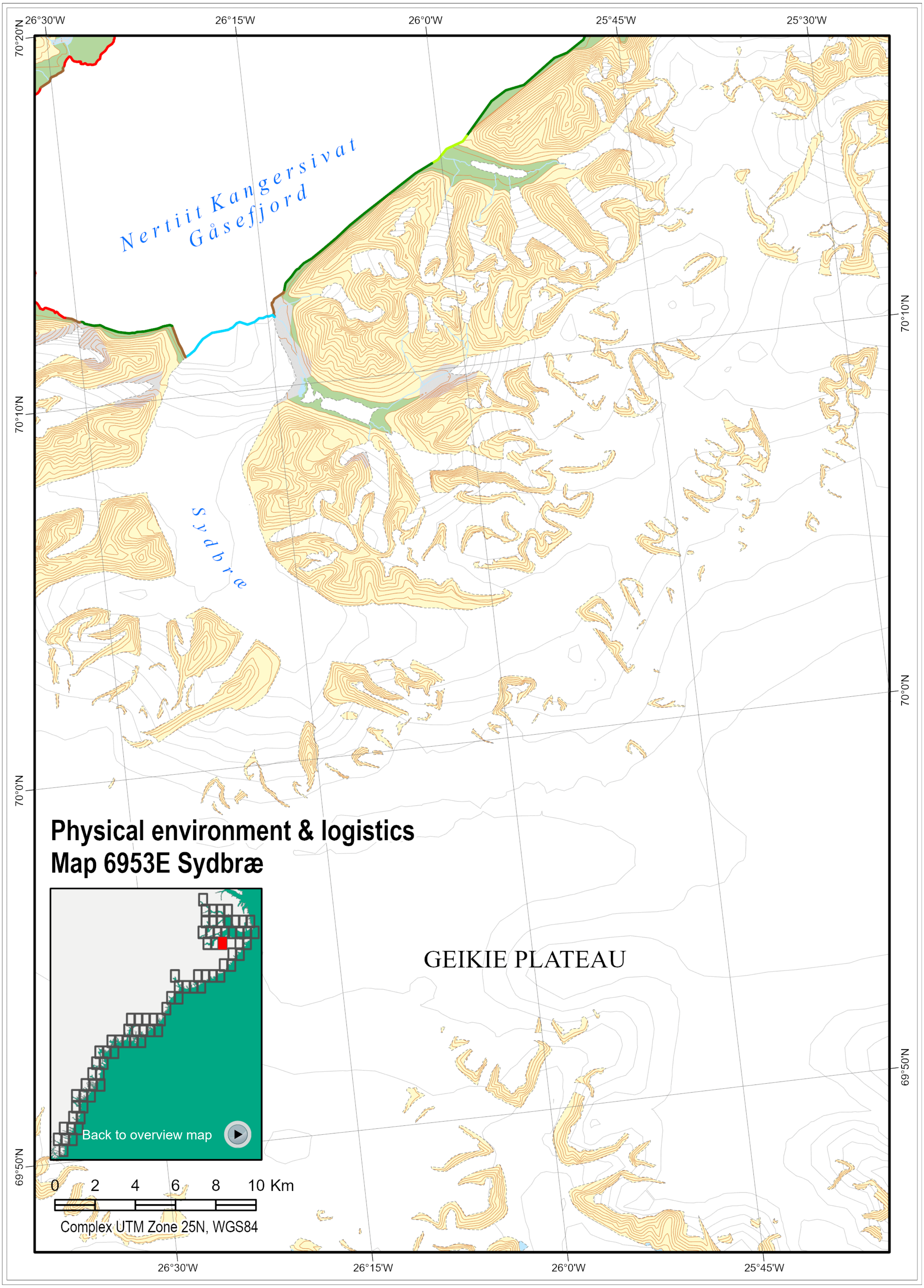
There are no opportunities for nearshore booming in this map area.

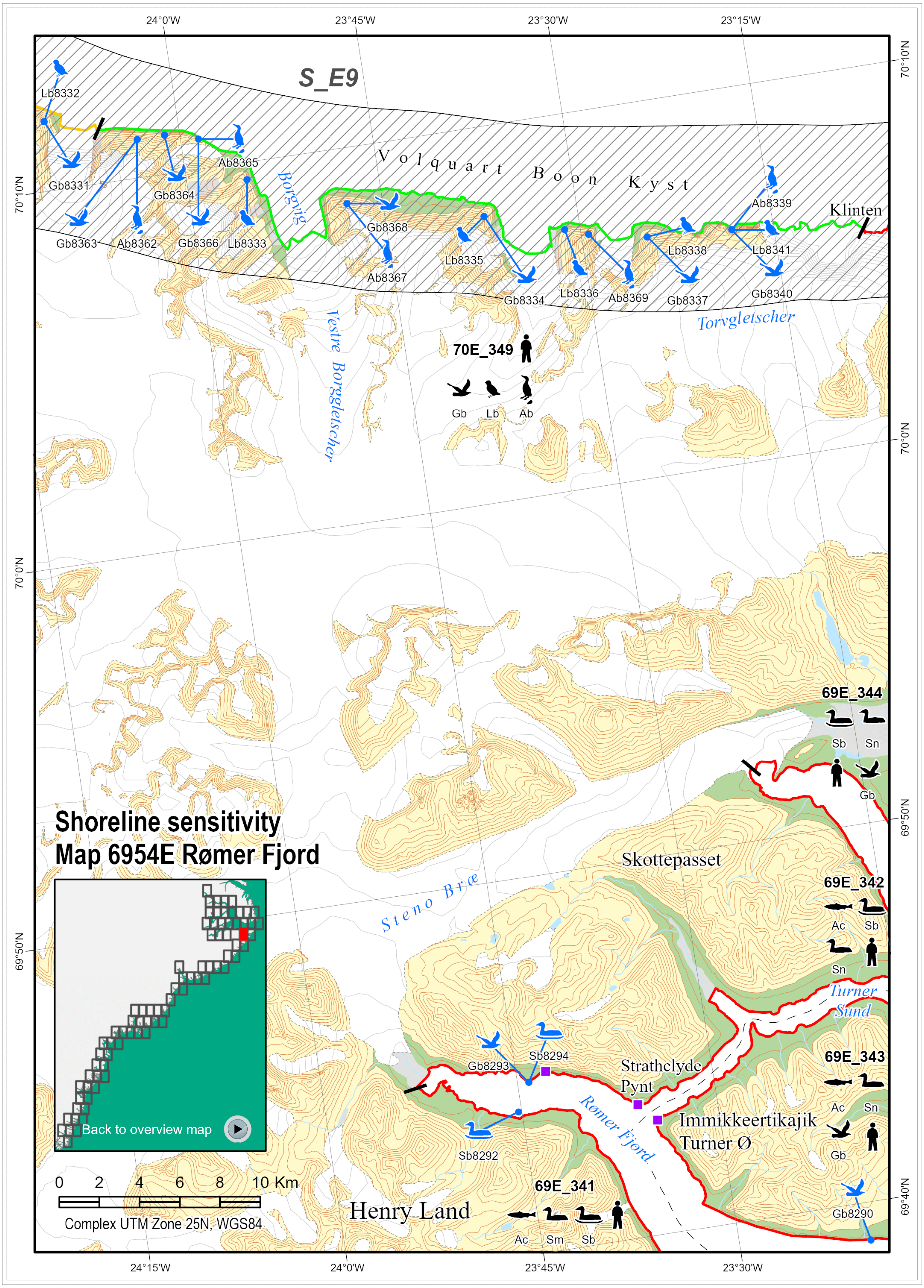
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly talus, with some rock and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


26°30'W
26°15'W
26°0'W
25°45'W
25°30'W
70°20'N
70°10'N
70°0'N
69°50'N
Nertiit Kangersivat
Gåsefjord
Sydbræ
Physical environment & logistics
Map 6953E Sydbræ
Back to overview map
GEIKIE PLATEAU
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



S_E9
Volquart Boon Kyst
Klinten
Borgvig
Vestre Borggletscher
Torvgletscher
Lb8332
Gb8331
Gb8363
Ab8362
Gb8364
Gb8366
Lb8333
Ab8365
Gb8368
Ab8367
Lb8335
Gb8334
Lb8336
Ab8369
Gb8337
Lb8338
Ab8339
Lb8341
Gb8340
70E_349
Gb
Lb
Ab
69E_344
Sb
Sn
Gb
Skottepasset
69E_342
Ac
Sb
Sn
Turner Sund
Steno Bræ
69E_343
Ac
Sn
Gb
Strathclyde Pynt
Immikkeertikajik Turner Ø
Rømer Fjord
Gb8293
Sb8294
Sb8292
69E_341
Ac
Sm
Sb
Henry Land
Gb8290
Shoreline sensitivity
Map 6954E Rømer Fjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°0'W
23°45'W
23°30'W
23°15'W
24°15'W
24°0'W
23°45'W
23°30'W
70°10'N
70°0'N
69°50'N
69°40'N

8.59 Map 6954E – Rømer Fjord

Shoreline sensitivity map

Human use

69E_341 – 69E_343	The area around Rømer Fjord og Immikkeertikajik (Turner Ø) is a highly important narwhal hunting site during Jun-Sep. A few polar bear catches have been reported from the same period.
69E_344	Hunters travel through area in connection with narwhal hunting at Sulussuutikajik (Steward Ø), Rømer Fjord og Immikkeertikajik (Turner Ø). Some polar bear hunting during winter and spring.
70E_348	Ice edge hunting of various species often takes place in this area during Apr-jun. Kangikajik (Kap Brewster) is an important polar bear hunting area with catches reported from late Jan to early Jun. Tourism in the area.
70E_349	Depending on the size and location of the polynya, ice edge hunting of various species may take place in this area during Apr-Jun. Tourism in the area.
70E_350	Narwhal hunting sometimes takes place in Terrasse Vig in Sep-Oct. Depending on the size and location of the polynya, broad spectrum ice edge hunting may take place in Apr-Jun. Tourism in the area.

Species occurrence

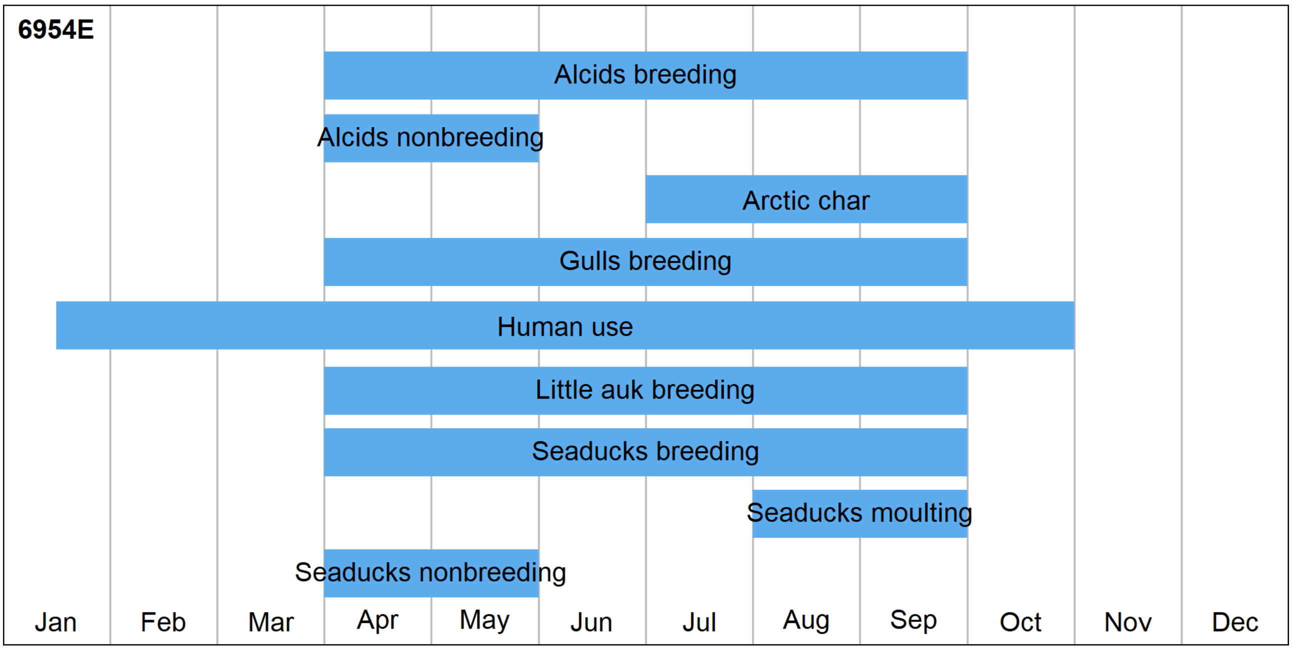
Sb69E_341	1 colony of common eiders
Ab70E_348	7 colonies of black guillemots
Ab70E_349	5 colonies of black guillemots
An70E_348	Concentrations of little auks and thick-billed murres
Ac69E_341 – Ac69E_343	Important Arctic char river
Gb69E_343, Gb69E_344	1 colony of glaucous gulls
Gb70E_349	7 colonies of glaucous gulls
Gb70E_348	11 colonies of glaucous gulls
Gb70E_350	5 colonies of glaucous gulls
Lb70E_348	3 colonies of little auks
Lb70E_349	5 colonies of little auks
Lb70E_350	4 colonies of little auks
Sb69E_342	1 colony of common eiders
Sb69E_344	2 colonies of common eiders
Sm69E_341	Common eider and king eider moulting
Sn69E_342 – Sn69E_344	Spring concentrations of common eider and king eider

Site specific occurrence: blue icons

Ab8339 **(SE_9)**	Breeding black guillemots
Ab8362 **(SE_9)**	Breeding black guillemots
Ab8365 **(SE_9)**, Ab8367 **(SE_9)**	Breeding black guillemots
Ab8369 **(SE_9)**	Breeding black guillemots
Gb8290	Breeding glaucous gulls
Gb8293	Breeding great black-backed gulls
Gb8331 **(SE_9)**	Breeding glaucous gulls
Gb8334 **(SE_9)**	Breeding glaucous gulls
Gb8337 **(SE_9)**	Breeding glaucous gulls
Gb8340 **(SE_9)**,	Breeding glaucous gulls
Gb8363 **(SE_9)**	Breeding glaucous gulls
Gb8364 **(SE_9)**	Breeding glaucous gulls
Gb8366 **(SE_9)**	Breeding glaucous gulls
Gb8368 **(SE_9)**	Breeding glaucous gulls
Lb8332 **(SE_9)**	Breeding little auks
Lb8333, Lb8335 **(SE_9)**	Breeding little auks
Lb8336 **(SE_9)**	Breeding little auks
Lb8338 **(SE_9)**	Breeding little auks
Lb8341 **(SE_9)**	Breeding little auks
Sb8292, Sb8294	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
69E_341	33	Extreme
69E_342	36	Extreme
69E_343	30	Extreme
69E_344	34	Extreme
70E_348	40	Extreme
70E_349	14	Extreme
70E_350	19	Extreme



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Physical environment and logistics, 6954E – Rømer Fjord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

The northern waters on this map area are Scoresby Sund, covered by shore-fast ice usually until mid-June or July and ice-free until early October; its approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

The fjord to the south are exposed to drift ice in winter, spring and early summer.

Additional dangers to navigation are present here due to icebergs.

Rømer Fjord has been used as shelter for the drift ice in summer (Appendix E).

Shorelines in this area are almost exclusively talus, with some rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area, but here is an airport on map area 7056 to the NE.

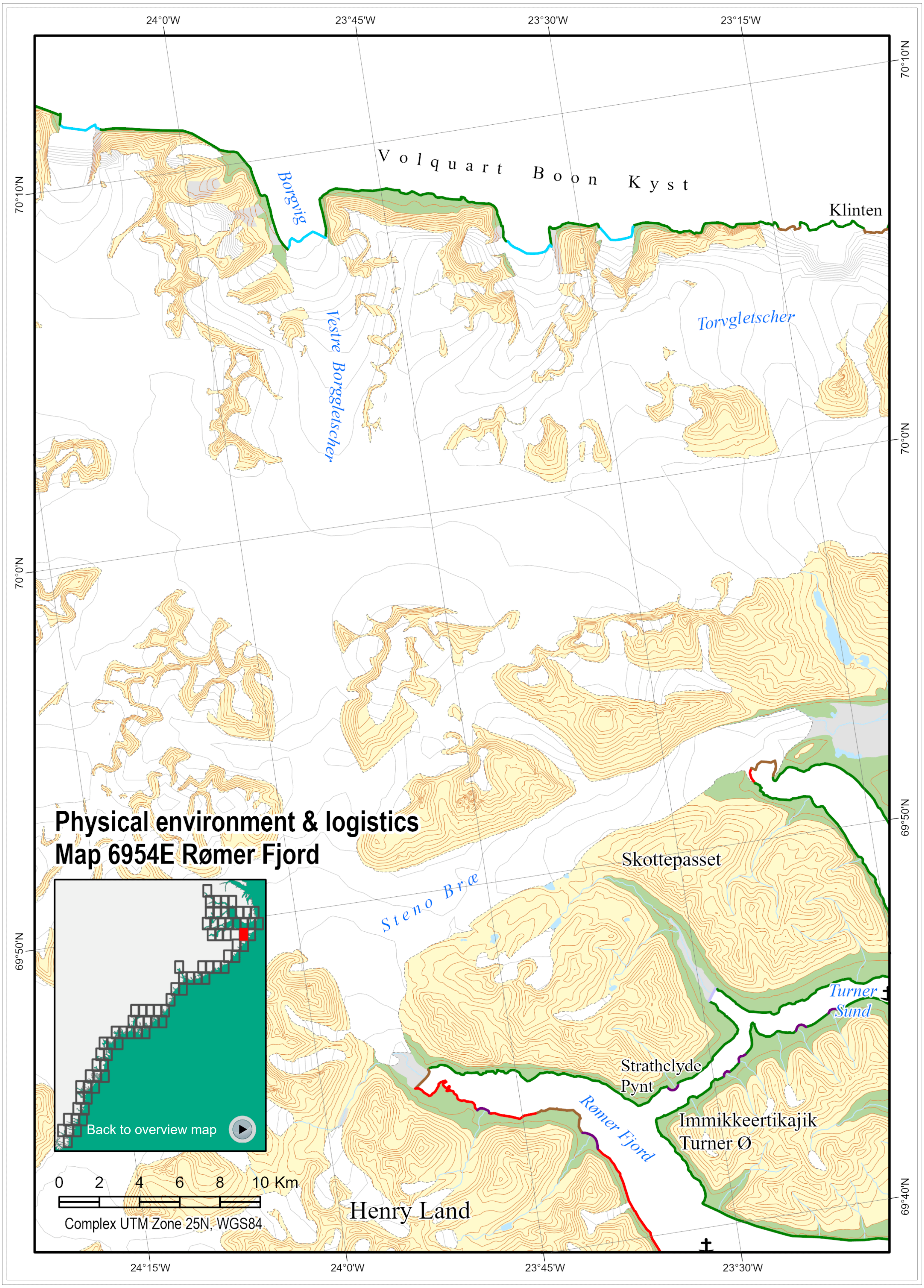
Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are almost exclusively talus, with some rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.



24°0'W
23°45'W
23°30'W
23°15'W
70°10'N
70°0'N
69°50'N
69°40'N
Volquart Boon Kyst
Borgvig
Klinten
Vestre Borggletscher
Torvgletscher
Physical environment & logistics
Map 6954E Rømer Fjord
Skottepasset
Steno Bræ
Turner Sund
Strathclyde Pynt
Rømer Fjord
Immikkeertikajik
Turner Ø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
Henry Land
24°15'W
24°0'W
23°45'W
23°30'W

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.

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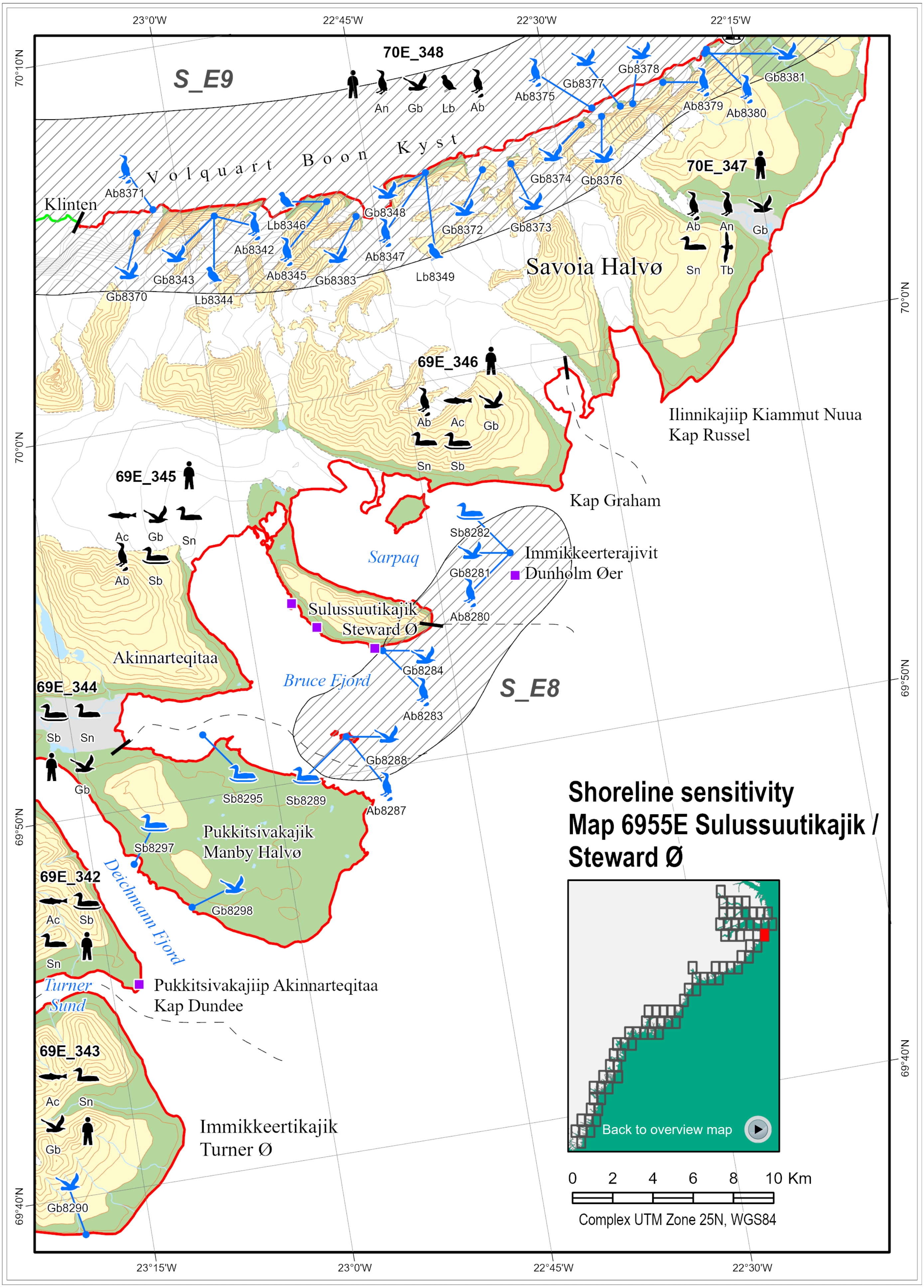

Shoreline sensitivity
Map 6955E Sulussuutikajik / Steward Ø
S_E9
S_E8
70E_348
70E_347
69E_346
69E_345
69E_344
69E_342
69E_343
Volquart Boon Kyst
Klinten
Savoia Halvø
Ilinnikajiip Kiammut Nuua
Kap Russel
Kap Graham
Sarpaq
Immikkeerterajivit
Dunholm Øer
Sulussuutikajik
Steward Ø
Akinnarteqitaa
Bruce Fjord
Pukkitsivakajik
Manby Halvø
Deichmann Fjord
Turner Sund
Pukkitsivakajiip Akinnarteqitaa
Kap Dundee
Immikkeertikajik
Turner Ø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
23°0'W
22°45'W
22°30'W
22°15'W
23°15'W
70°10'N
70°0'N
69°50'N
69°40'N

8.60 Map 6955E – Sulussuutikajik/Steward Ø

Shoreline sensitivity map

Human use

69E_342, 69E_343	The area around Rømer Fjord og Immikkeertikajik (Turner Ø) is a highly important narwhal hunting site during Jun-Sep. A few polar bear catches have been reported from the same period.
69E_344	Hunters travel through area in connection with narwhal hunting at Sulussuutikajik (Steward Ø), Rømer Fjord og Immikkeertikajik (Turner Ø). Some polar bear hunting during winter and spring.
69E_345, 69E_346	The area around Sulussuutikajik (Steward Ø) is an extremely important narwhal hunting site during Jun-Sep. A few polar bear catches have been reported from the area in Feb, Apr and Aug.
70E_347	Ice edge hunting of various species may take place off Kangikajik (Kap Brewster) in Apr-Jun. Polar bear hunting from late Jan to early Jun. Hunters travel through area in Jun-Sep in connection with narwhal hunting futher south.
70E_348	Ice edge hunting of various species often takes place in this area during Apr-Jun. Kangikajik (Kap Brewster) is an important polar bear hunting area with catches reported from late Jan to early Jun. Tourism in the area.
70E_349	Depending on the size and location of the polynya, ice edge hunting of various species may take place in this area during Apr-Jun. Tourism in the area.

Species occurrence

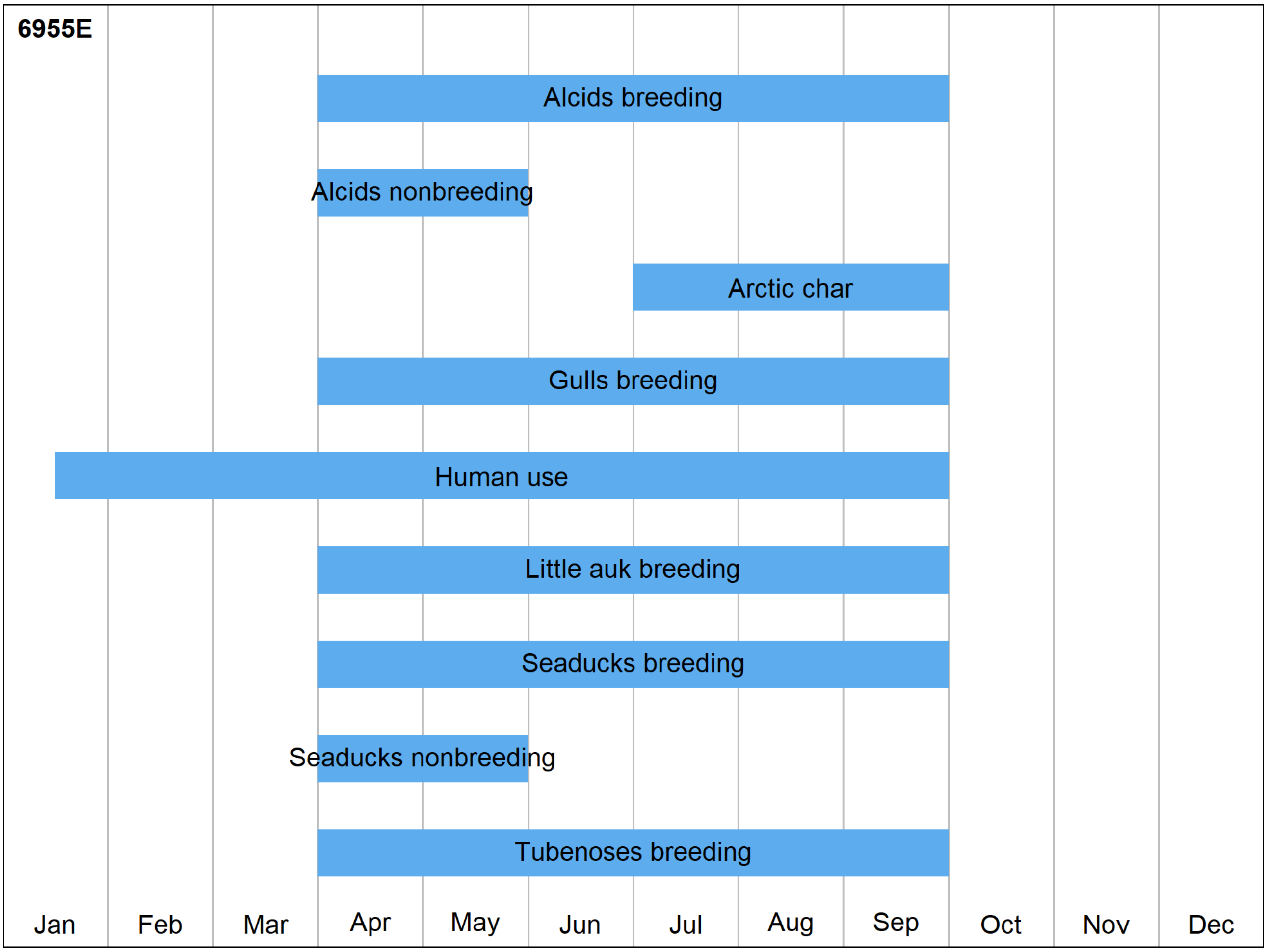
Sb69E_345	1 colony of common eiders
Ab69E_347	1 colony of black guillemots and 1 colony of thick-billed murres
Ab69E_346	1 colony of black guillemots
Ab69E_345	2 colonies of black guillemots
Ab70E_349	5 colonies of black guillemots
Ab70E_348	7 colonies of black guillemots
An70E_348, An70E_347	Concentrations of little auks and thick-billed murres
Ac69E_342, Ac69E_343	Important Arctic char river
Ac69E_345, Ac69E_346	Important Arctic char river
Gb69E_347	1 colony of black-legged kittiwakes and 1 colony of glaucous gulls
Gb69E_346	1 colony of Arctic terns, 1 colony of lesser black-backed gulls, 1 colony of black-legged kittiwakes, 1 colony of glaucous gulls and 1 colony of great black-backed gulls
Gb69E_345	1 colony of Arctic terns, 1 colony of lesser black-backed gulls, 2 colonies of black-legged kittiwakes, 1 colony of glaucous gulls and 1 colony of great black-backed gulls
Gb69E_343, Gb69E_344	1 colony of glaucous gulls
Gb70E_349	7 colonies of glaucous gulls
Gb70E_348	11 colonies of glaucous gulls
Lb70E_348	3 colonies of little auks
Lb70E_349	5 colonies of little auks
Sb69E_342, Sb69E_346	1 colony of common eiders
Sb69E_344	2 colonies of common eiders
Sn69E_342 – Sn70E_347	Spring concentrations of common eider and king eider
Tb69E_347	1 colony of northern fulmars

Site specific occurrence: blue icons

Ab8280 **(SE_8)**	Breeding black guillemots
Ab8283 **(SE_8)**	Breeding black guillemots
Ab8287 **(SE_8)**	Breeding black guillemots
Ab8342 **(SE_9)**,	Breeding black guillemots
Ab8345 **(SE_9)**	Breeding black guillemots
Ab8347 **(SE_9)**	Breeding black guillemots
Ab8371 **(SE_9)**	Breeding black guillemots
Ab8375 **(SE_9)**, Ab8379 **(SE_9)**	Breeding black guillemots
Ab8380 **(SE_9)**	Breeding black guillemots
Gb8281 **(SE_8)**	Breeding lesser black-backed gulls, Arctic terns, glaucous gulls, great black-backed gulls and black-legged kittiwakes
Gb8284 **(SE_8)**	Breeding glaucous gulls and black-legged kittiwakes
Gb8288 **(SE_8)**	Breeding lesser black-backed gulls, Arctic terns, great black-backed gulls and black-legged kittiwakes
Gb8290, Gb8298	Breeding glaucous gulls
Gb8343 **(SE_9)**	Breeding glaucous gulls
Gb8348 **(SE_9)**	Breeding glaucous gulls
Gb8370 **(SE_9)**	Breeding glaucous gulls
Gb8372 **(SE_9)**, Gb8373 **(SE_9)** Gb8374 **(SE_9)**	Breeding glaucous gulls
Gb8376 **(SE_9)**, Gb8377 **(SE_9),** Gb8378 **(SE_9)**	Breeding glaucous gulls
Gb8381 **(SE_9)**	Breeding glaucous gulls
Gb8383 **(SE_9)**	Breeding glaucous gulls
Lb8344 **(SE_9)**	Breeding little auks
Lb8346 **(SE_9)**, Lb8349 **(SE_9)**	Breeding little auks
Sb8282 **(SE_8)**	Breeding common eiders
Sb8289 **(SE_8)**	Breeding common eiders
Sb8295	Breeding common eiders
Sb8297	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
69E_342	36	Extreme
69E_343	30	Extreme
69E_344	34	Extreme
69E_345	48	Extreme
69E_346	58	Extreme
70E_347	57	Extreme
70E_348	40	Extreme
70E_349	14	Extreme


6955E
Alcids breeding
Alcids nonbreeding
Arctic char
Gulls breeding
Human use
Little auk breeding
Seaducks breeding
Seaducks nonbreeding
Tubenoses breeding
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Physical environment and logistics, 6955E – Sulussuutikajik/Steward Ø

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2500). Local knowledge is essential for navigation.

The northern waters on this map area are Scoresby Sund, covered by shorefast ice usually until mid-June or July and ice-free until early October; its approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

The fjord to the south are exposed to drift ice in winter, spring and early summer.

Additional dangers to navigation are present here due to icebergs.

Turner Sund has been used as shelter for the drift ice.

Shorelines in this area are almost exclusively talus, with some rock and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area, but there is an airport on map area 7056 to the N.

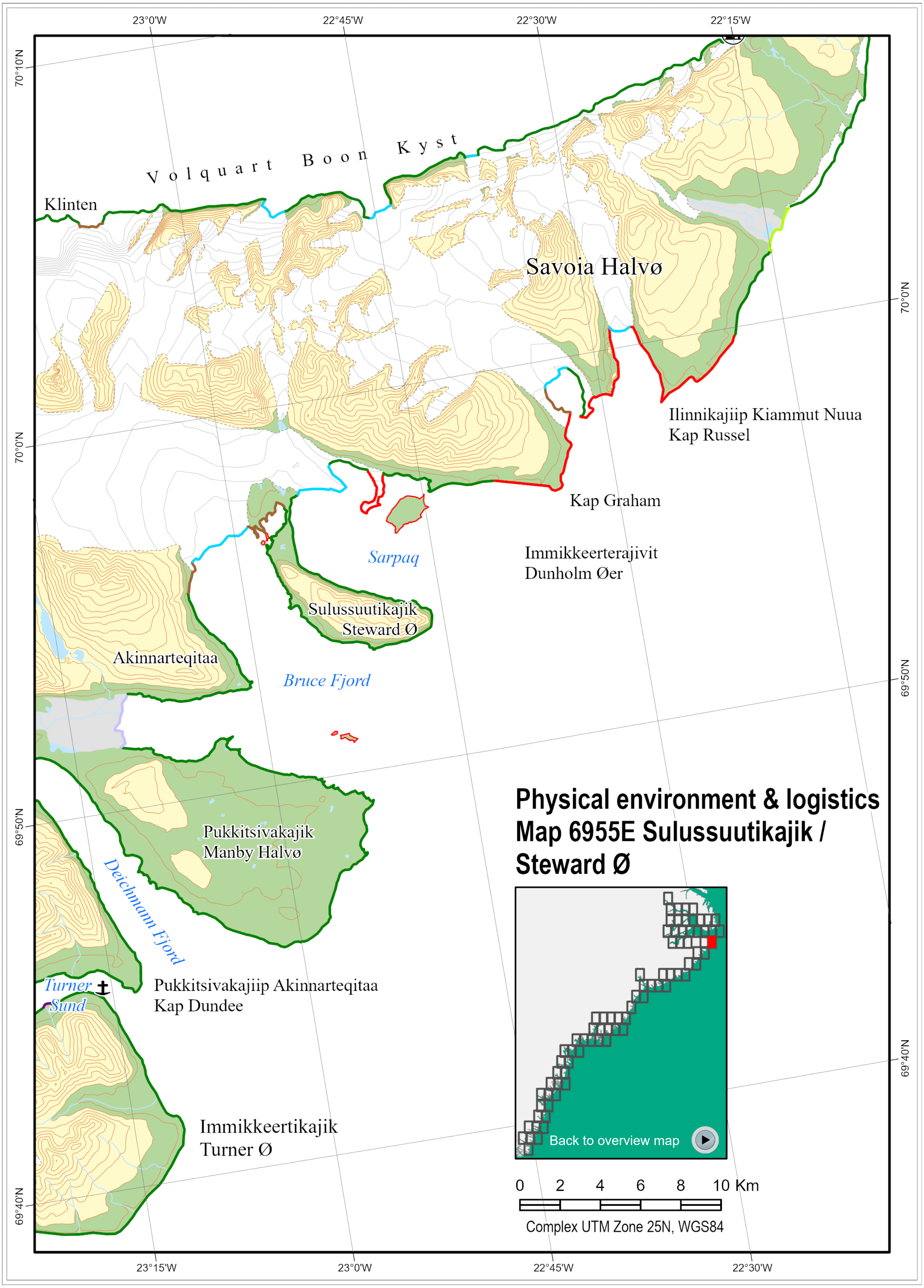
Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters. In particular, oil approaching the fjords on the south coast of Savoia Halvø should be diverted to adjoining shorelines of relatively lesser sensitivity.



Physical environment & logistics
Map 6955E Sulussuutikajik / Steward Ø
23°0'W
22°45'W
22°30'W
22°15'W
70°10'N
70°0'N
69°50'N
69°40'N
23°15'W
V o l q u a r t B o o n K y s t
Klinten
Savoia Halvø
Ilinnikajiip Kiammut Nuua
Kap Russel
Kap Graham
Immikkeerterajivit
Dunholm Øer
Sarpaq
Sulussuutikajik
Steward Ø
Akinnarteqitaa
Bruce Fjord
Pukkitsivakajik
Manby Halvø
Deichmann Fjord
Turner Sund
Pukkitsivakajiip Akinnarteqitaa
Kap Dundee
Immikkeertikajik
Turner Ø
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Shorelines shown on this map are almost exclusively talus, with some rock and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

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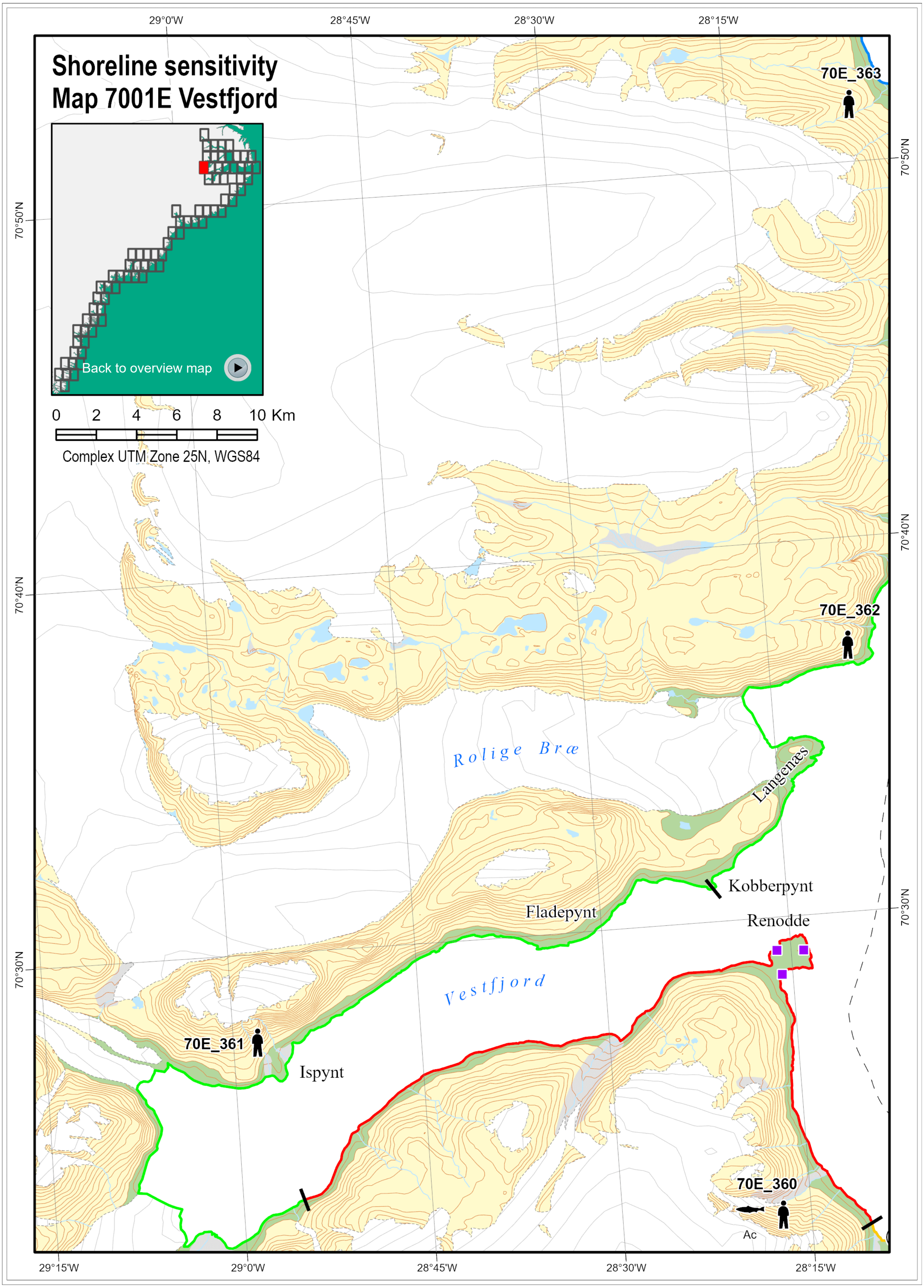


Shoreline sensitivity
Map 7001E Vestfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
29°0'W
28°45'W
28°30'W
28°15'W
29°15'W
29°0'W
28°45'W
28°30'W
28°15'W
70°50'N
70°40'N
70°30'N
70E_363
70E_362
70E_361
70E_360
Ac
Rolige Bræ
Langenæs
Kobberpynt
Fladepynt
Renodde
Vestfjord
Ispynt

8.61 Map 7001E – Vestfjord

Shoreline sensitivity map

Human use

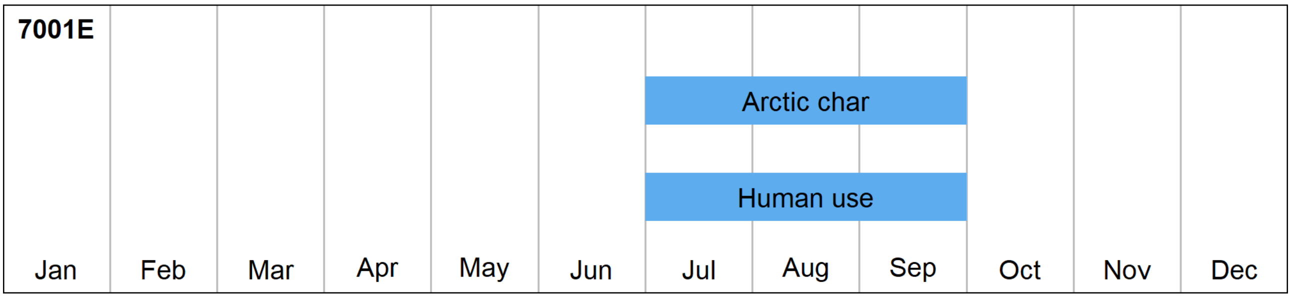
70E_359, 70E_360	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Ankervig/Hjørnedal is also a reaserch site.
70E_361, 70E_362	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Tourism: Cruise ships circling
70E_363	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

Ac70E_360, Ac70E_359	Important Arctic char river

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_359	25	High
70E_360	25	Extreme
70E_361	17	Moderate
70E_362	15	Moderate
70E_363	9	Low



Physical environment and logistics, 7001E – Vestfjord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There is an anchor site at Ankervig (Appendix E).

Shorelines in this area are predominantly rock, talus, and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area, but there is an airport on map area 7056 to the E.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

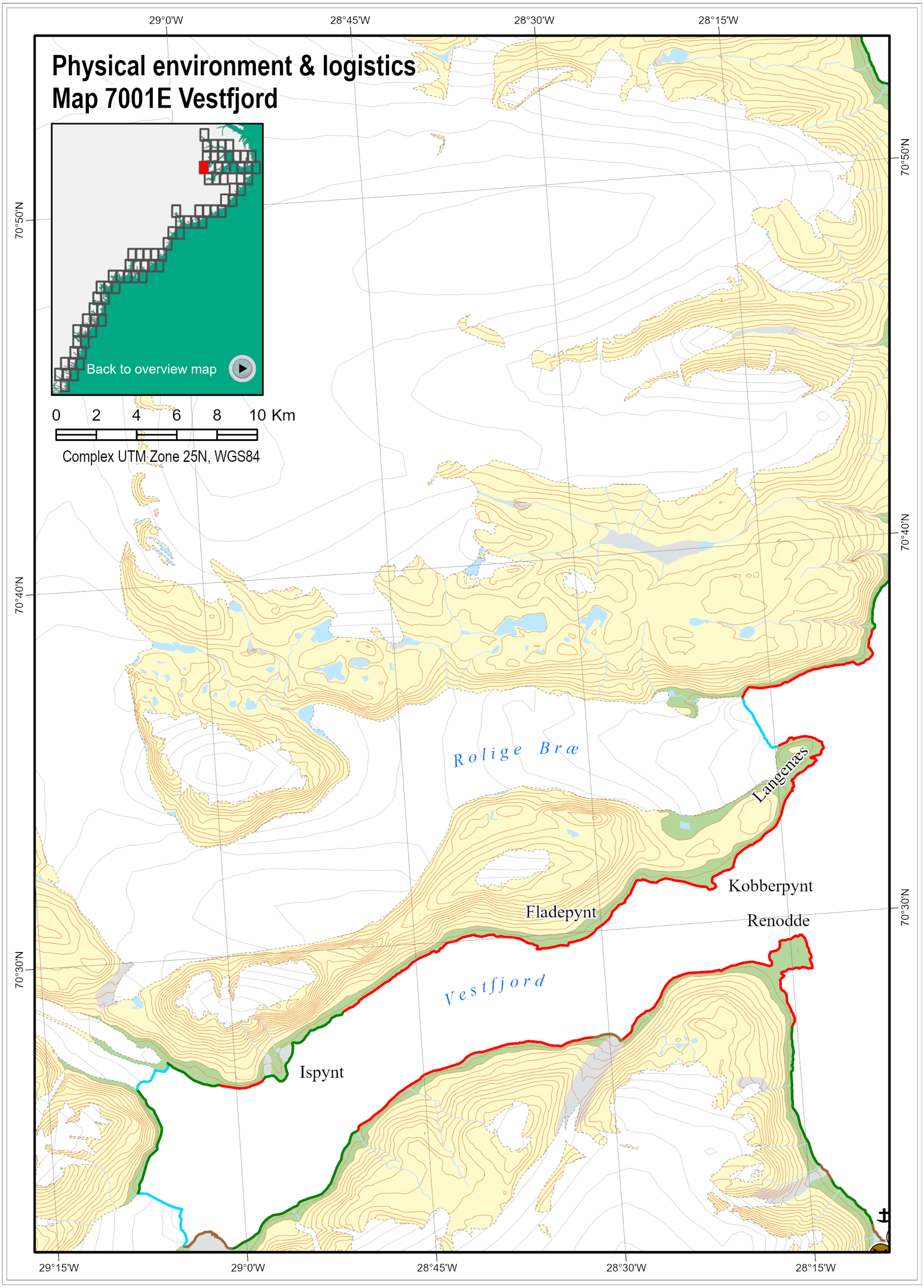
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at Vestfjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

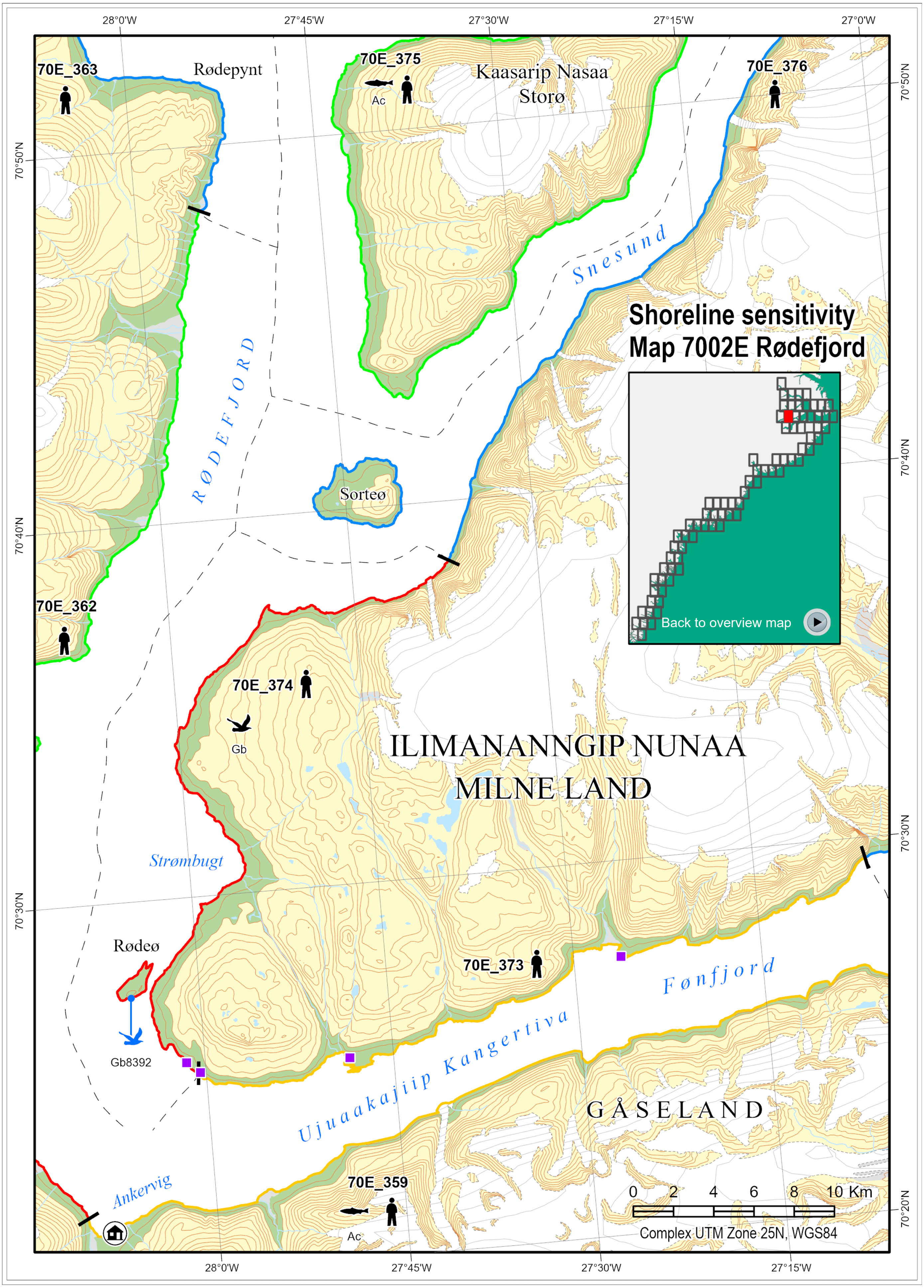
Shorelines shown on this map are predominantly rock, talus, and glacier with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 7001E Vestfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
29°0'W
28°45'W
28°30'W
28°15'W
70°50'N
70°40'N
70°30'N
29°15'W
Rolige Bræ
Langenæs
Kobberpynt
Fladepynt
Renodde
Vestfjord
Ispynt



Shoreline sensitivity
Map 7002E Rødefjord
Back to overview map
70E_363
Rødepynt
70E_375
Ac
Kaasarip Nasaa
Storø
70E_376
Snesund
RØDEFJORD
Sorteø
70E_362
70E_374
Gb
ILIMANANNGIP NUNAA
MILNE LAND
Strømbugt
Rødeø
Gb8392
70E_373
Fønfjord
Ujuaakajiip Kangertiva
GÅSELAND
Ankervig
70E_359
Ac
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°0'W
27°45'W
27°30'W
27°15'W
27°0'W
70°50'N
70°40'N
70°30'N
70°20'N

8.62 Map 7002E – Rødefjord

Shoreline sensitivity map

Human use

70E_359, 70E_360	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Ankervig/Hjørnedal is also a reasearch site.
70E_362	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_363, 70E_370	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_373, 70E_374	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_375, 70E_376	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

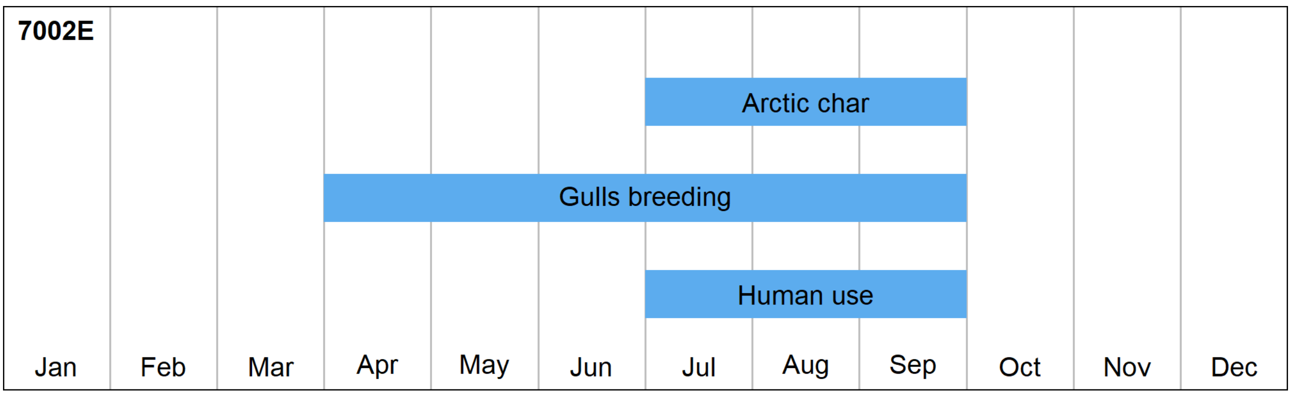
Ac70E_360, Ac70E_359	Important Arctic char river
Ac70E_370, Ac70E_375	Important Arctic char river
Gb70E_374	1 colony of glaucous gulls

Site specific occurrence: blue icons

Gb8392	Breeding glaucous gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_359	25	High
70E_360	25	Extreme
70E_362	15	Moderate
70E_363	9	Low
70E_370	12	Low
70E_373	20	High
70E_374	30	Extreme
70E_375	15	Moderate
70E_376	12	Low



Physical environment and logistics, 7002E – Rødefjord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There are three anchorages identified in this map area (Appendix E).

Shorelines in this area are predominantly rock and talus, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is an STOL-airstrip at Ankervig (Appendix F) and an airport on map area 7056 to the E.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

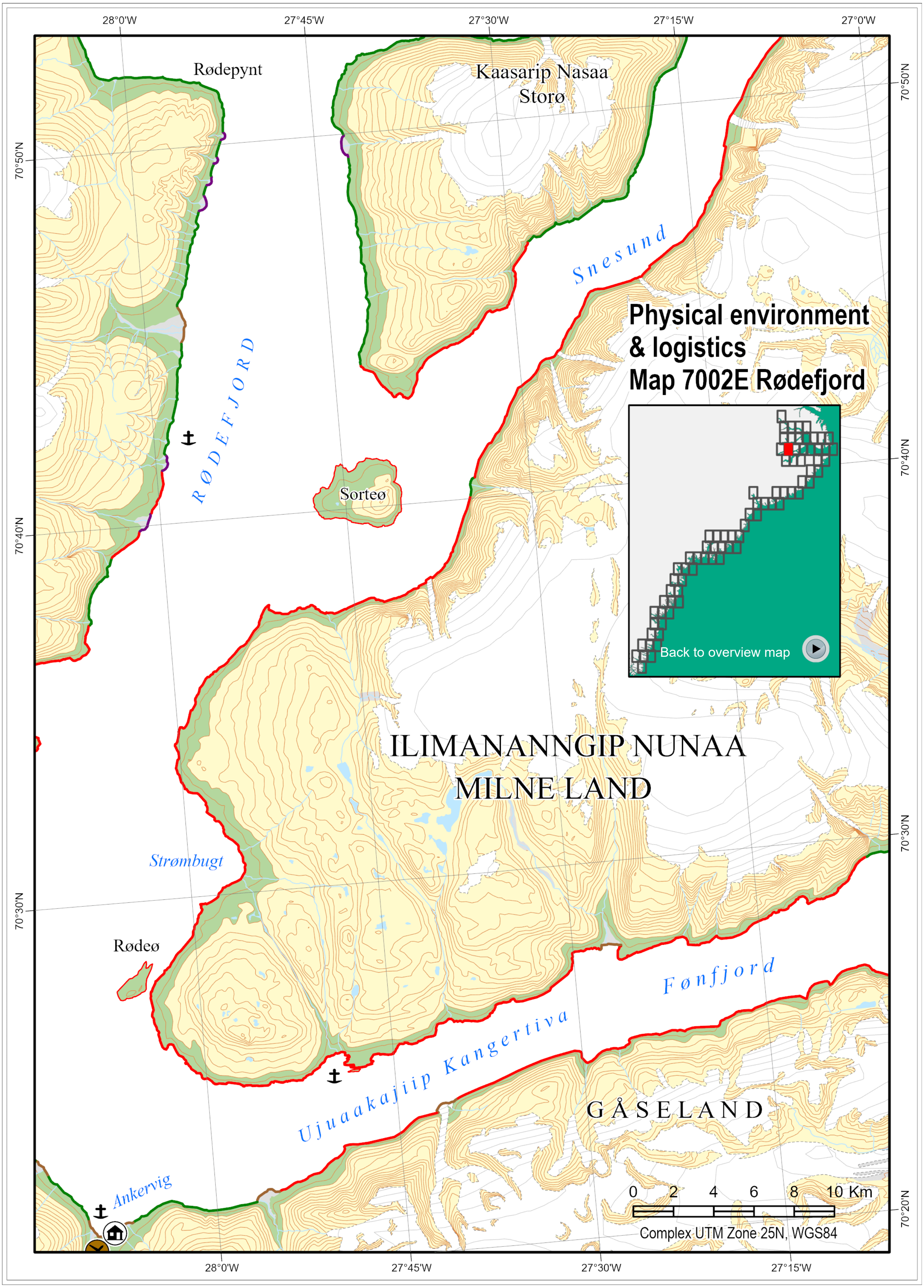
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

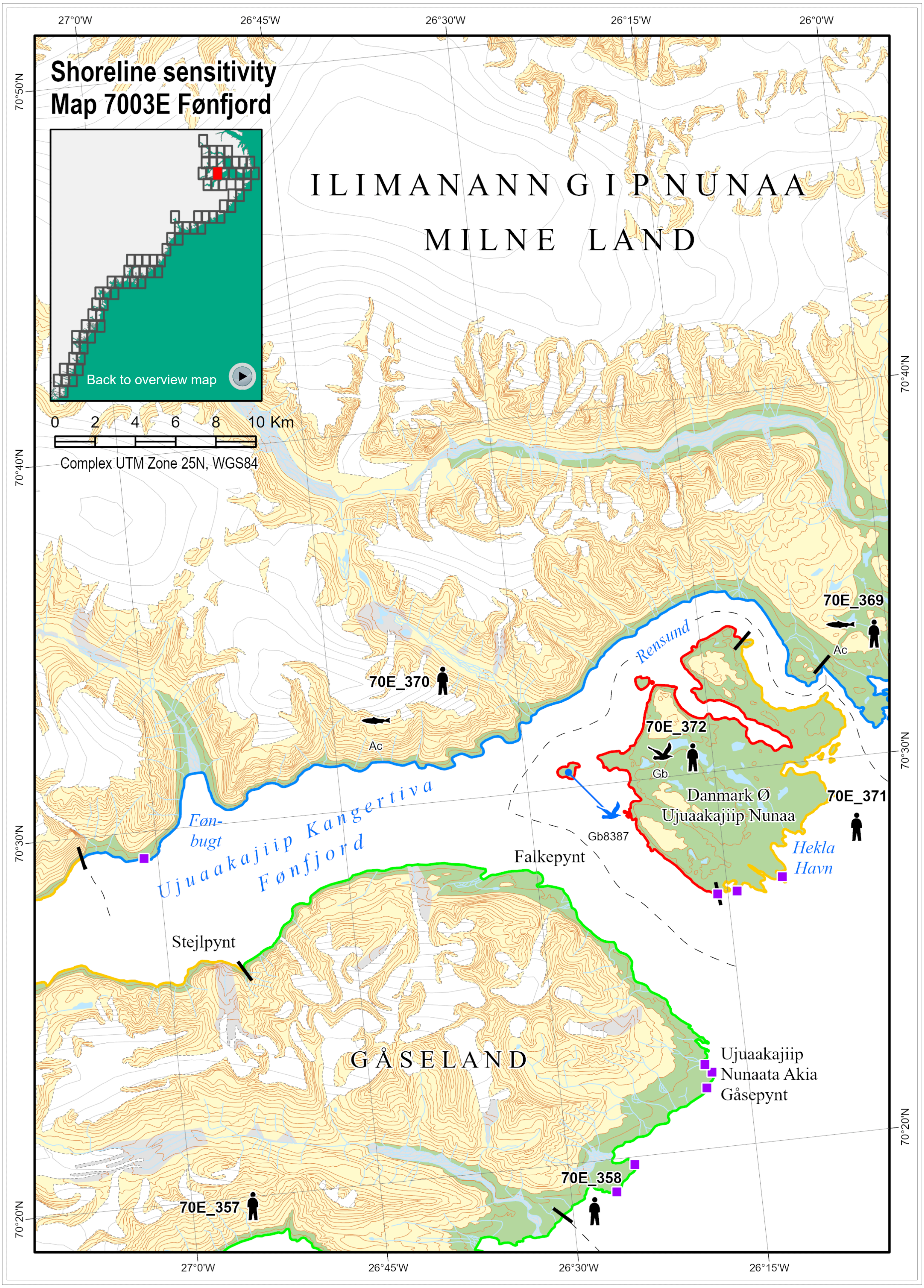
Shorelines shown on this map are predominantly rock and talus with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



Physical environment
& logistics
Map 7002E Rødefjord
Back to overview map
Rødepynt
Kaasarip Nasaa
Storø
Snesund
RØDEFJORD
Sorteø
ILIMANANNGIP NUNAA
MILNE LAND
Strømbugt
Rødeø
Fønfjord
Ujuaakajiip Kangertiva
GÅSELAND
Ankervig
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°0'W
27°45'W
27°30'W
27°15'W
27°0'W
70°50'N
70°40'N
70°30'N
70°20'N


Shoreline sensitivity
Map 7003E Fønfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
27°0'W
26°45'W
26°30'W
26°15'W
26°0'W
70°50'N
70°40'N
70°30'N
70°20'N
ILIMANANNGIP NUNAA
MILNE LAND
70E_369
Ac
Rensund
70E_370
Ac
70E_372
Gb
Danmark Ø
Ujuaakajiip Nunaa
70E_371
Hekla
Havn
Gb8387
Falkepynt
Føn-
bugt
Ujuaakajiip Kangertiva
Fønfjord
Stejlpynt
GÅSELAND
Ujuaakajiip
Nunaata Akia
Gåsepynt
70E_358
70E_357

8.63 Map 7003E – Fønfjord

Shoreline sensitivity map

Human use

70E_357	Nertiit Kangersivat (Gåsefjord) is an extremely important narwhal hunting area during the open water season (Jul-Sep). Tourism in the area during summer.
70E_358	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_359	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Ankervig/Hjørnedal is also a research site.
70E_369, 70E_370	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_371	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). During summer cruise ships circling Milne Land, and locals travelling to/from Ankervig/Hjørnedal, often stop at Danmark Ø.
70E_372	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). During summer cruise ships circling Milne Land, and locals travelling to/from Ankervig/Hjørnedal, often stop at Danmark Ø.
70E_373	Extremely important narwhal hunting area during the open water season (Jul-Sep). The hunting usually takes place from the camp at Ankervig/Hjørnedal and covers adjacent areas. Some muskox hunting also takes place in Aug-Sep. Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

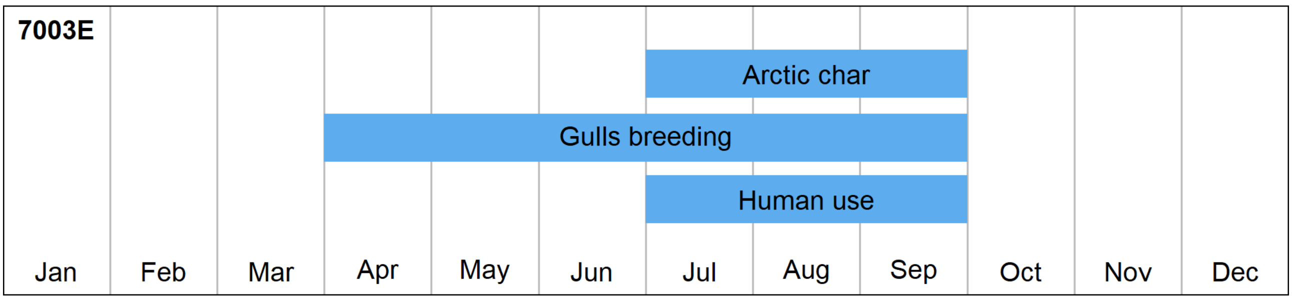
Ac70E_359, Ac70E_369	Important Arctic char river
Ac70E_370, Gb70E_372	Important Arctic char river

Site specific occurrence: blue icons

Gb8387	Breeding Arctic terns

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_357	16	Moderate
70E_358	15	Moderate
70E_359	25	High
70E_369	7	Low
70E_370	12	Low
70E_371	18	High
70E_372	27	Extreme
70E_373	20	High



Physical environment and logistics, 7003E – Fønfjord

Access

The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There are four anchorages identified in this map area (Appedinx E).

Shorelines in this area are predominantly rock and talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area, but there is an airport on map area 7056 to the ENE.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area. Consideration could be given to exclusion booming at the inlet on the north side of Danmark Ø ca. 70°30’N, 26°15’W; however, this will be complicated by the extreme width that must be spanned.

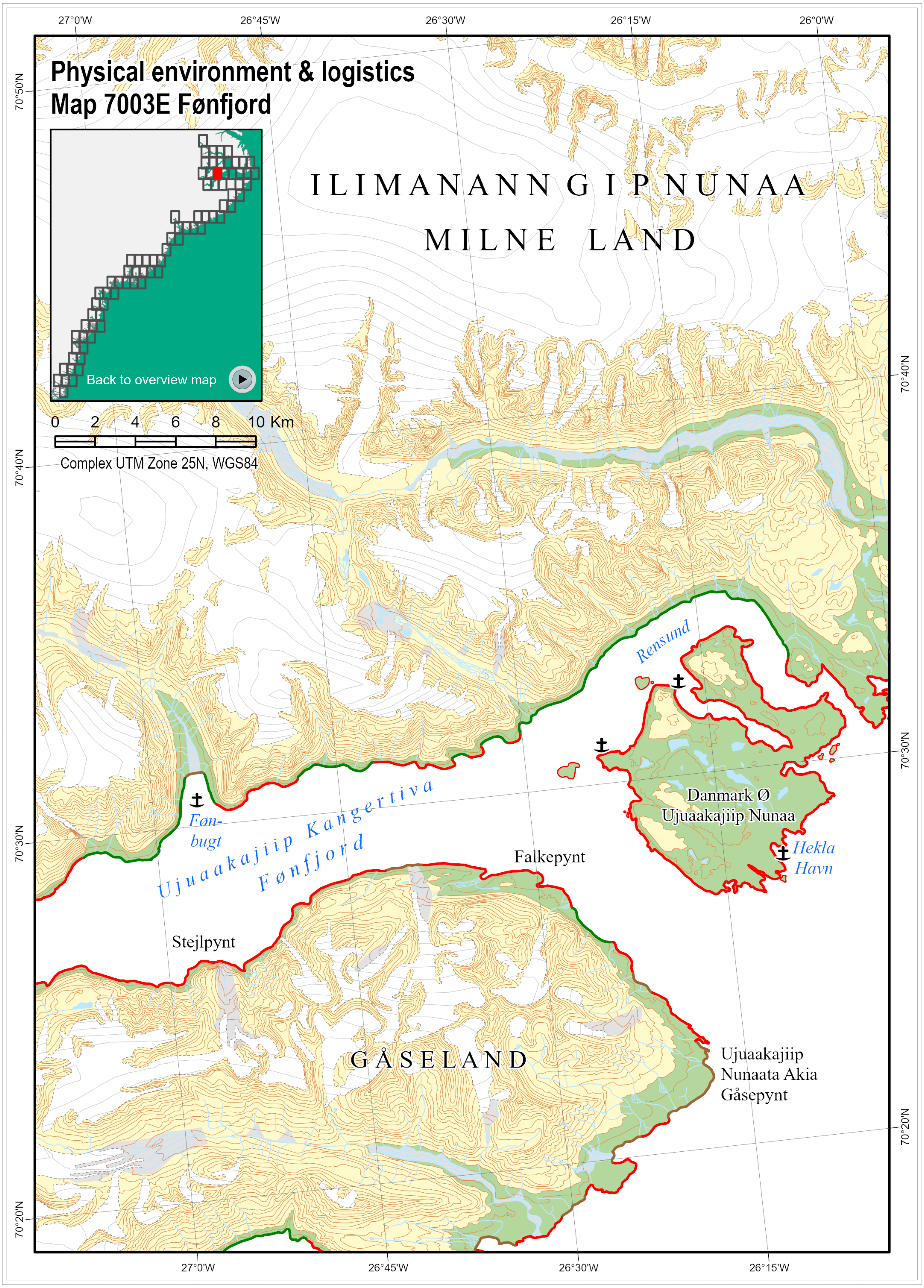
Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

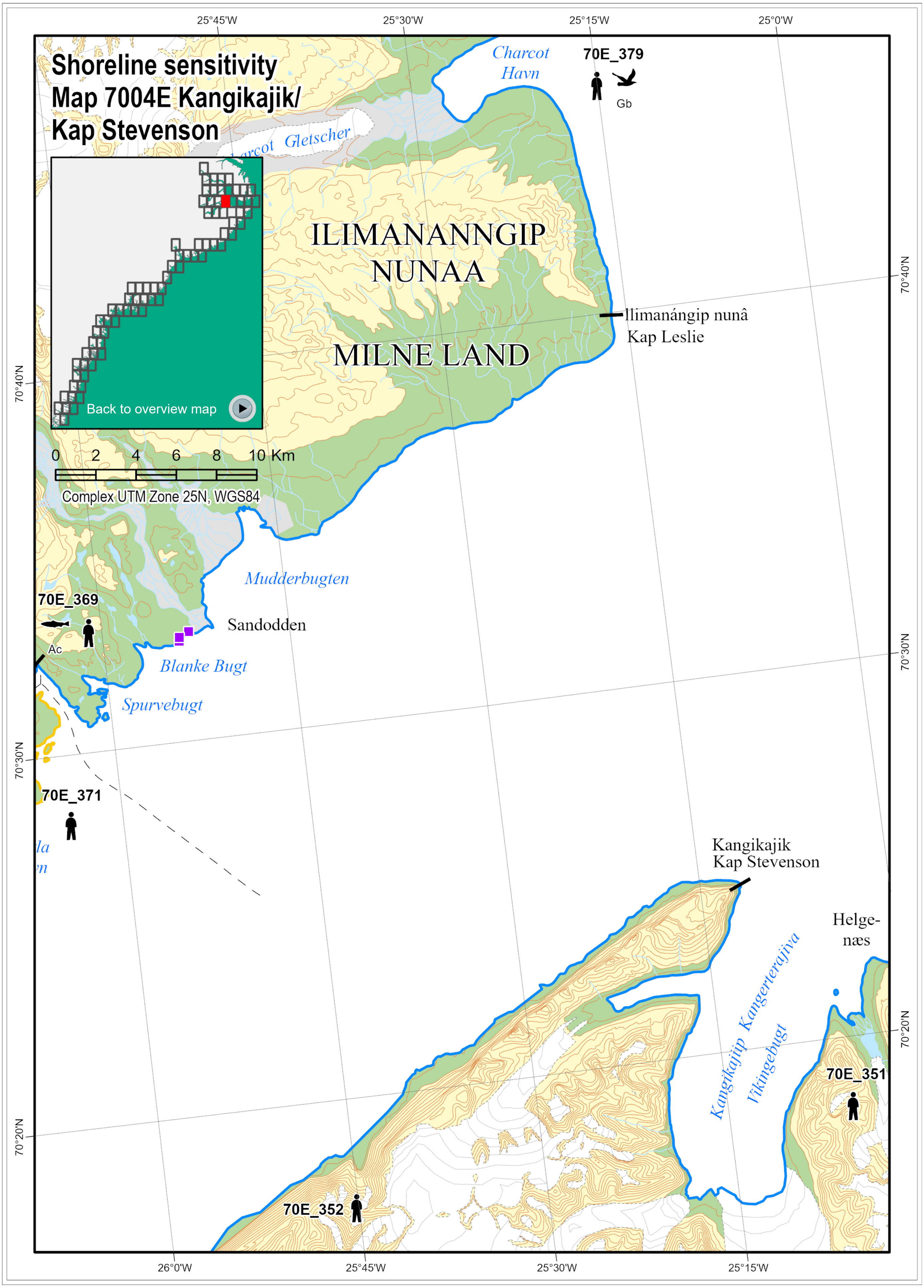
Shorelines shown on this map are predominantly rock and talus with moderate to high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 7003E Fønfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
27°0'W
26°45'W
26°30'W
26°15'W
26°0'W
70°50'N
70°40'N
70°30'N
70°20'N
ILIMANANNGIP NUNAA
MILNE LAND
Rensund
Danmark Ø
Ujuaakajiip Nunaa
Hekla Havn
Føn-bugt
Ujuaakajiip Kangertiva
Fønfjord
Falkepynt
Stejlpynt
GÅSELAND
Ujuaakajiip
Nunaata Akia
Gåsepynt



Shoreline sensitivity
Map 7004E Kangikajik/
Kap Stevenson
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°45'W
25°30'W
25°15'W
25°0'W
26°0'W
70°40'N
70°30'N
70°20'N
Charcot
Havn
70E_379
Gb
Gletscher
ILIMANANNGIP
NUNAA
MILNE LAND
Ilimanángip nunâ
Kap Leslie
Mudderbugten
70E_369
Ac
Sandodden
Blanke Bugt
Spurvebugt
70E_371
Kangikajik
Kap Stevenson
Helge-
næs
Kangikajiip Kangerterajiva
Vikingebugt
70E_351
70E_352

8.64 Map 7004E – Kangikajik/Kap Stevenson

Shoreline sensitivity map

Human use

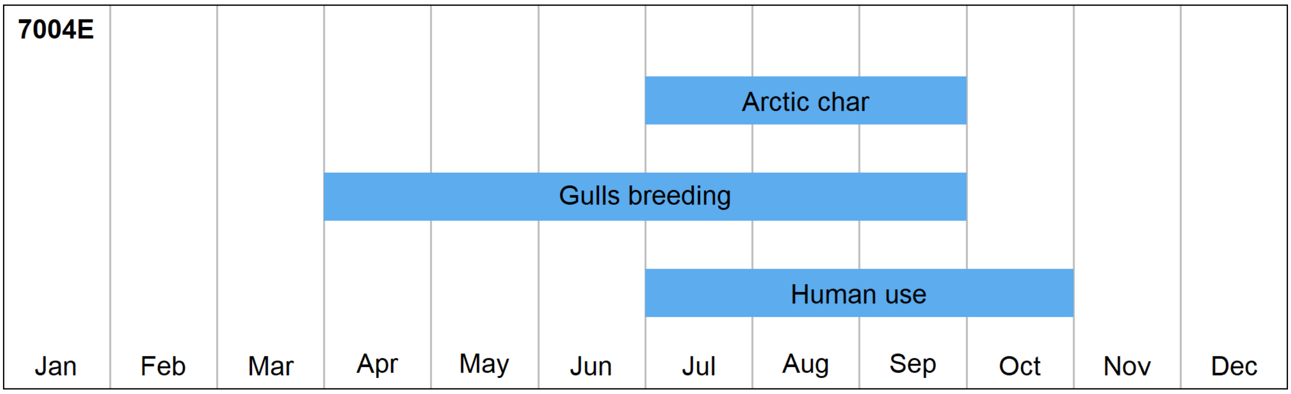
70E_351	Narwhal hunting sometimes takes place in Kangikajiip Kangerterajiva (Vikingebugt) during the late open water season (Sep-Oct). Tourism: Cruise ships visit Vikingebugt in summer to spot polar bears.
70E_352	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
70E_369	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_371	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). During summer cruise ships circling Milne Land, and locals travelling to/from Ankervig/Hjørnedal, often stop at Danmark Ø.
70E_379	Hunters may use this area during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

Gb70E_379	1 colony of Arctic terns
Ac70E_369	Important Arctic char river

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_351	11	Extreme
70E_352	8	Low
70E_369	7	Low
70E_371	18	High
70E_379	8	Low



Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

The eastern waters on this map area are Scoresby Sund. This and the adjacent fjords are covered by shorefast ice usually until mid-June or July and ice-free until early October. Scoresby Sunds approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

It is possible to anchor in Charcot Havn, on the S side of the bay, while other parts of the bay are not good for anchorage due to icebergs. Mudderbugten has been reported as anchorage (Appendix E).

Shorelines in this area are predominantly talus and tidal flats allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

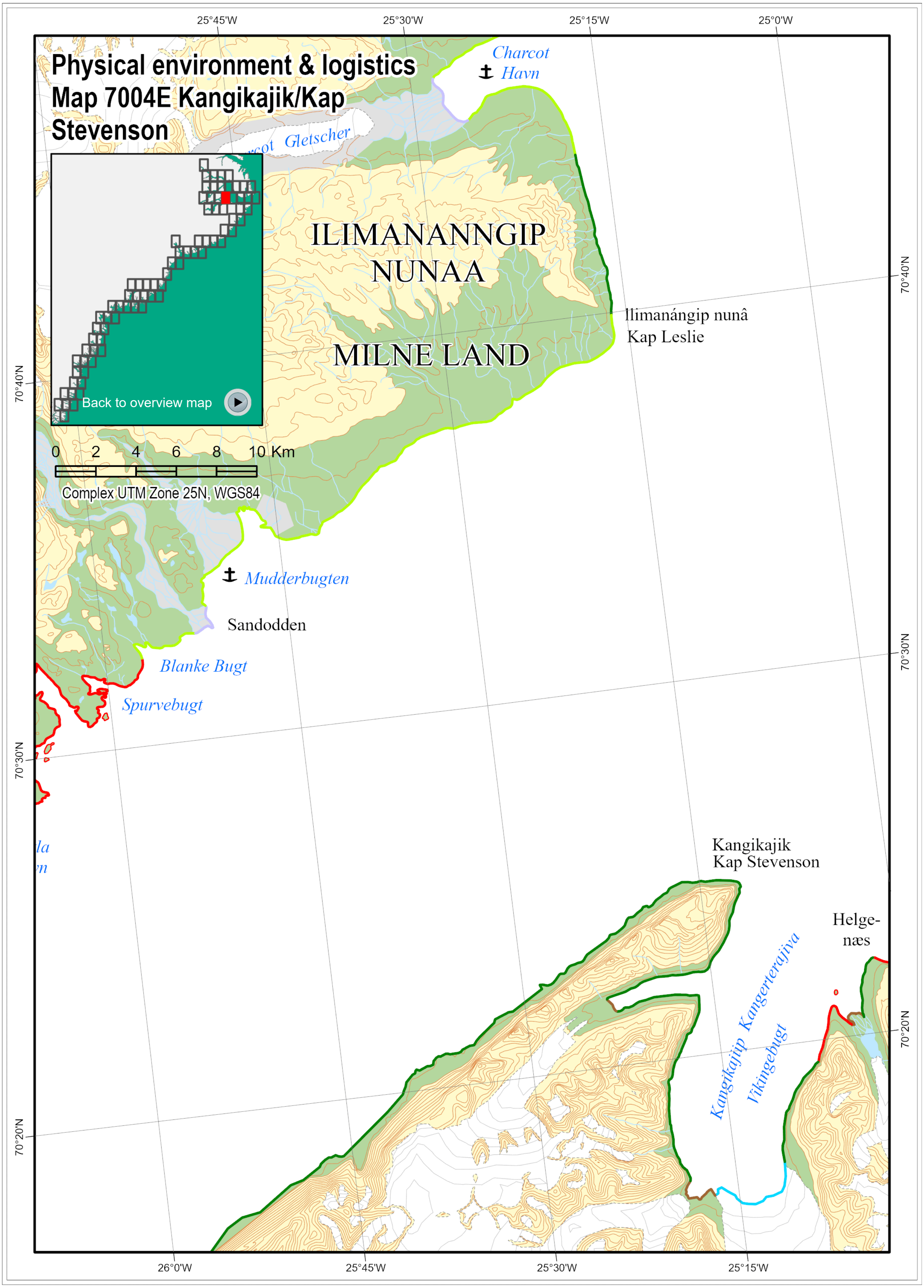
There are no airports on this map area, but there is an airport on map area 7056 to the E.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.


Physical environment & logistics
Map 7004E Kangikajik/Kap Stevenson
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°45'W
25°30'W
25°15'W
25°0'W
26°0'W
70°40'N
70°30'N
70°20'N
Charcot Havn
Gletscher
ILIMANANNGIP NUNAA
MILNE LAND
Ilimanángip nunâ
Kap Leslie
Mudderbugten
Sandodden
Blanke Bugt
Spurvebugt
Kangikajik
Kap Stevenson
Helge-
næs
Kangikajiip Kangerterajiva
Vikingebugt

Shorelines shown on this map are predominantly talus and tidal flats with mostly high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

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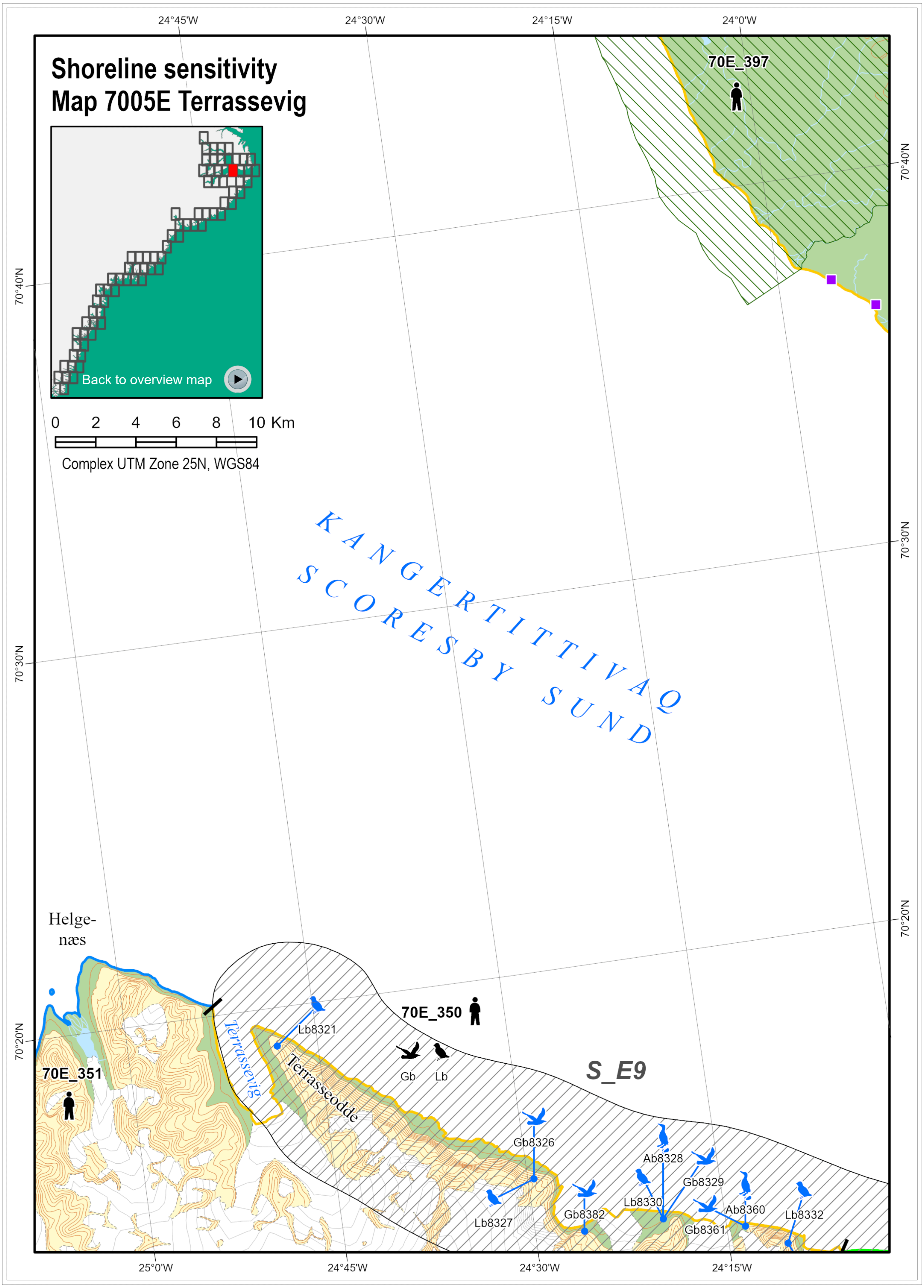


Shoreline sensitivity
Map 7005E Terrassevig
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°45'W
24°30'W
24°15'W
24°0'W
25°0'W
70°40'N
70°30'N
70°20'N
70E_397
KANGERTITTIVAQ
SCORESBY SUND
Helge-
næs
70E_351
70E_350
Terrassevig
Terrasseodde
S_E9
Gb
Lb
Lb8321
Gb8326
Lb8327
Gb8382
Lb8330
Ab8328
Gb8329
Gb8361
Ab8360
Lb8332

8.65 Map 7005E – Terrassevig

Shoreline sensitivity map

Human use

70E_350	Narwhal hunting sometimes takes place in Terrasse Vig in Sep-Oct. Depending on the size and location of the polynya, broad spectrum ice edge hunting may take place in Apr-Jun. Tourism in the area.
70E_351	Narwhal hunting sometimes takes place in Kangikajiip Kangerterajiva (Vikingebugt) during the late open water season (Sep-Oct). Tourism: Cruise ships visit Vikingebugt in summer to spot polar bears.
70E_397	Traffic corridor for hunters travelling between Ittoqqortoormiit and Kangertertivarmiit (Sydkap), and occasional muskox hunting along coast. Tourism in the area.

Species occurrence

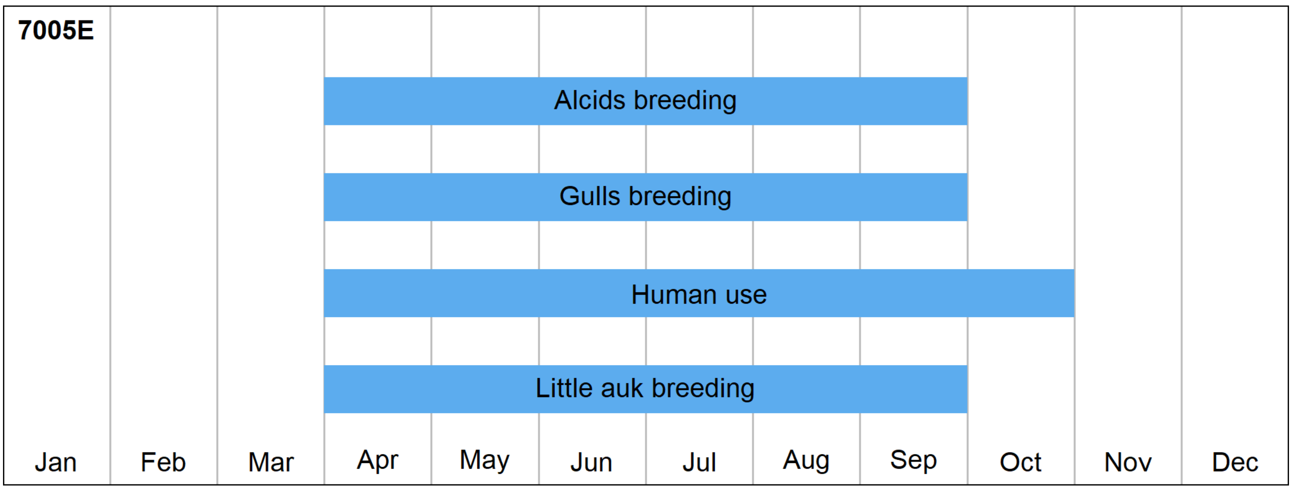
Gb70E_350	5 colonies of glaucous gulls
Lb70E_350	4 colonies of little auks

Site specific occurrence: blue icons

Ab8328 **(SE_9)**, Ab8360 **(SE_9)**	Breeding black guillemots
Gb8326**(SE_9)**, Gb8329 **(SE_9)**	Breeding glaucous gulls
Gb8331**(SE_9)**, Gb8361 **(SE_9)**	Breeding glaucous gulls
Gb8382 **(SE_9)**	Breeding glaucous gulls
Lb8321 **(SE_9)**, Lb8327 **(SE_9)**	Breeding little auks
Lb8330, **(SE_9)** Lb8332 **(SE_9)**	Breeding little auks

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_350	19	Extreme
70E_351	11	Extreme
70E_397	20	High



Physical environment and logistics, 7005E – Terrassevig

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

The waters on this map area are Scoresby Sund, covered by shorefast ice usually until mid-June or July and ice-free until early October; its approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

A ship has anchored off Vandreblokken on the coast to the NE on the map area.

Shorelines in this area are a mix of rock, talus, and moraine on the south coast of Scoresby Sund, and tidal flats on the north coast: the former allows little opportunity for marine access, the latter may be accessed but site surveys at the time of an incident will be required to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the E and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

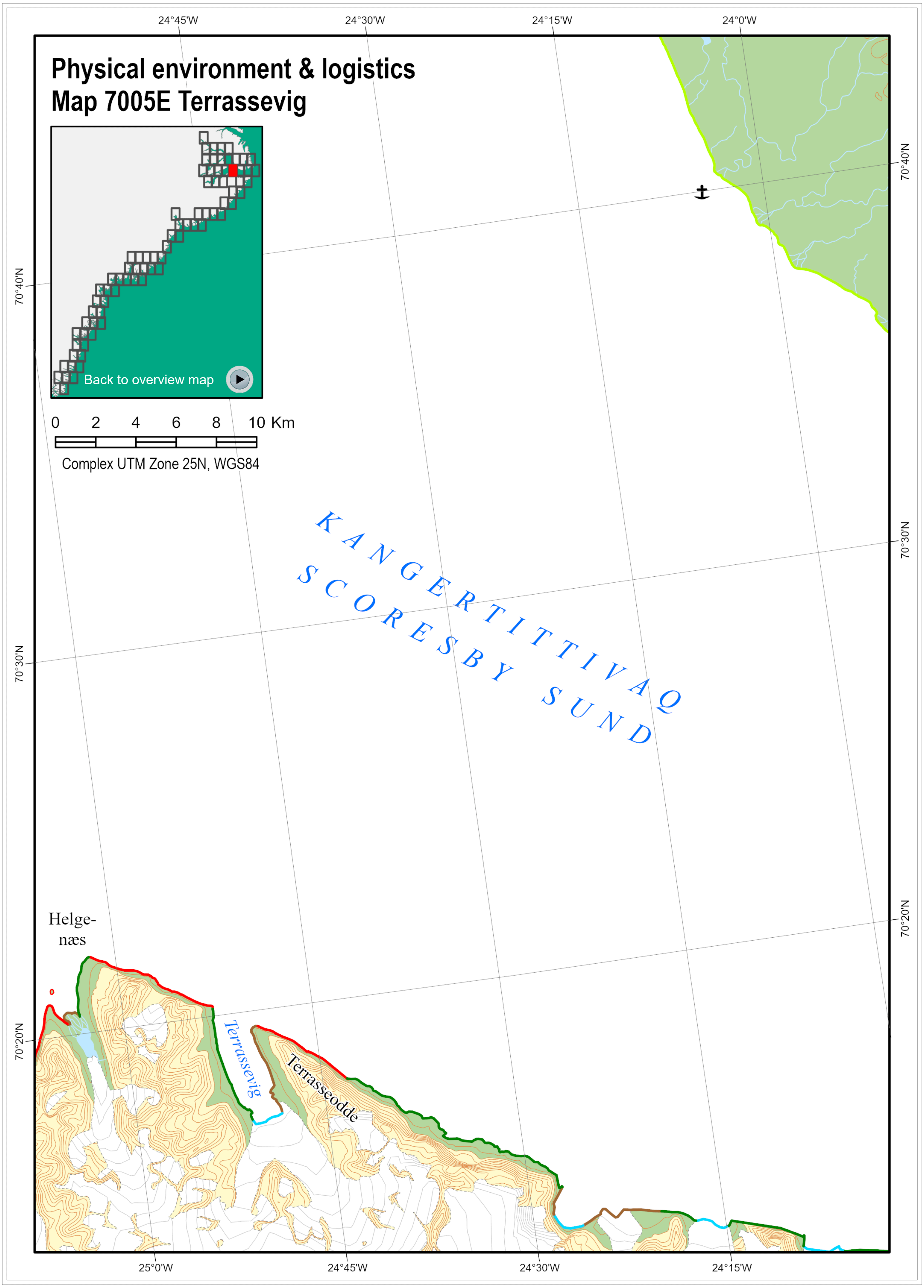
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly talus, rock, and tidal flats with mostly high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations on the incoming high tide on the tidal flats.


Physical environment & logistics
Map 7005E Terrassevig
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°45'W
24°30'W
24°15'W
24°0'W
25°0'W
70°40'N
70°30'N
70°20'N
KANGERTITTIVAQ
SCORESBY SUND
Helge-
næs
Terrassevig
Terrasseodde

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

The waters within the fjord ca 70°18′N, 24°47′W (Terrassevig) could be considered as potential *safe havens* given its relatively lower sensitivity rating, but the waters are not charted. Exclusion booming would be impractical due to the width of the channel; however, the shape of the channel may afford natural containment depending on wind direction and tidal streams.

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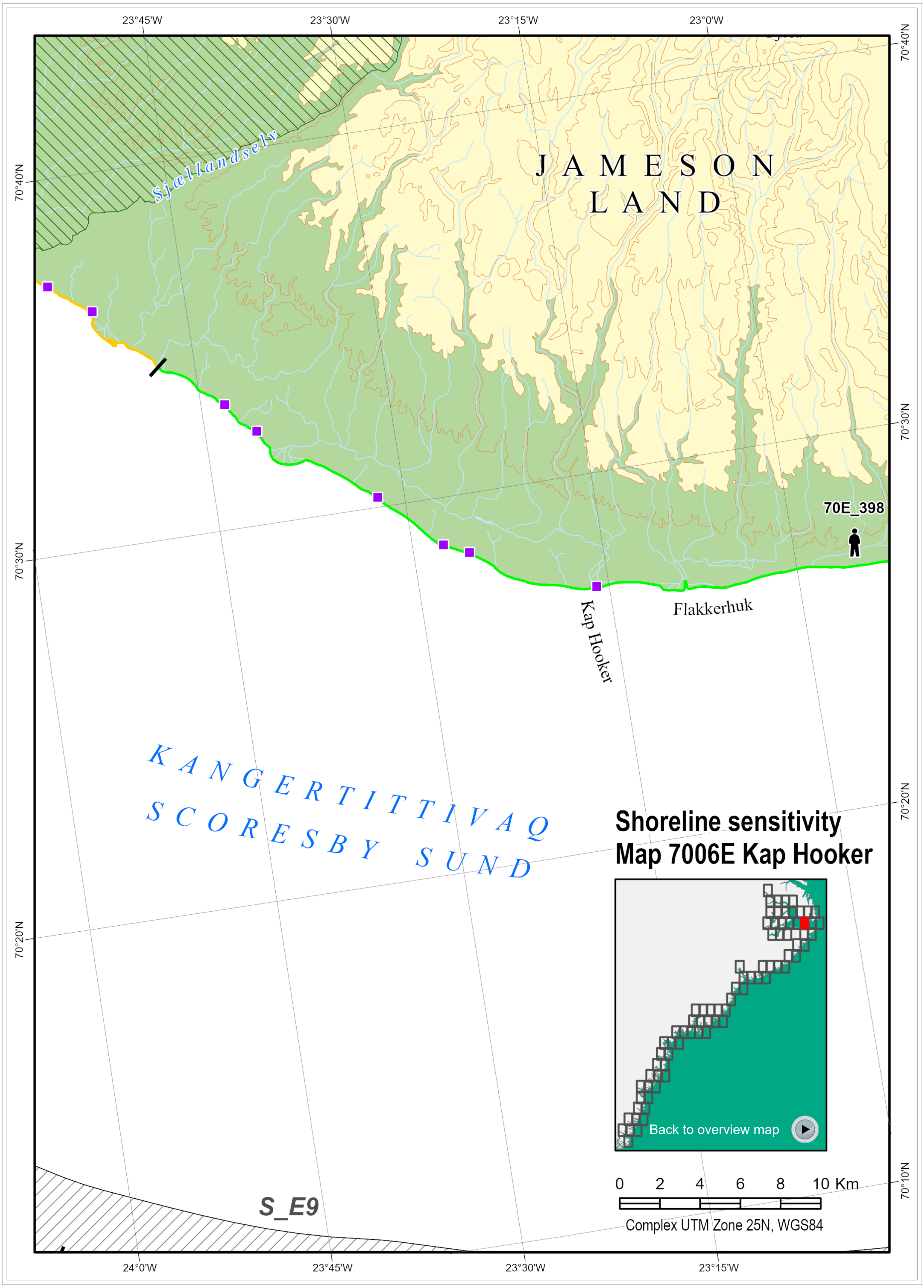
23°45'W
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Sjællandselv
J A M E S O N
L A N D
70E_398
Kap Hooker
Flakkerhuk
K A N G E R T I T T I V A Q
S C O R E S B Y S U N D
Shoreline sensitivity
Map 7006E Kap Hooker
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
S_E9
24°0'W
23°45'W
23°30'W
23°15'W

8.66 Map 7006E – Kap Hooker

Shoreline sensitivity map

Human use

70E_397	Traffic corridor for hunters travelling between Ittoqqortoormiit and Kangertertivarmiit (Sydkap), and occasional muskox hunting along coast. Tourism in the area.
70E_398	Highly important hunting area used most of the year for hunting a wide range of different species (especially eastern part). Depending on the size and location of the polynya, broad spectrum ice edge hunting takes place in Apr-Jun. Tourism in the area

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_397	20	High
70E_398	17	Moderate

7006E											
Human use											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 7006E – Kap Hooker

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

The waters on this map area are Scoresby Sund, covered by shorefast ice usually until mid-June or July and ice-free until early October; its approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

There are no anchorages identified in this map area.

Shorelines in this area are exclusively tidal flats, which may allow opportunity for marine access; site surveys at the time of an incident will be required to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the E and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

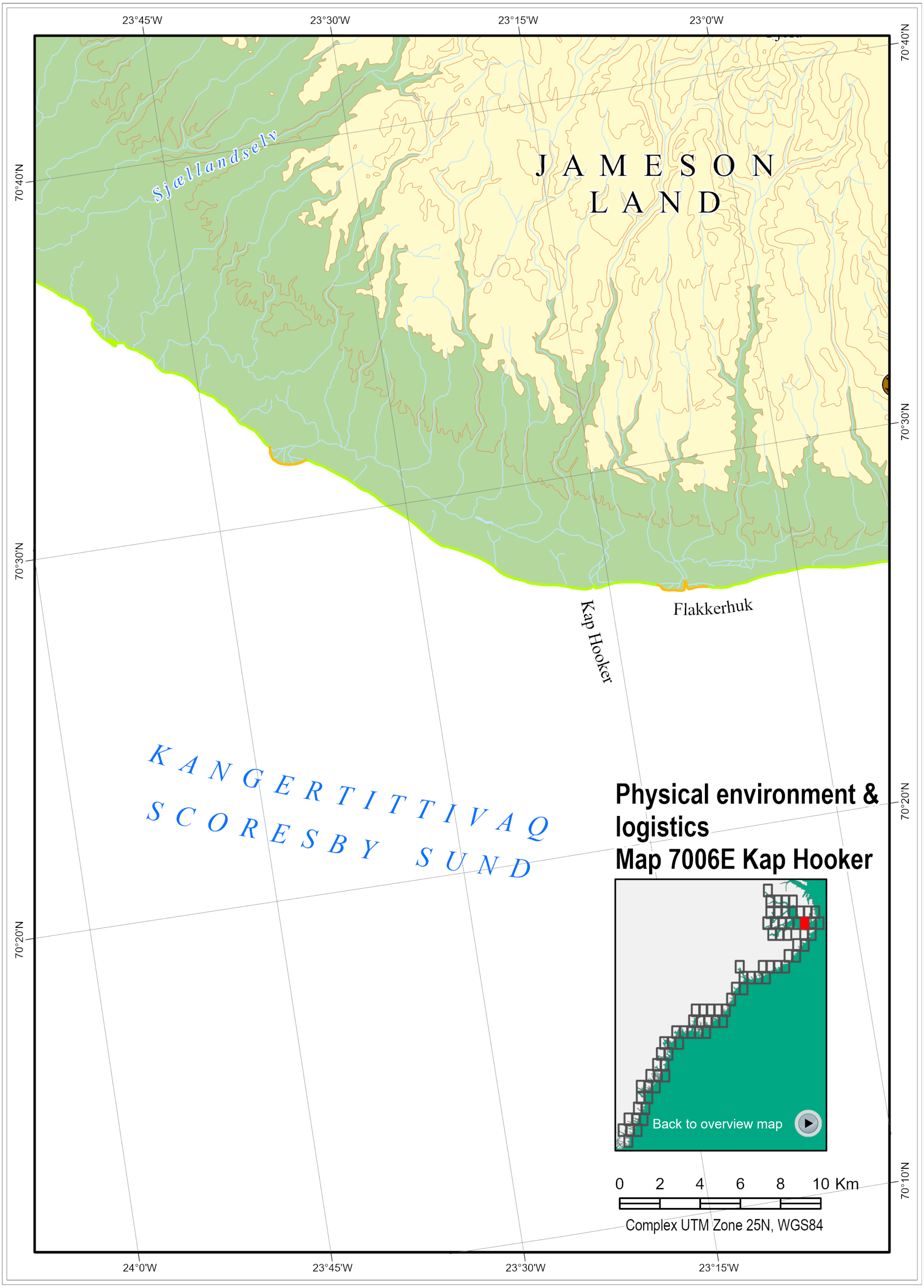
There are no opportunities for nearshore booming in this map area.

Shorelines shown on this map are exclusively tidal flats with high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations on the incoming high tide on the tidal flats.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.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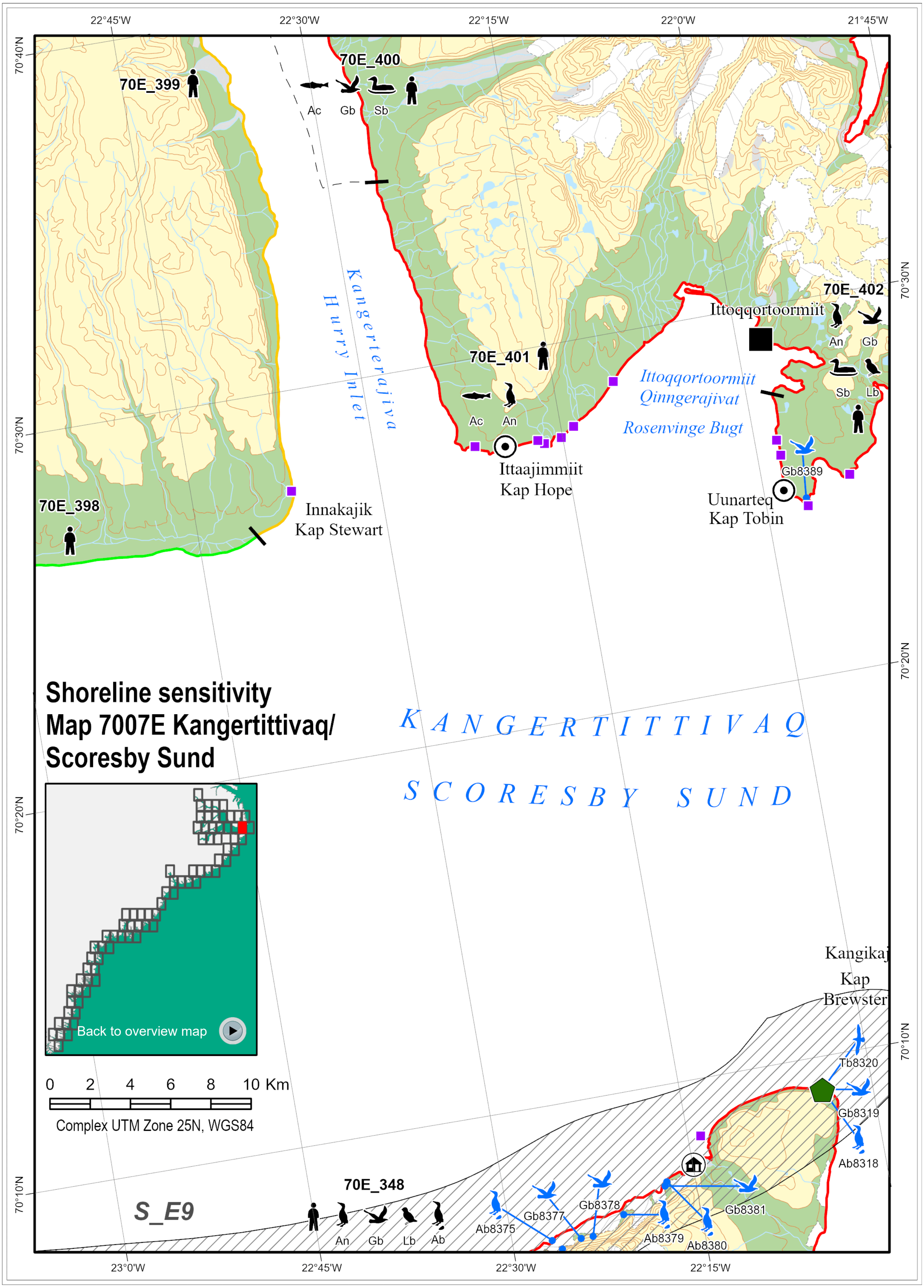
23°30'W
23°15'W
23°0'W
70°40'N
70°30'N
70°20'N
70°10'N
24°0'W
23°45'W
23°30'W
23°15'W
Sjællandselv
JAMESON LAND
Kap Hooker
Flakkerhuk
KANGERTITTIVAQ
SCORESBY SUND
Physical environment & logistics
Map 7006E Kap Hooker
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84



Shoreline sensitivity
Map 7007E Kangertittivaq/
Scoresby Sund
70E_399
70E_400
70E_401
70E_402
70E_398
70E_348
Ac
Gb
Sb
An
Lb
Ab
Kangerterajiva
Hurry Inlet
Ittoqqortoormiit
Ittoqqortoormiit Qinngerajivat
Rosenvinge Bugt
Ittaajimmiit
Kap Hope
Innakajik
Kap Stewart
Uunarteq
Kap Tobin
Gb8389
KANGERTITTIVAQ
SCORESBY SUND
Kangikaj
Kap
Brewster
Tb8320
Gb8319
Ab8318
Gb8381
Ab8380
Ab8379
Gb8378
Gb8377
Ab8375
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
S_E9
22°45'W
22°30'W
22°15'W
22°0'W
21°45'W
23°0'W
70°40'N
70°30'N
70°20'N
70°10'N

8.67 Map 7007E – Kangertittivaq/Scoresby Sund

Shoreline sensitivity map

Human use

70E_347	Ice edge hunting of various species may take place off Kangikajik (Kap Brewster) in Apr-Jun. Polar bear hunting from late Jan to early Jun. Hunters travel through area in Jun-Sep in connection with narwhal hunting futher south.
70E_348	Ice edge hunting of various species often takes place in this area during Apr-Jun. Kangikajik (Kap Brewster) is an important polar bear hunting area with catches reported from late Jan to early Jun. Tourism in the area.
70E_398	Highly important hunting area used most of the year for hunting a wide range of different species (especially eastern part). Depending on the size and location of the polynya, broad spectrum ice edge hunting takes place in Apr-Jun. Tourism in the area
70E_399, 70E_400	Extremely important hunting area used most of the year for hunting a wide range of different species. Ringed seal hunting in Sep-Nov and broad spektrum ice edge hunting in Apr-Jun is especially important. Tourism in the area.
70E_401, 70E_402	Extremely important hunting area used throughout the year for hunting a wide range of different species. Tourism in the area.
70E_403	Area visited by hunters throughout the year. Important for polar bear hunting from late Jan to Jun. Tourist activities in the area, especially dog sledge trips during winter and spring.

Species occurrence

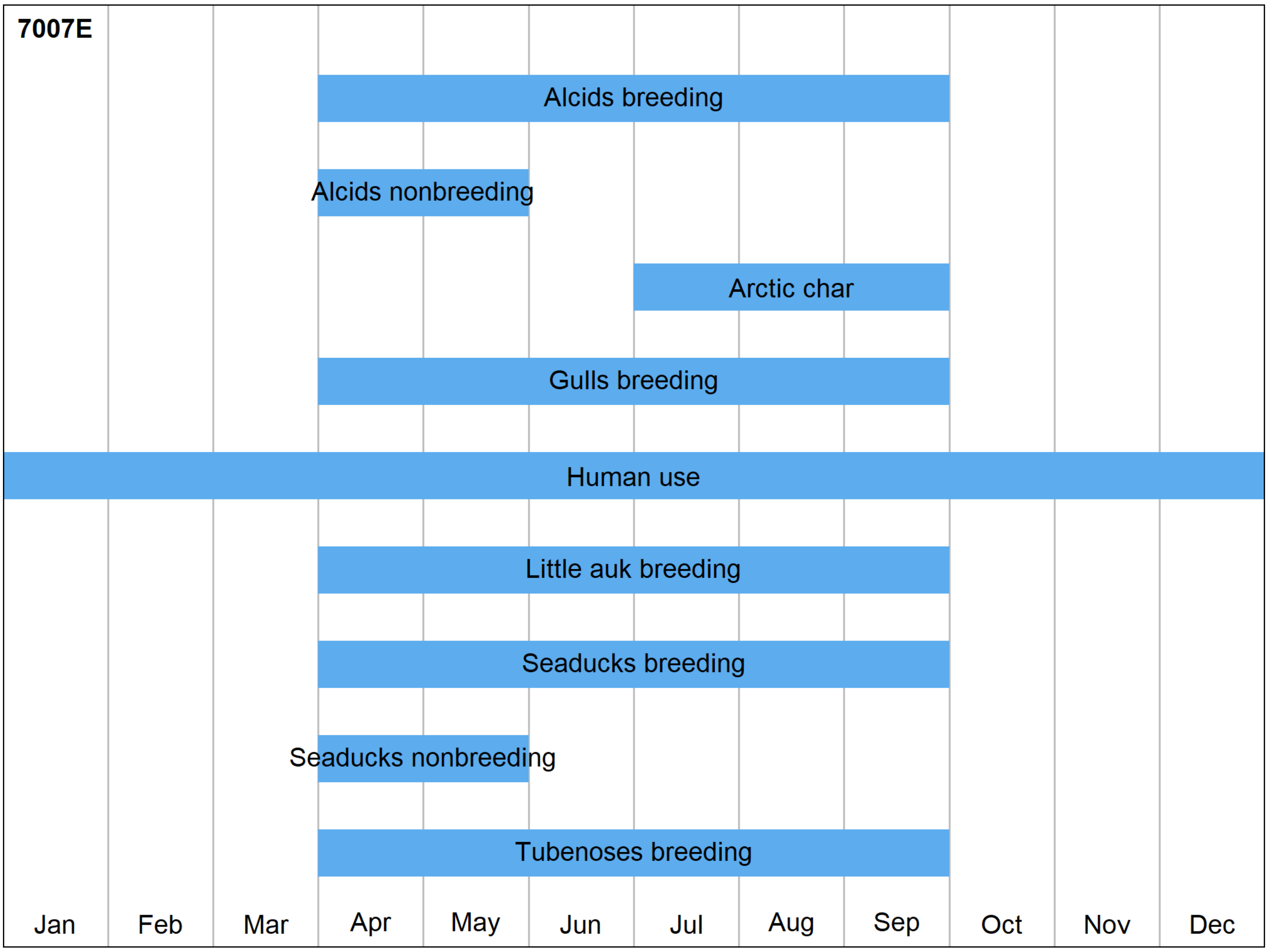
Sb70E_400	1 colony of common eiders
Ab69E_347	1 colony of black guillemots and 1 colony of thick-billed murres
Ab70E_403	2 colonies of black guillemots and 1 colony of thick-billed murres
Ab70E_348	7 colonies of black guillemots
An70E_347, An70E_348	Concentrations of little auks and thick-billed murres
An70E_401 – An70E_403	Concentrations of little auks and thick-billed murres
Ac70E_400, Ac70E_401	Important Arctic char river
Gb69E_347, Gb70E_403	1 colony of black-legged kittiwakes and 1 colony of glaucous gulls
Gb70E_348	11 colonies of glaucous gulls
Gb70E_402	2 colonies of Arctic terns
Gb70E_400	2 colonies of Arctic terns, 1 colony of lesser black-backed gulls and 1 colony of glaucous gulls
Lb70E_402	1 colony of little auks
Lb70E_348	3 colonies of little auks
Sb70E_402	2 colonies of common eiders
Sn70E_347	Spring concentrations of common eider and king eider
Tb69E_347, Tb70E_403	1 colony of northern fulmars

Site specific occurrence: blue icons

Ab8318 **(SE_9)**	Breeding black guillemots and thick-billed murres
Ab8375 **(SE_9)**, Ab8379 **(SE_9)**	Breeding black guillemots
Ab8380 **(SE_9)**	Breeding black guillemots
Gb8319 **(SE_9)**	Breeding glaucous gulls and black-legged kittiwakes
Gb8376, Gb8377 **(SE_9)**	Breeding glaucous gulls
Gb8378 **(SE_9)**	Breeding glaucous gulls
Gb8381 **(SE_9)**	Breeding glaucous gulls
Gb8389	Breeding Arctic terns
Tb8320 **(SE_9)**	Breeding northern fulmars

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_347	57	Extreme
70E_348	40	Extreme
70E_398	17	Moderate
70E_399	24	High
70E_400	56	Extreme
70E_401	46	Extreme
70E_402	82	Extreme
70E_403	36	Extreme



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Operational Map, 7007E – Kangertittivaq/Scoresby Sund

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist (see nautical charts 2500 and 2600). Local knowledge is essential for navigation.

The waters on this map area are Scoresby Sund, covered by shorefast ice usually until mid-June or July and ice-free until early October; its approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. However, there is a polynya in the mouth of the sound, with open waters from early spring. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

An anchorage berth, located near the head of Hurry Inlet, is indicated by the intersection of the alignments, bearing 040° and 105°, of two pairs of range beacons which are situated on the E side of the inlet. Amdrup Havn just E of Ittoqqortoormiit is mapped on nautical chart 2659. See also Appendix E for more anchorages identified in this map area.

Shorelines in this area are predominantly talus and tidal flats allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

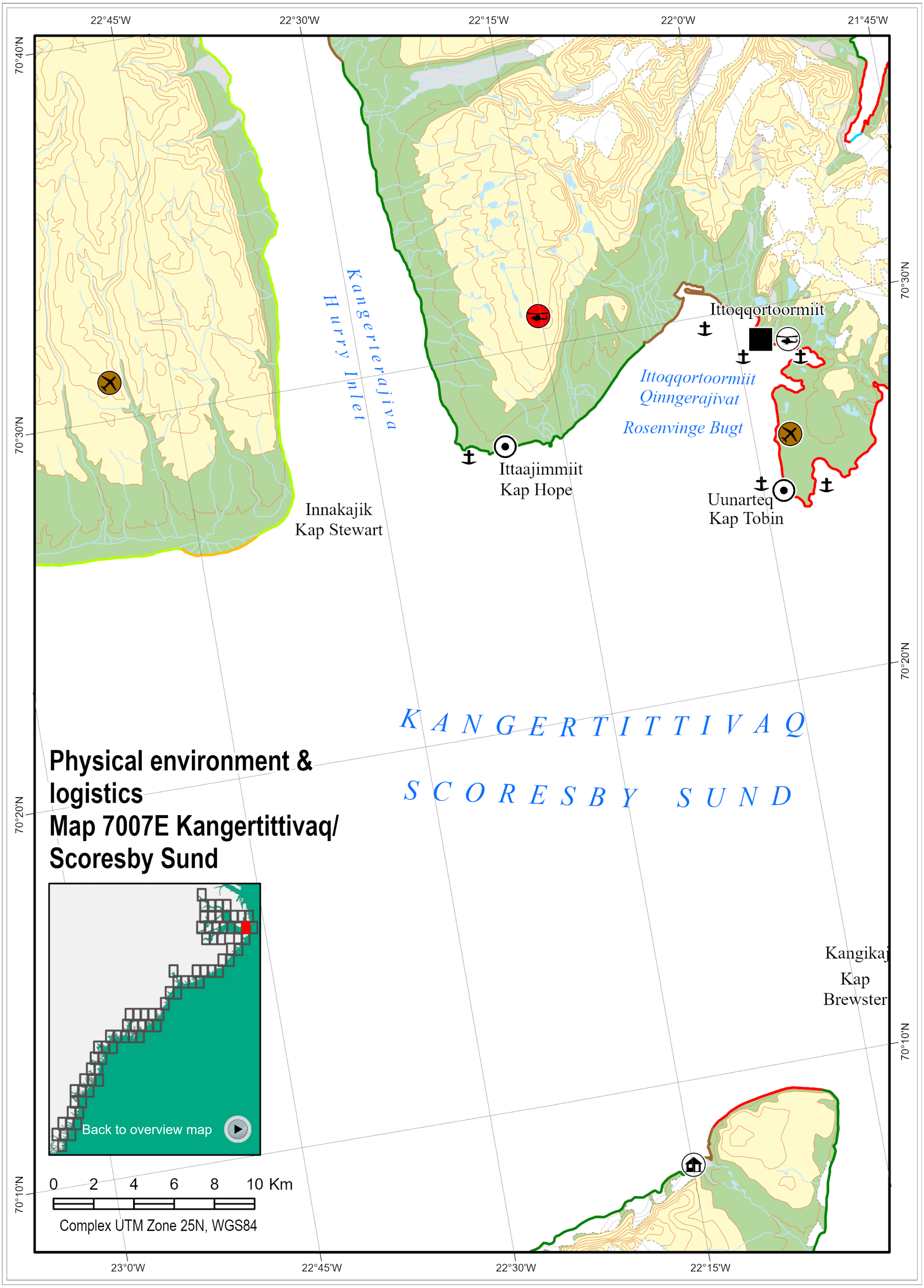
There is a town Ittoqqortoormiit (Scoresbysund) on this map area. It is the second largest settlement on the east coast of Greenland. The harbour facilities are meagre, see details on nautical chart 2650 and in the Greenland Harbour Pilot (https://www.gronlandskehavnelods.dk/Details/81).

There is an abandoned weather station (Uunarteq/Kap Tobin) and an abandoned settlement (Ittaajimmiit/Kap Hope) close to the town. See the Greenland Harbour Pilot for harbour facilities at these sites (respectively https://www.gronlandskehavnelods.dk/Details/82?&lang=ENG and https://www.gronlandskehavnelods.dk/Details/83.

There is a heliport at the town of Ittoqqortoormiit, and a STOL-airstrip SE of the town. There is an airport to the WNW at Nerlerit Inaat on map area 7056, an airstrip in Jættedal and a helipad at a tele-infrastructure (Appendix F).

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.


Physical environment & logistics
Map 7007E Kangertittivaq/ Scoresby Sund
22°45'W
22°30'W
22°15'W
22°0'W
21°45'W
23°0'W
70°40'N
70°30'N
70°20'N
70°10'N
Kangerterajiva
Hurry Inlet
Ittoqqortoormiit
Ittoqqortoormiit Qinngerajivat
Rosenvinge Bugt
Ittaajimmiit
Kap Hope
Innakajik
Kap Stewart
Uunarteq
Kap Tobin
KANGERTITTIVAQ
SCORESBY SUND
Kangikaj
Kap Brewster
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly talus and tidal flats with mostly high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations on the incoming high tide on the tidal flats.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.

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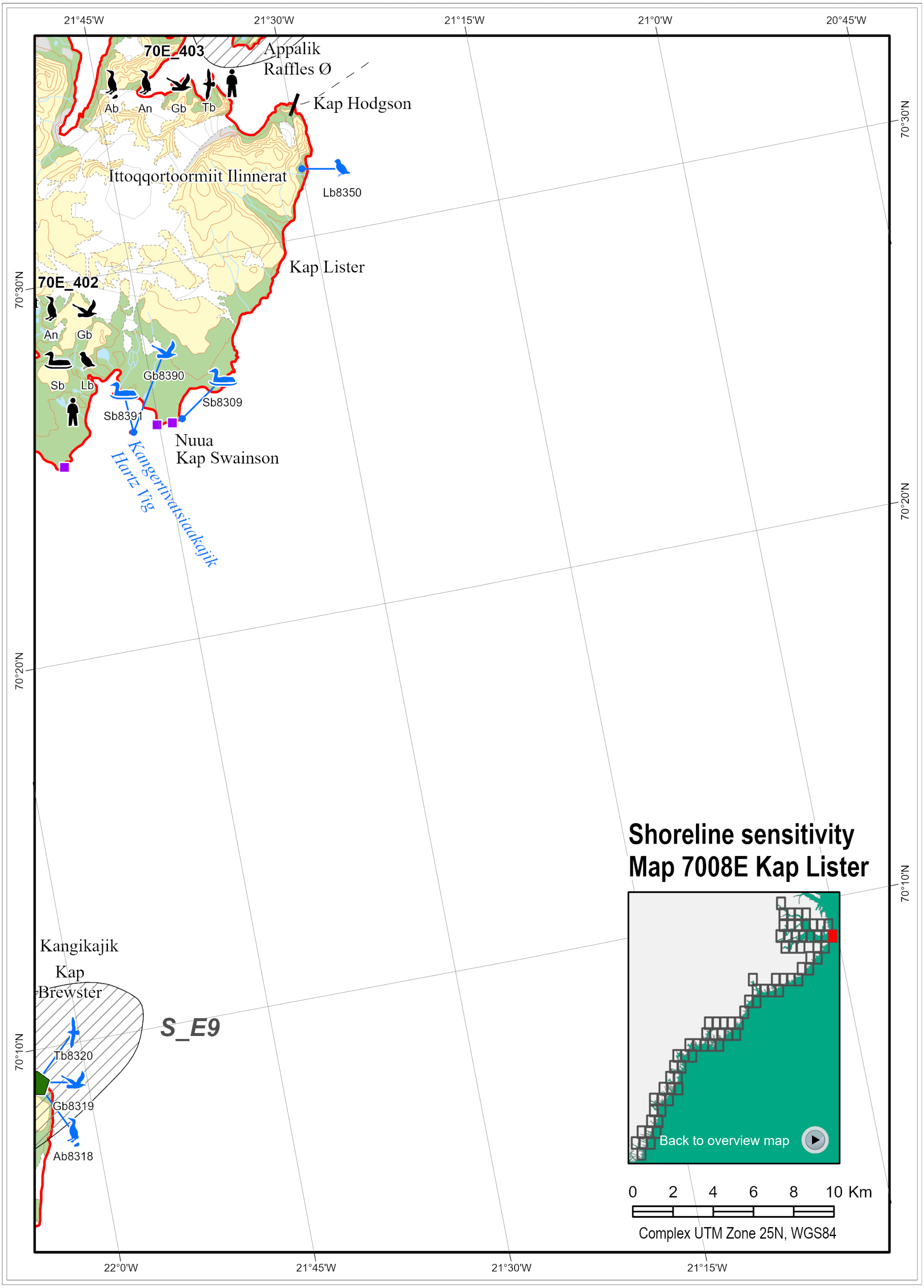

21°45'W
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21°45'W
21°30'W
21°15'W
70E_403
Appalik
Raffles Ø
Kap Hodgson
Ab
An
Gb
Tb
Ittoqqortoormiit Ilinnerat
Lb8350
Kap Lister
70E_402
An
Gb
Sb
Lb
Gb8390
Sb8309
Sb8391
Nuua
Kap Swainson
Kangertivatsiakajik
Hartz Vig
Kangikajik
Kap
Brewster
S_E9
Tb8320
Gb8319
Ab8318
Shoreline sensitivity
Map 7008E Kap Lister
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.68 Map 7008E – Kap Lister

Shoreline sensitivity map

Human use

70E_347	Ice edge hunting of various species may take place off Kangikajik (Kap Brewster) in Apr-Jun. Polar bear hunting from late Jan to early Jun. Hunters travel through area in Jun-Sep in connection with narwhal hunting futher south.
70E_402	Extremely important hunting area used throughout the year for hunting a wide range of different species. Tourism in the area.
70E_403	Area visited by hunters throughout the year. Important for polar bear hunting from late Jan to Jun. Tourist activities in the area, especially dog sledge trips during winter and spring.

Species occurrence

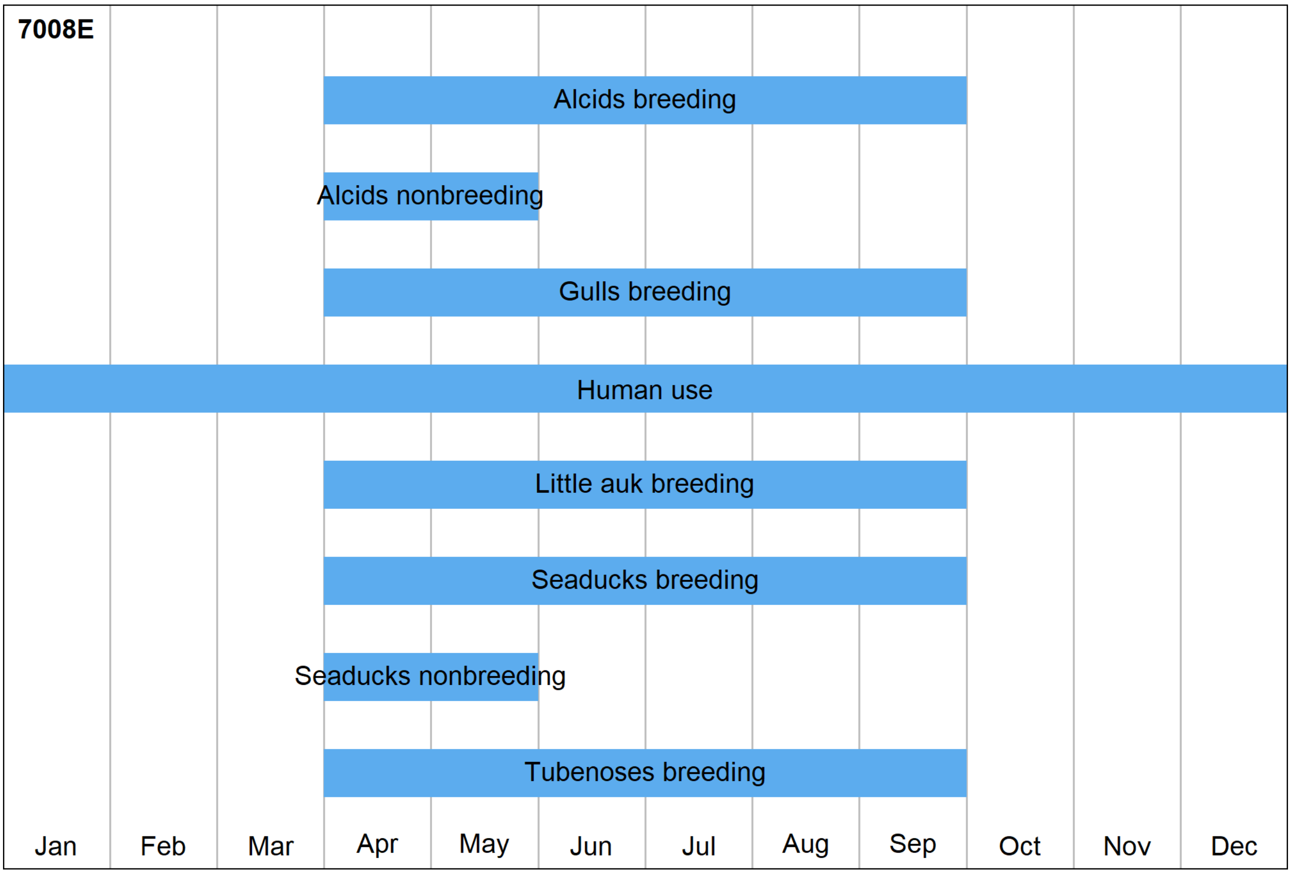
Ab69E_347	1 colony of black guillemots and 1 colony of thick-billed murres
Ab70E_403	2 colonies of black guillemots and 1 colony of thick-billed murres
An70E_347	Concentrations of little auks and thick-billed murres
An70E_402, An70E_403	Concentrations of little auks and thick-billed murres
Gb69E_347, Gb70E_403	1 colony of black-legged kittiwakes and 1 colony of glaucous gulls
Gb70E_402	2 colonies of Arctic terns
Lb70E_402	1 colony of little auks
Sb70E_402	2 colonies of common eiders
Sn70E_347	Spring concentrations of common eider and king eider
Tb69E_347, Tb70E_403	1 colony of northern fulmars

Site specific occurrence: blue icons

Ab8318 **(SE_9)**	Breeding black guillemots and thick-billed murres
Gb8319 **(SE_9)**	Breeding glaucous gulls and black-legged kittiwakes
Gb8390	Breeding Arctic terns
Lb8350	Breeding little auks
Sb8309, Sb8391	Breeding common eiders
Tb8320 **(SE_9)**	Breeding northern fulmars

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_347	57	Extreme
70E_402	82	Extreme
70E_403	36	Extreme



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Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2600). Local knowledge is essential for navigation.

These waters are the mouth of Scoresby Sund, where the ice cover is limited because of the presence of a polynya. However, the approaches to the east are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. There is a regular tidal current of considerable strength in the sound, but apparently only near the surface.

There is an anchorages in Hartz Vig and one (Thala Vig) right to the E of Kap Tobin (Appendix E).

Shorelines in this area are almost exclusively rock with some talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the NW and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

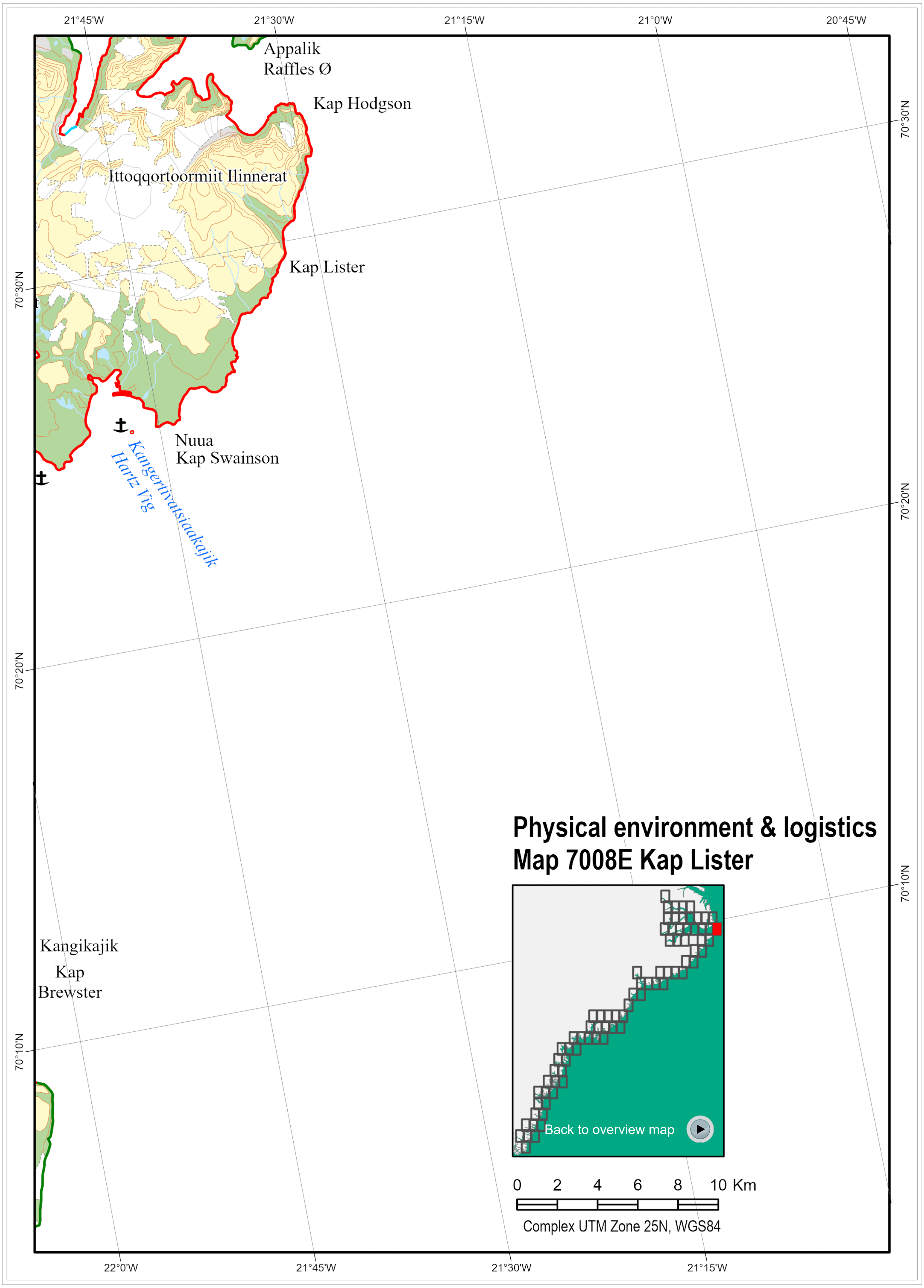
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are almost exclusively rock with some talus with mostly high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.



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Appalik
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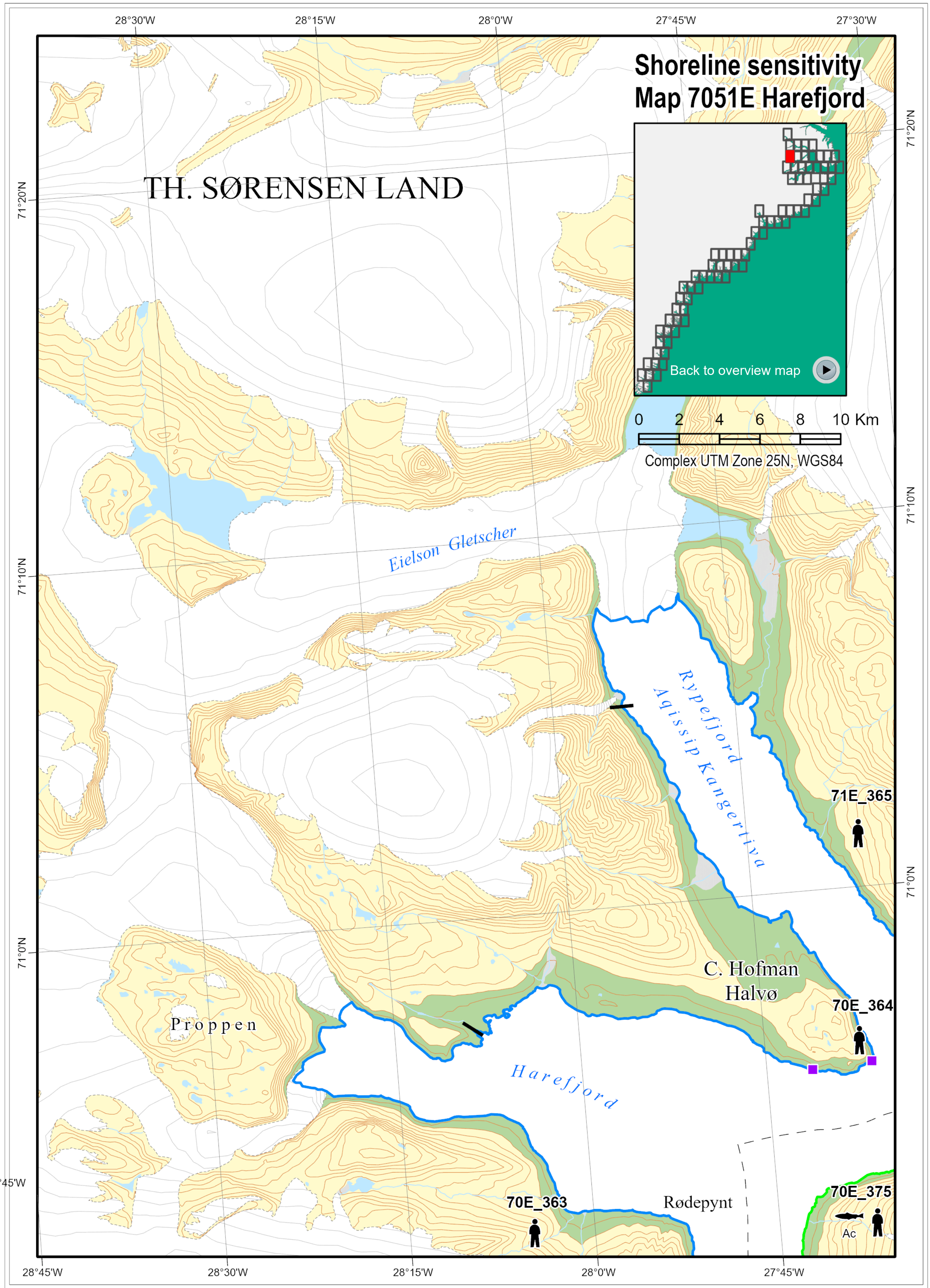
Ittoqqortoormiit Ilinnerat
Kap Lister
Nuua
Kap Swainson
Kangertivatsiaakajik
Hartz Vig
Kangikajik
Kap
Brewster
Physical environment & logistics
Map 7008E Kap Lister
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
22°0'W
21°45'W
21°30'W
21°15'W


Shoreline sensitivity
Map 7051E Harefjord
Back to overview map
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27°30'W
71°20'N
71°10'N
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28°45'W
TH. SØRENSEN LAND
Eielson Gletscher
Rypefjord
Aqissip Kangertiva
71E_365
C. Hofman
Halvø
70E_364
Proppen
Harefjord
70E_363
Rødepynt
70E_375
Ac

8.69 Map 7051E – Harefjord

Shoreline sensitivity map

Human use

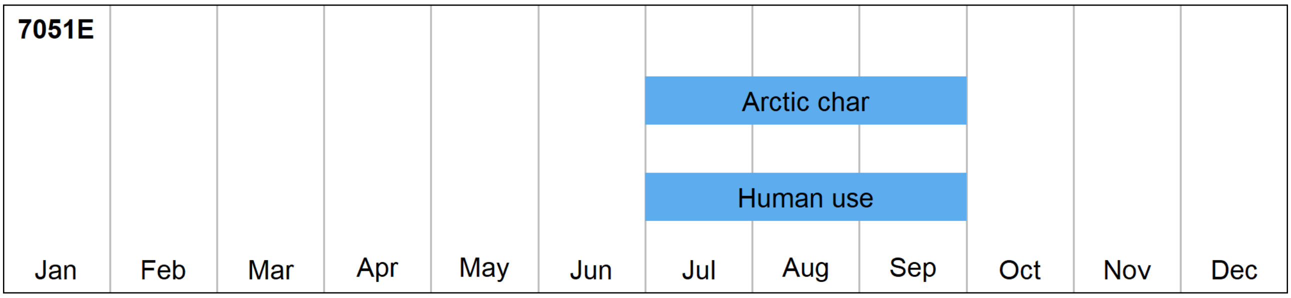
70E_363 – 71E_365	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_375	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

Ac70E_375	Important Arctic char river

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_363	9	Low
70E_364	13	Low
71E_365	12	Low
70E_375	15	Moderate



Physical environment and logistics, 7051E – Harefjord

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There are two sites where ships are known to have anchored in this map area (Appendix E).

Shorelines in this area are predominantly talus, rock, and moraine allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area. There is an airport on map area 7056 to the E and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

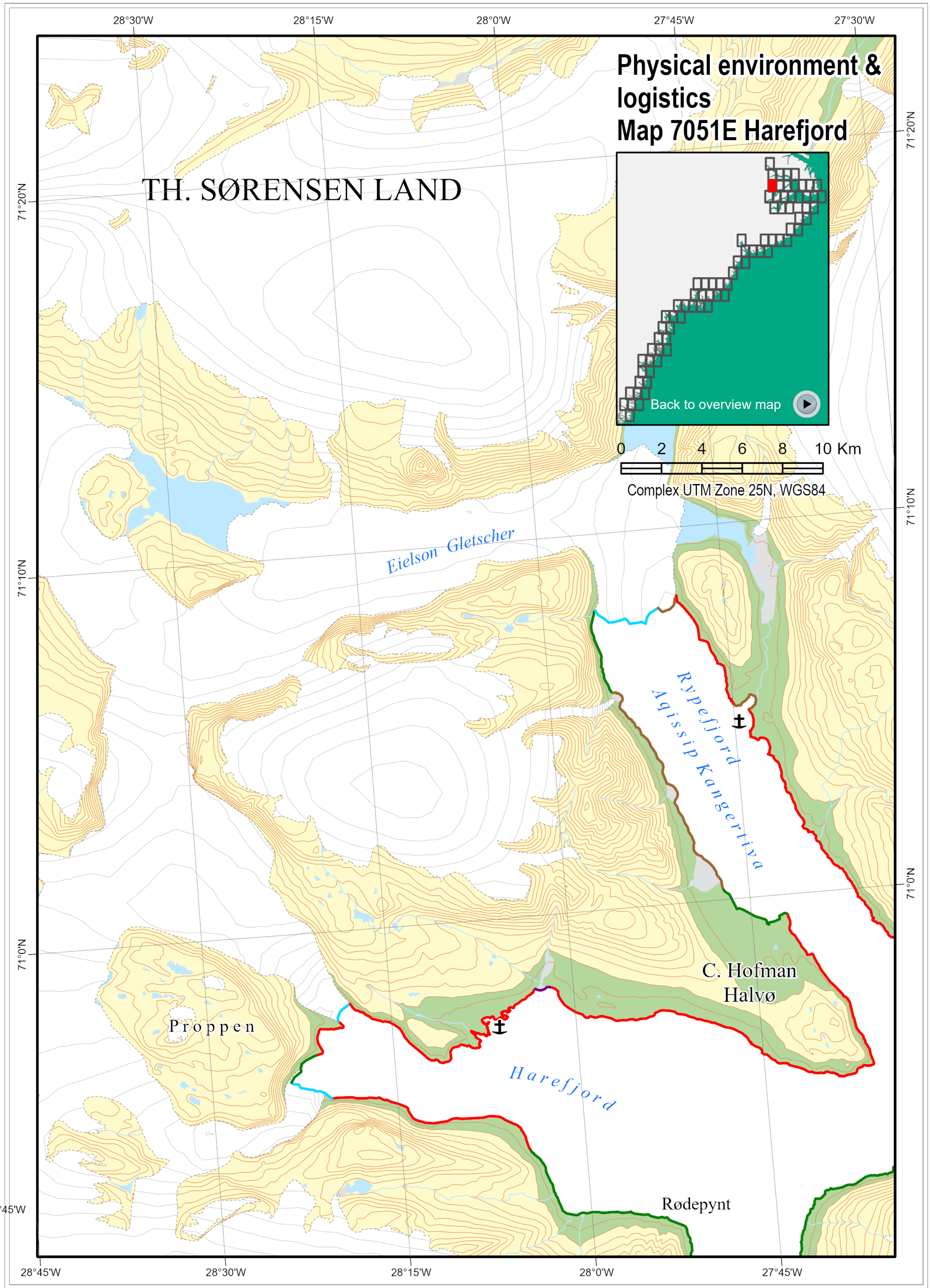
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly talus, rock, and moraine with mostly moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

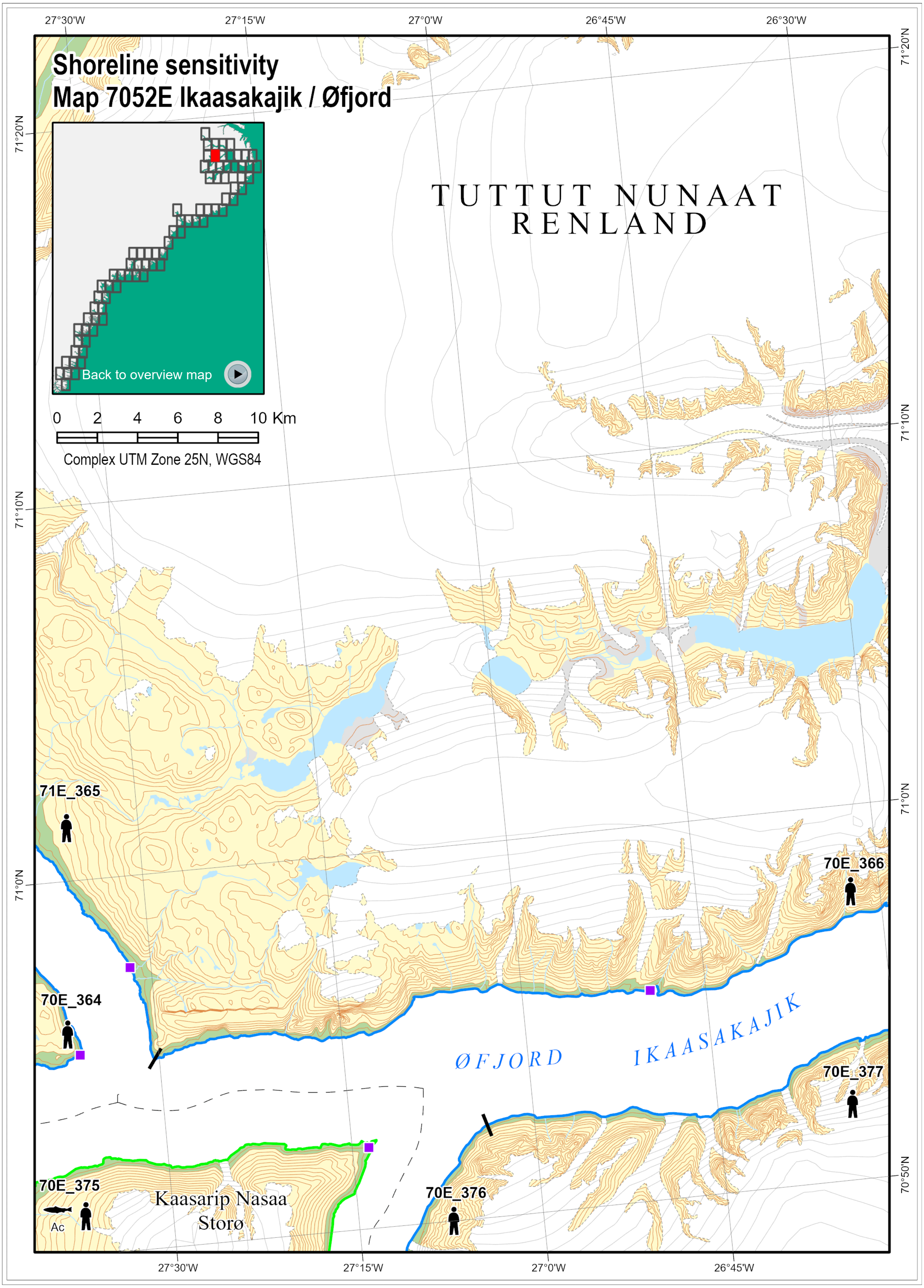
Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map.



Physical environment & logistics
Map 7051E Harefjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
TH. SØRENSEN LAND
Eielson Gletscher
Rypefjord
Aqissip Kangertiva
C. Hofman Halvø
Proppen
Harefjord
Rødepynt
28°30'W
28°15'W
28°0'W
27°45'W
27°30'W
71°20'N
71°10'N
71°0'N
28°45'W



Shoreline sensitivity
Map 7052E Ikaasakajik / Øfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
TUTTUT NUNAAT
RENLAND
71E_365
70E_364
70E_366
70E_377
70E_375
70E_376
Ac
ØFJORD
IKAASAKAJIK
Kaasarip Nasaa
Storø
27°30'W
27°15'W
27°0'W
26°45'W
26°30'W
71°20'N
71°10'N
71°0'N
70°50'N

8.70 Map 7052E – Ikaasakajik/Øfjord

Shoreline sensitivity map

Human use

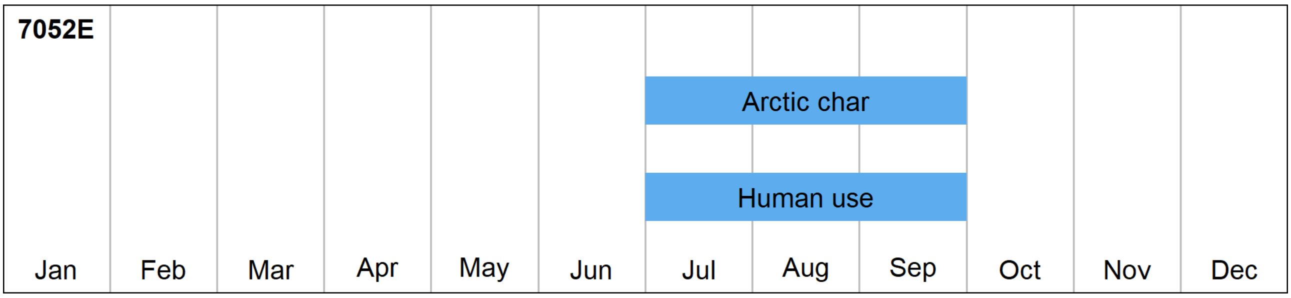
70E_364 – 70E_366	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_375 – 70E_377	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

Ac70E_375	Important Arctic char river

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_364	13	Low
71E_365	12	Low
70E_366	12	Low
70E_375	15	Moderate
70E_376	12	Low
70E_377	12	Low



Physical environment and logistics, 7052E – Ikaasakajik/Øfjord

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock with some talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the E and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

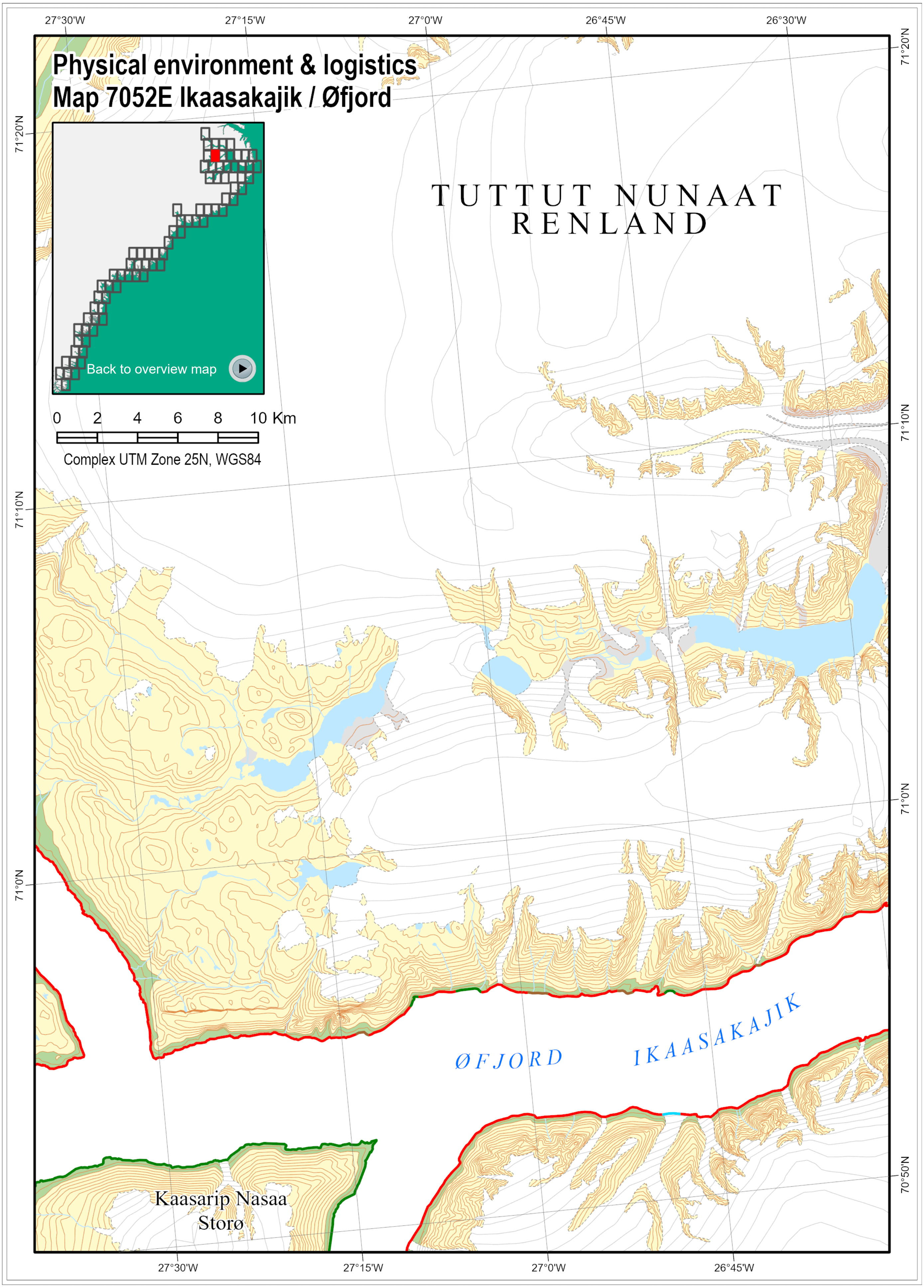
There are no opportunities for nearshore booming in this map area.

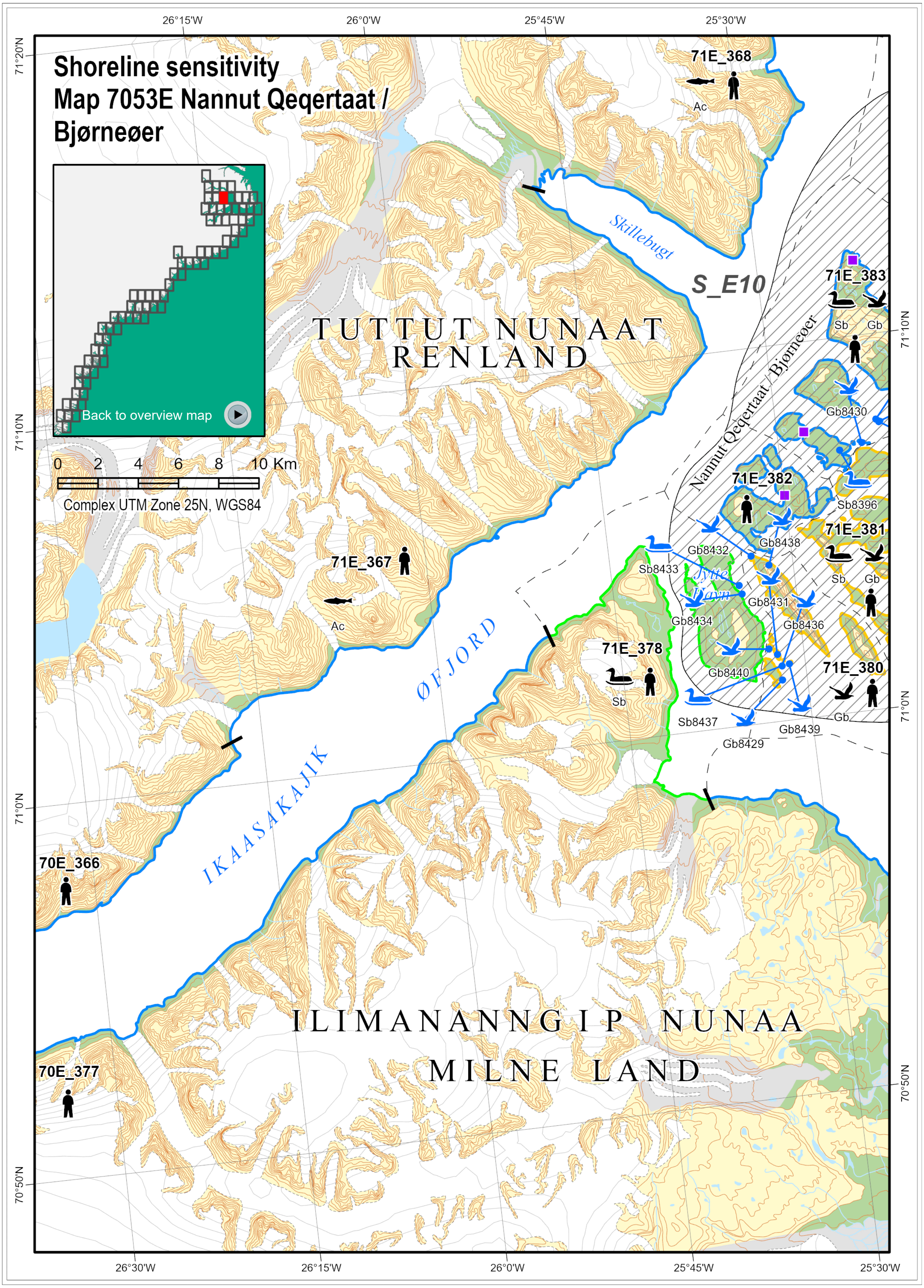
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock with some talus with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 7052E Ikaasakajik / Øfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
27°30'W
27°15'W
27°0'W
26°45'W
26°30'W
71°20'N
71°10'N
71°0'N
70°50'N
TUTTUT NUNAAT
RENLAND
ØFJORD
IKAASAKAJIK
Kaasarip Nasaa
Storø


Shoreline sensitivity
Map 7053E Nannut Qeqertaat / Bjørneøer
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
26°15'W
26°0'W
25°45'W
25°30'W
71°20'N
71°10'N
71°0'N
70°50'N
26°30'W
TUTTUT NUNAAT
RENLAND
ILIMANANNGIP NUNAA
MILNE LAND
Skillebugt
S_E10
Nannut Qeqertaat / Bjørneøer
ØFJORD
IKAASAKAJIK
Jytte Havn
71E_368
Ac
71E_383
Sb
Gb
Gb8430
71E_382
Sb8396
71E_381
Gb8432
Gb8438
Sb8433
Gb8431
Gb8434
Gb8436
71E_378
Gb8440
71E_380
Sb8437
Gb8439
Gb8429
71E_367
70E_366
70E_377

8.71 Map 7053E – Nannut Qeqertaat/Bjørneøer

Shoreline sensitivity map

Human use

70E_366, 71E_367	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
71E_368	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
70E_377, 71E_378	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
70E_379	Hunters may use this area during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
71E_380 – 71E_383	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.

Species occurrence

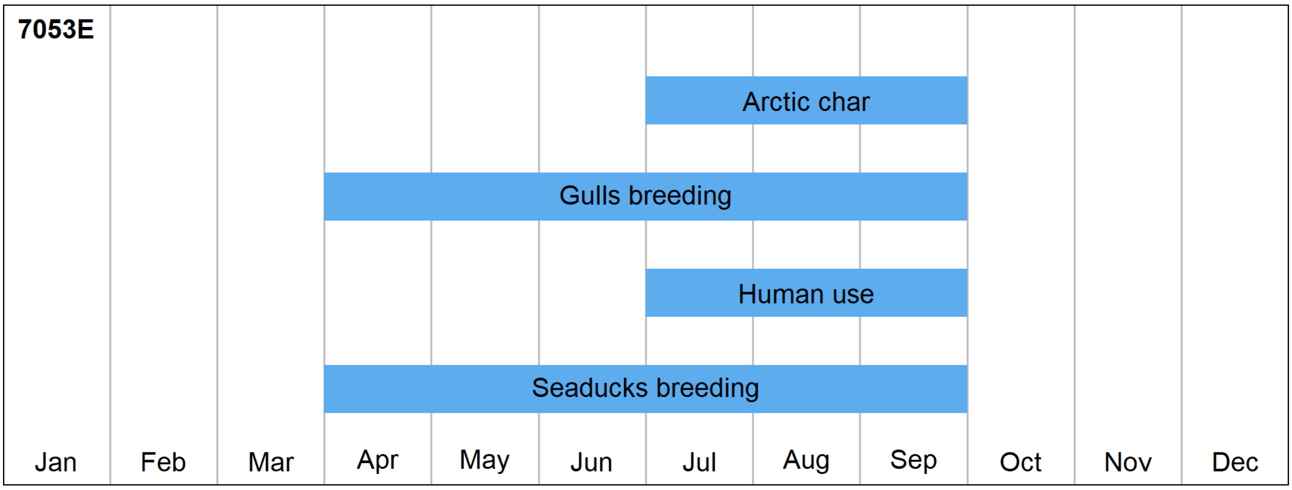
Gb70E_379	1 colony of Arctic terns
Gb71E_383	2 colonies of Arctic terns
Sb71E_378	1 colony of common eiders
Ac71E_367 – Ac71E_368	Important Arctic char river
Gb71E_380	4 colonies of Arctic terns and 3 colonies of glaucous gulls
Gb71E_381	1 colony of Arctic terns and 2 colonies of great black-backed gulls
Sb71E_383	3 colonies of common eiders
Sb71E_381	2 colonies of common eiders

Site specific occurrence: blue icons

Gb8431 **(SE_10)**	Breeding Arctic terns
Gb8430 **(SE_10)**,	Breeding Arctic terns
Gb8434 **(SE_10)**, Gb8436 **(SE_10)**	Breeding Arctic terns
Gb8439**(SE_10)**, Gb8440 **(SE_10)**	Breeding Arctic terns
Gb8429 **(SE_10)**, Gb8432 **(SE_10)**	Breeding glaucous gulls
Gb8438 **(SE_10)**	Breeding glaucous gulls
Sb8396 **(SE_10)**	Breeding common eiders
Sb8428, Sb8433 **(SE_10)**	Breeding common eiders
Sb8437 **(SE_10)**	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_366	12	Low
71E_367	13	Low
71E_368	12	Low
70E_377	12	Low
71E_378	17	Extreme
70E_379	8	Low
71E_380	24	Extreme
71E_381	23	Extreme
71E_382	9	Extreme
71E_383	13	Extreme



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Physical environment and logistics, 7053E – Nannut Qeqertaat/ Bjørneøer

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

There is apparently an anchor site at Jytte Havn on Bjørneøer (Appendix E).

Shorelines in this area are predominantly rock with some talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There is a STOL-airstrip at Lomsø on Milne Land (Appendix F). There is an airport on map area 7056 to the E and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

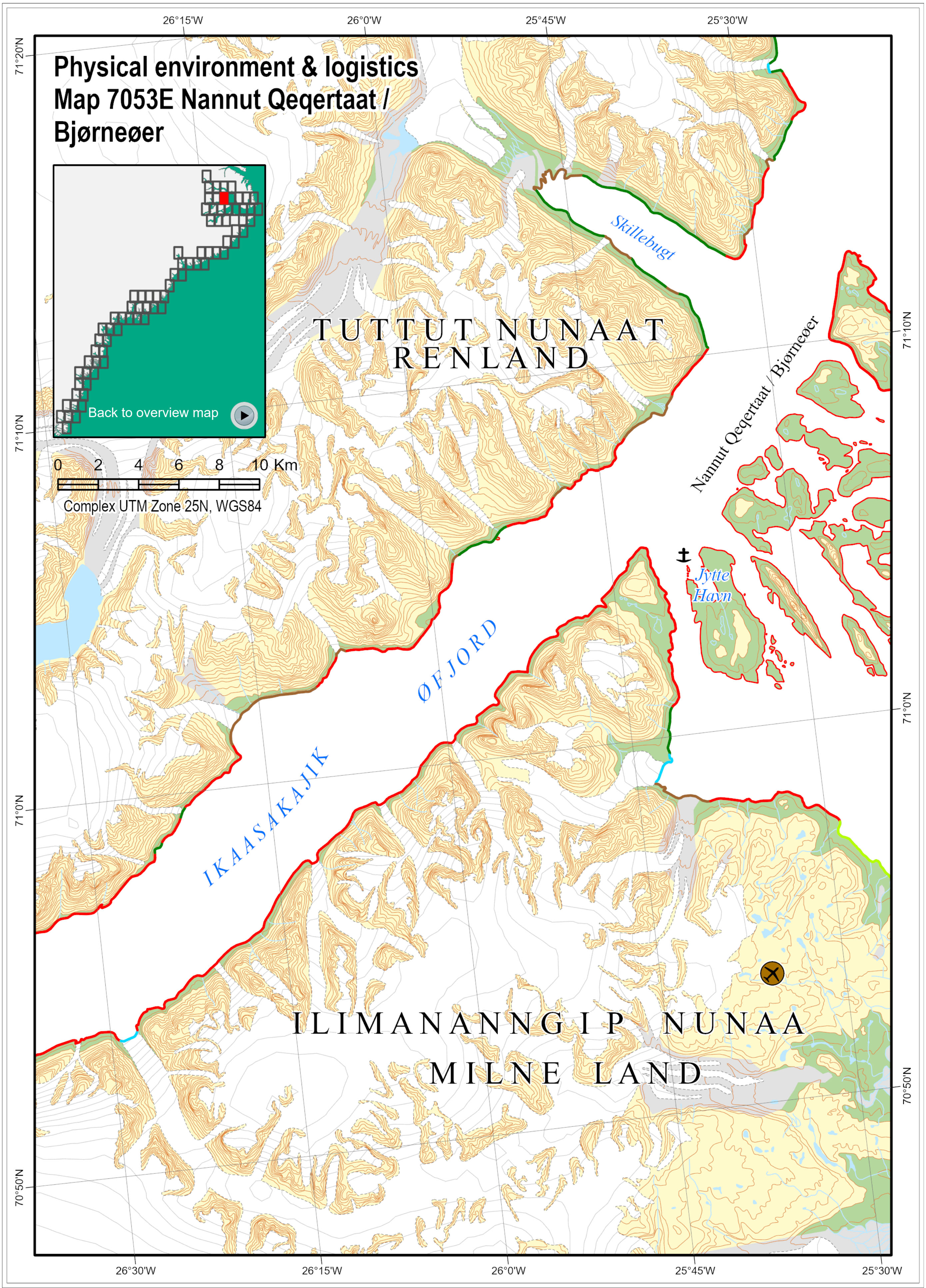
There are no opportunities for nearshore booming in this map area.

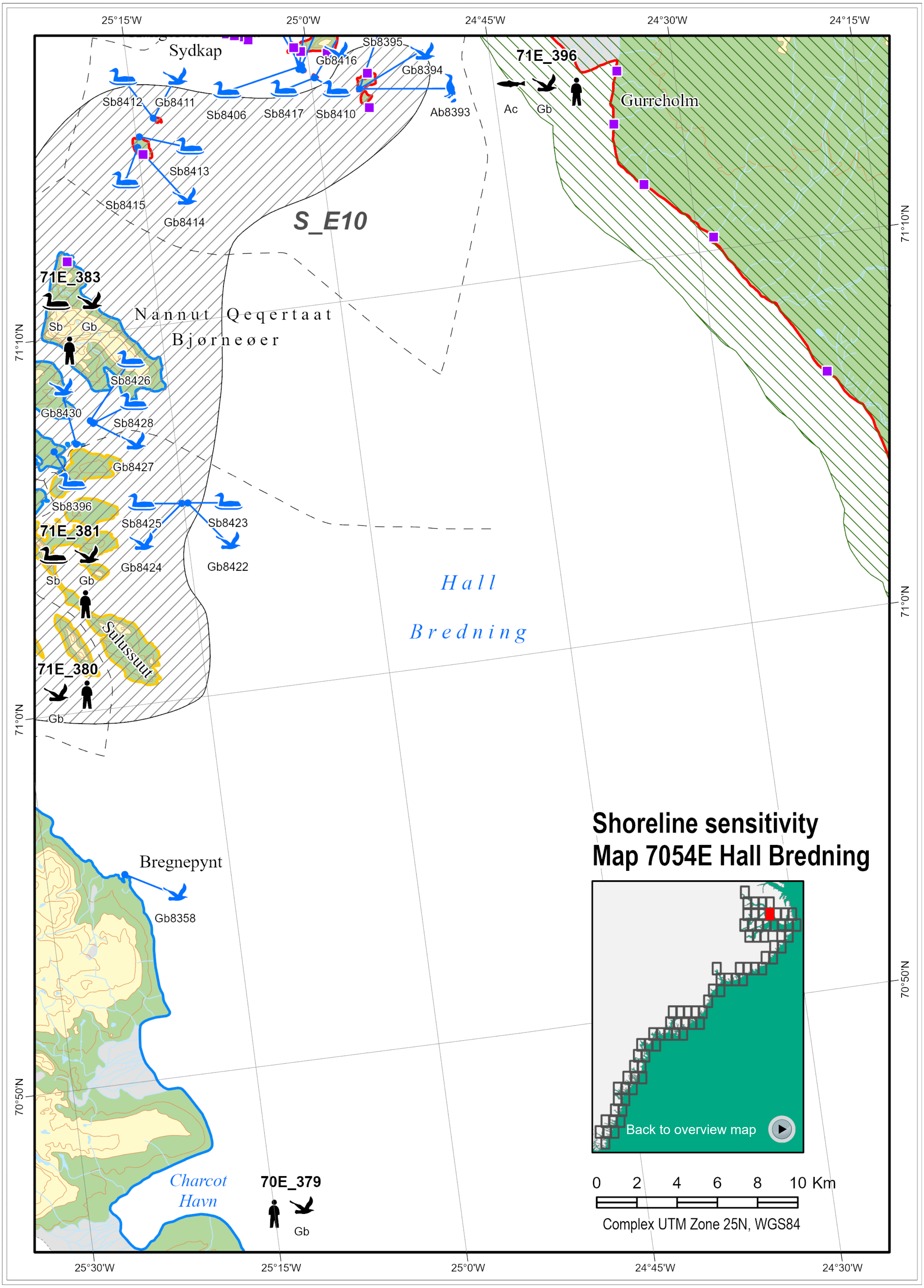
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock with some talus with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


Physical environment & logistics
Map 7053E Nannut Qeqertaat / Bjørneøer
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
26°15'W
26°0'W
25°45'W
25°30'W
26°30'W
71°20'N
71°10'N
71°0'N
70°50'N
TUTTUT NUNAAT
RENLAND
Skillebugt
Nannut Qeqertaat / Bjørneøer
Jytte Havn
ØFJORD
IKAASAKAJIK
ILIMANANNGIP NUNAA
MILNE LAND


Shoreline sensitivity
Map 7054E Hall Bredning
Sydkap
Gurreholm
S_E10
Nannut Qeqertaat
Bjørneøer
Hall
Bredning
Sulussuut
Bregnepynt
Charcot
Havn
71E_396
71E_383
71E_381
71E_380
70E_379
Sb8412
Gb8411
Sb8406
Sb8417
Sb8410
Sb8395
Gb8416
Gb8394
Ab8393
Sb8413
Sb8415
Gb8414
Sb8426
Gb8430
Sb8428
Gb8427
Sb8396
Sb8425
Sb8423
Gb8424
Gb8422
Gb8358
Ac
Gb
Sb
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°15'W
25°0'W
24°45'W
24°30'W
24°15'W
25°30'W
71°10'N
71°0'N
70°50'N

8.72 Map 7054E – Hall Bredning

Shoreline sensitivity map

Human use

70E_379	Hunters may use this area during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
71E_380 – 71E_383	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism: Cruise ships circling Milne Land visit the area during summer.
71E_395	Hunting area for hunters staying at Kangertertivarmiit (Sydkap) on a seasonal basis. A wide range of different species are exploited. Tourism in the area.
71E_396	Traffic corridor for hunters travelling between Ittoqqortoormiit and Kangertertivarmiit (Sydkap), and occasional muskox hunting along coast. Tourism in the area.

Species occurrence

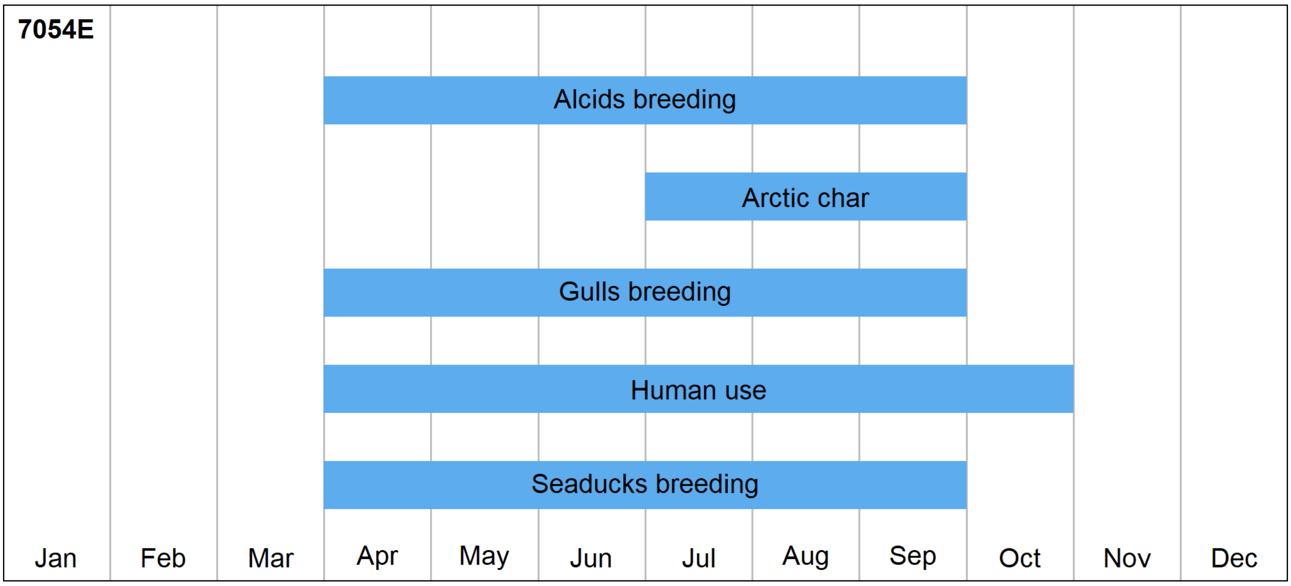
Ab71E_395	1 colony of black guillemots
Gb70E_379	1 colony of Arctic terns
Gb71E_383	2 colonies of Arctic terns
Ac71E_395, Ac71E_396	Important Arctic char river
Gb71E_396	1 colony of Arctic terns and 3 colonies of Sabine's gulls
Gb71E_381	1 colony of Arctic terns and 2 colonies of great black-backed gulls
Gb71E_380	4 colonies of Arctic terns and 3 colonies of glaucous gulls
Gb71E_395	7 colonies of Arctic terns and 2 colonies of Sabine's gulls
Sb71E_395	10 colonies of common eiders
Sb71E_381	2 colonies of common eiders
Sb71E_383	3 colonies of common eiders

Site specific occurrence: blue icons

Ab8393 **(SE_10)**	Breeding black guillemots
Gb8358	Breeding Arctic terns
Gb8394 **(SE_10)**, Gb8414 **(SE_10)**	Breeding Sabine's gull and Arctic terns
Gb8405 **(SE_10)**	Breeding Arctic terns
Gb8407, Gb8411 **(SE_10)**	Breeding Arctic terns
Gb8416 **(SE_10)**, Gb8427 **(SE_10)**	Breeding Arctic terns
Gb8430 **(SE_10)**	Breeding Arctic terns
Gb8422 **(SE_10)**	Breeding great black-backed gulls and Arctic terns
Gb8424 **(SE_10)**	Breeding great black-backed gulls
Sb8395 **(SE_10)**, Sb8396 **(SE_10)**	Breeding common eiders
Sb8406**(SE_10)**	Breeding common eiders
Sb8408 – Sb8410 **(SE_10)**	Breeding common eiders
Sb8412 **(SE_10)**, Sb8413 **(SE_10)**	Breeding common eiders
Sb8415 **(SE_10)**, Sb8417 **(SE_10)**	Breeding common eiders
Sb8423 **(SE_10)**, Sb8425 **(SE_10)**	Breeding common eiders
Sb8426 **(SE_10)**, Sb8428 **(SE_10)**	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_379	8	Low
71E_380	24	Extreme
71E_381	23	Extreme
71E_382	9	Extreme
71E_383	13	Extreme
71E_395	62	Extreme
71E_396	35	Extreme



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Physical environment and logistics, 7054E – Hall Bredning

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

Offshore of this map area, the ice limit varies from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords.

It is possible to anchor in Charcot Havn, on the S side of the bay, while other parts of the bay is not good for anchorage due to icebergs. It is also possible to anchor at Sydkap (Appendix E).

Shorelines in this area are almost exclusively tidal flats with some rock allowing little opportunity for marine access. Landings may be possible on the tidal flats but would require reconnaissance to confirm.

There is a STOL-airstrip N of Charcot Havn (Appendix F). There is an airport on map area 7056 to the SE and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

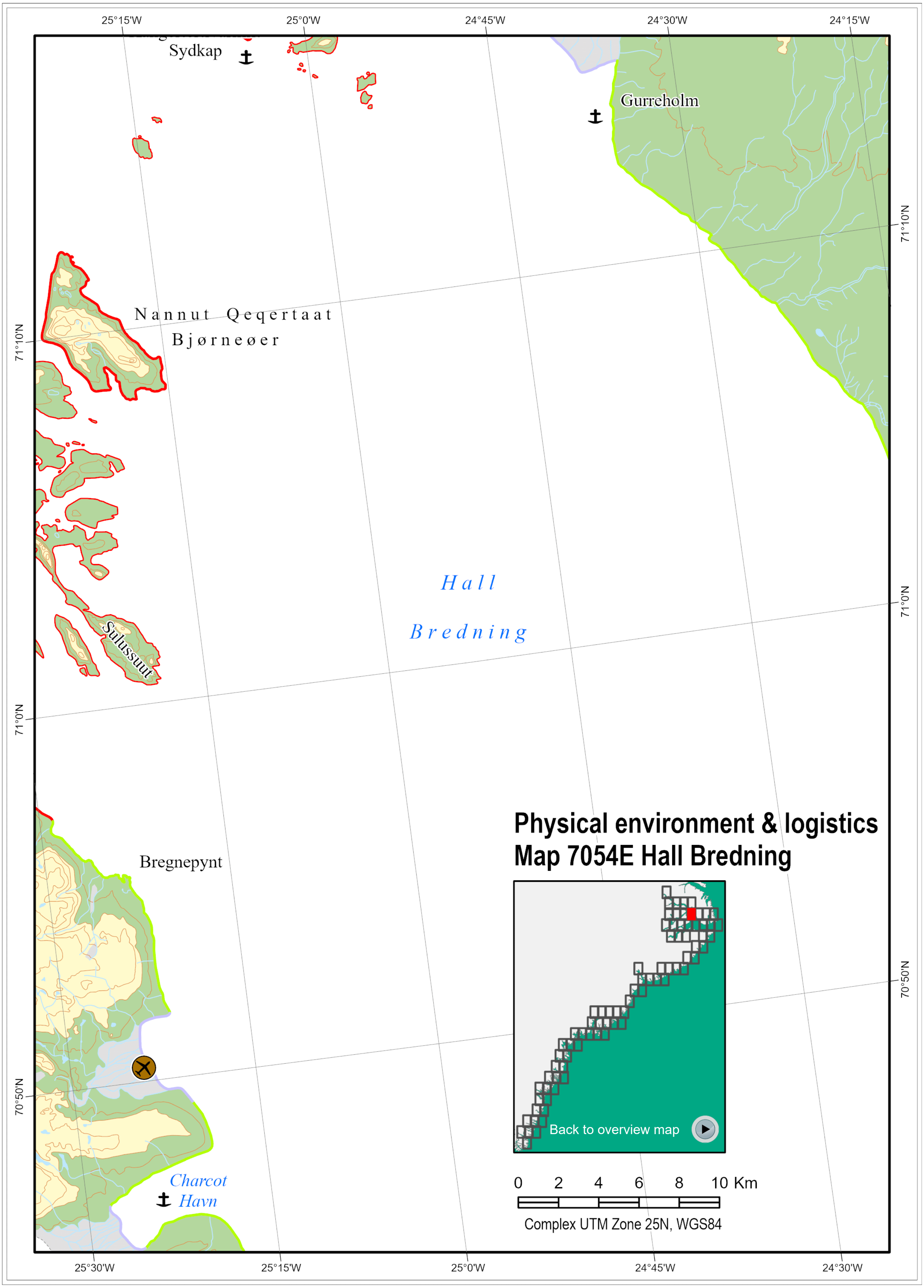
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

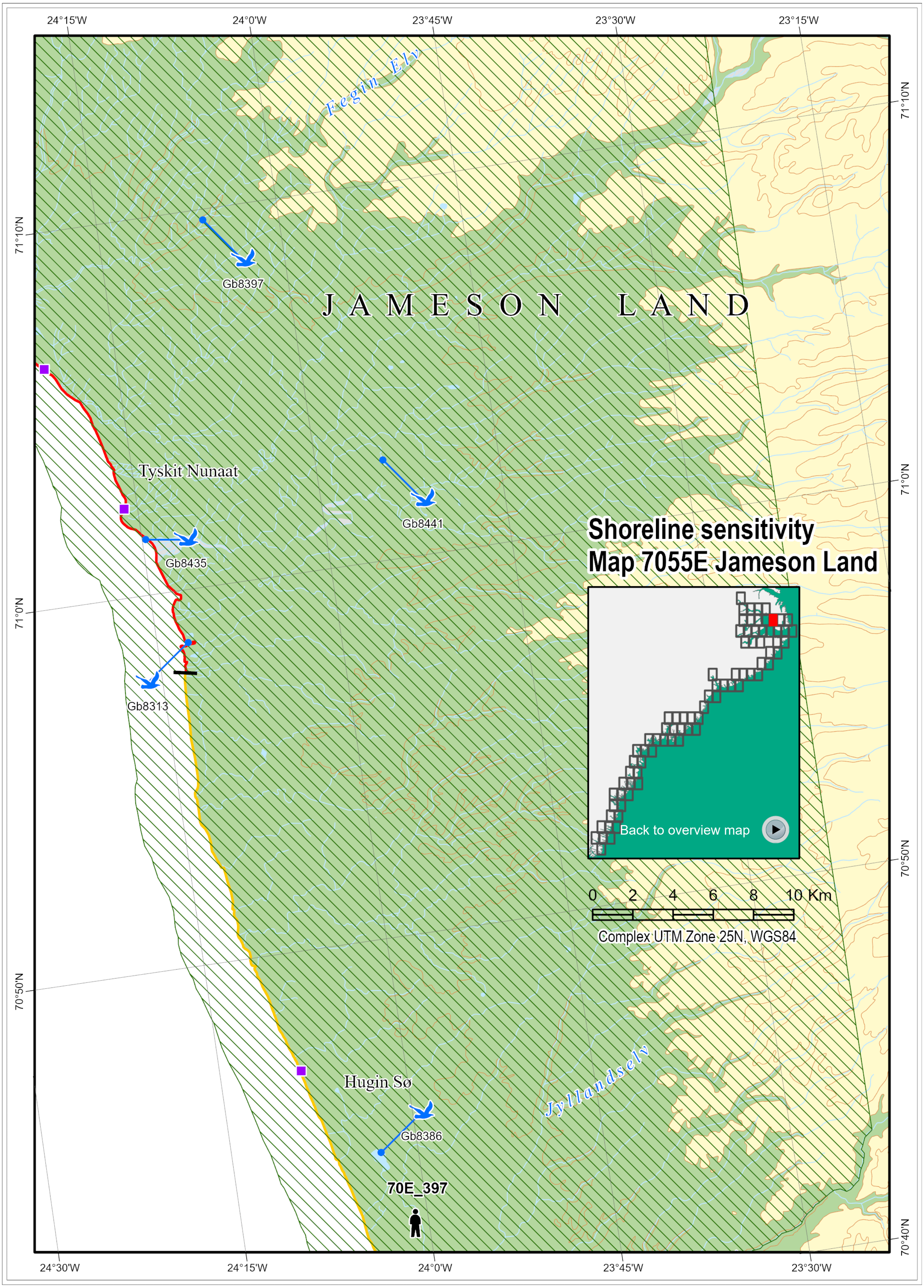
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly talus and tidal flats with moderate exposure: the former may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations on the incoming high tide on the tidal flats. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


25°15'W
25°0'W
24°45'W
24°30'W
24°15'W
Sydkap
Gurreholm
71°10'N
Nannut Qeqertaat
Bjørneøer
Hall
Bredning
Sulussuut
71°0'N
Bregnepynt
70°50'N
Charcot
Havn
Physical environment & logistics
Map 7054E Hall Bredning
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
25°30'W
25°15'W
25°0'W
24°45'W
24°30'W



Shoreline sensitivity
Map 7055E Jameson Land
J A M E S O N   L A N D
Fegin Elv
Tyskit Nunaat
Hugin Sø
Jyllandselv
Gb8397
Gb8441
Gb8435
Gb8313
Gb8386
70E_397
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°15'W
24°0'W
23°45'W
23°30'W
23°15'W
24°30'W
71°10'N
71°0'N
70°50'N
70°40'N

8.73 Map 7055E – Jameson Land

Shoreline sensitivity map

Human use

71E_396, 70E_397	Traffic corridor for hunters travelling between Ittoqqortoormiit and Kangertertivarmiit (Sydkap), and occasional muskox hunting along coast. Tourism in the area.

Species occurrence

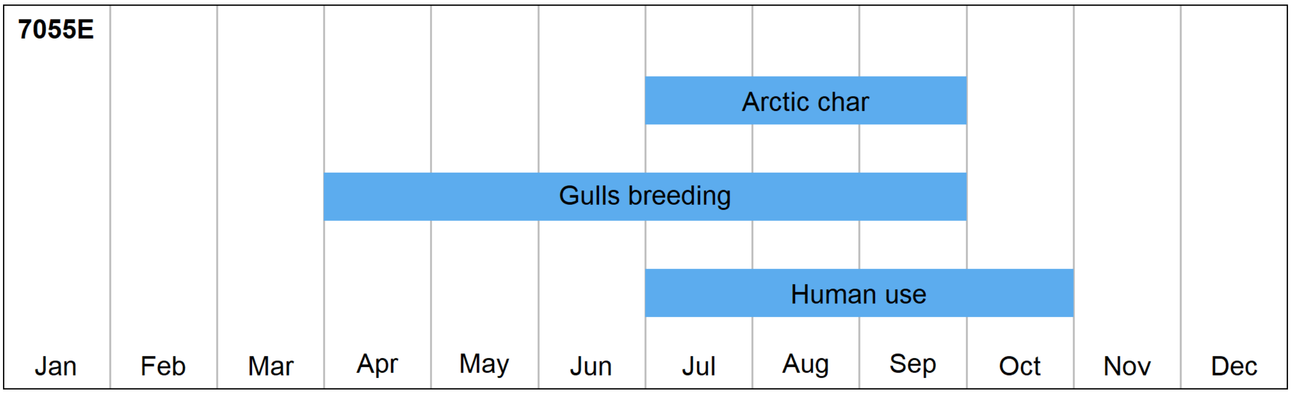
Ac71E_396	Important Arctic char river
Gb71E_396	1 colony of Arctic terns and 3 colonies of Sabine's gulls

Site specific occurrence: blue icons

Gb8386, Gb8397	Breeding Arctic terns
Gb8313, Gb8435	Breeding Sabine's gulls
Gb8441	Breeding Sabine's gulls

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
71E_396	35	Extreme
70E_397	20	High



Physical environment and logistics, 7055E – Jameson Land

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, the nearshore waters are indicated as foul and uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers.

Shorelines in this area are rocky and tidal flats: landings may be possible at the latter but would require reconnaissance to confirm.

There is s STOL-airstrip in central Jameson Land (Appendix E). There is an airport on map area 7056 to the E and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

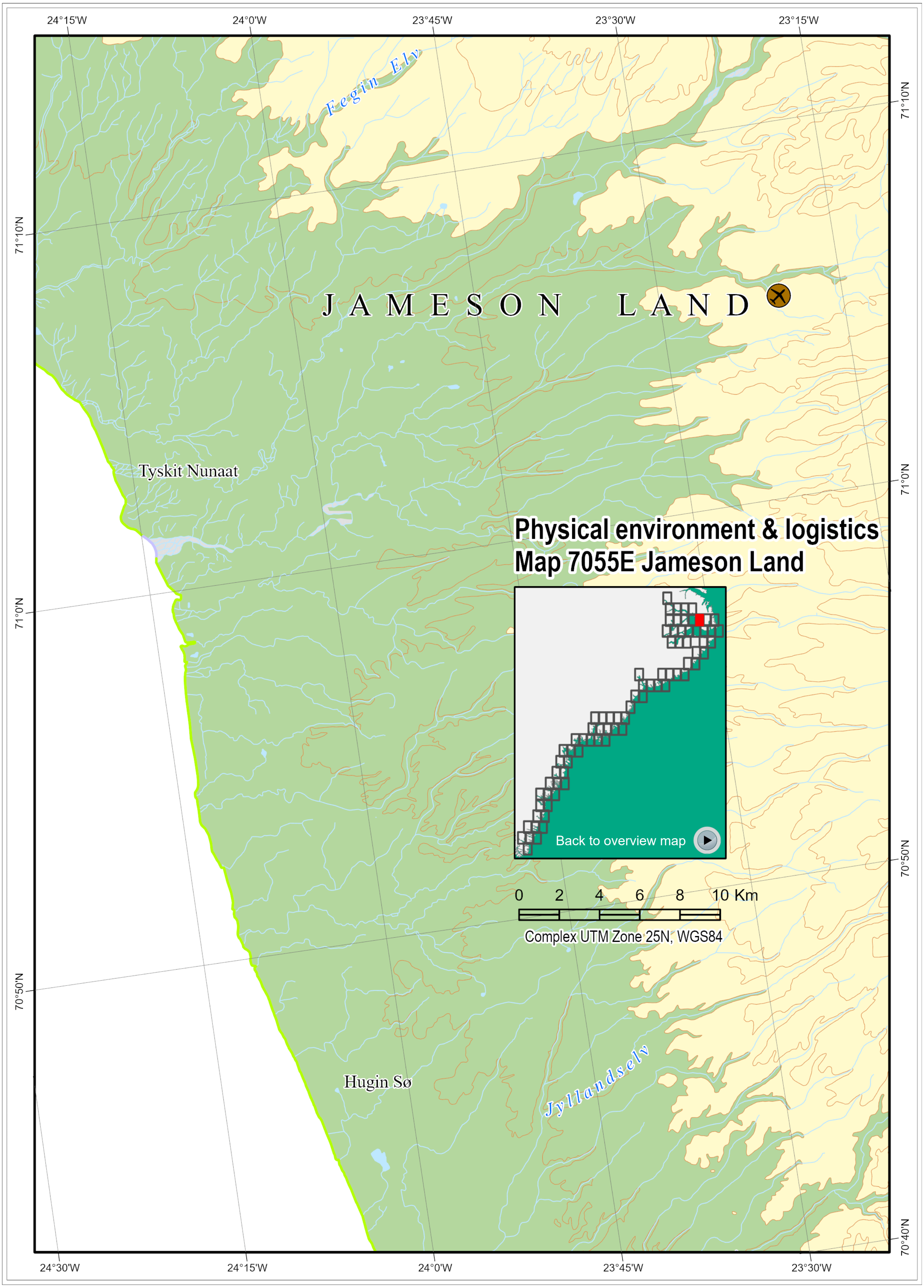
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

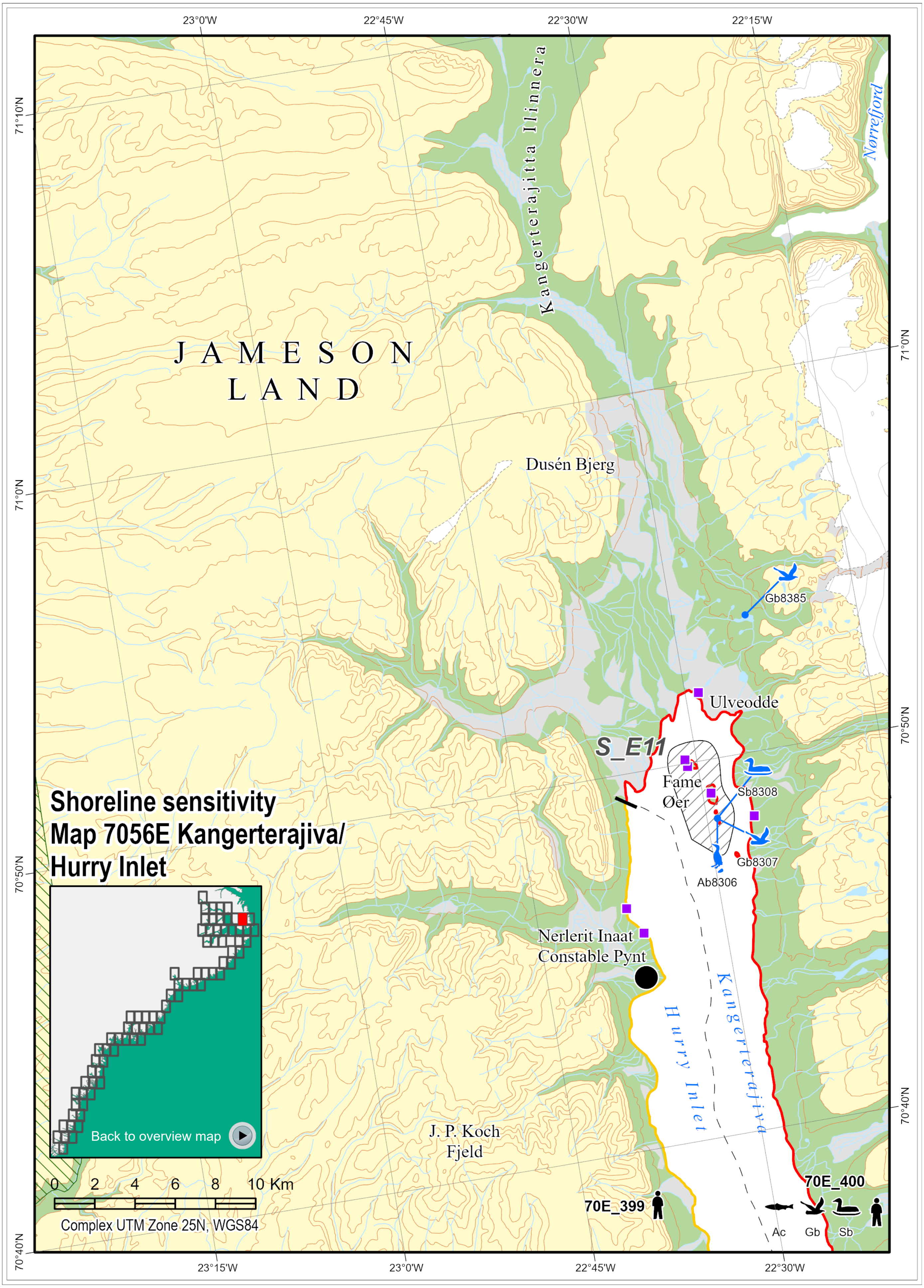
There are no opportunities for nearshore booming in this map area.

Shorelines shown on this map are exclusively tidal flats with moderate exposure: Consideration should be given to flushing operations on the incoming high tide on the tidal flats.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map.


24°15'W
24°0'W
23°45'W
23°30'W
23°15'W
71°10'N
71°0'N
70°50'N
70°40'N
Fegin Elv
JAMESON LAND
Tyskit Nunaat
Hugin Sø
Jyllandselv
Physical environment & logistics
Map 7055E Jameson Land
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
24°30'W
24°15'W
24°0'W
23°45'W
23°30'W


Shoreline sensitivity
Map 7056E Kangerterajiva/
Hurry Inlet
JAMESON
LAND
Kangerterajitta Ilinnera
Nørrefjord
Dusén Bjerg
Gb8385
Ulveodde
S_E11
Fame
Øer
Sb8308
Gb8307
Ab8306
Nerlerit Inaat
Constable Pynt
Kangerterajiva
Hurry Inlet
J. P. Koch
Fjeld
70E_400
70E_399
Ac
Gb
Sb
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
23°0'W
22°45'W
22°30'W
22°15'W
23°15'W
71°10'N
71°0'N
70°50'N
70°40'N

8.74 Map 7056E – Kangerterajiva/Hurry Inlet

Shoreline sensitivity map

Human use

70E_399, 70E_400	Extremely important hunting area used most of the year for hunting a wide range of different species. Ringed seal hunting in Sep-Nov and broad spektrum ice edge hunting in Apr-Jun is especially important. Tourism in the area.

Species occurrence

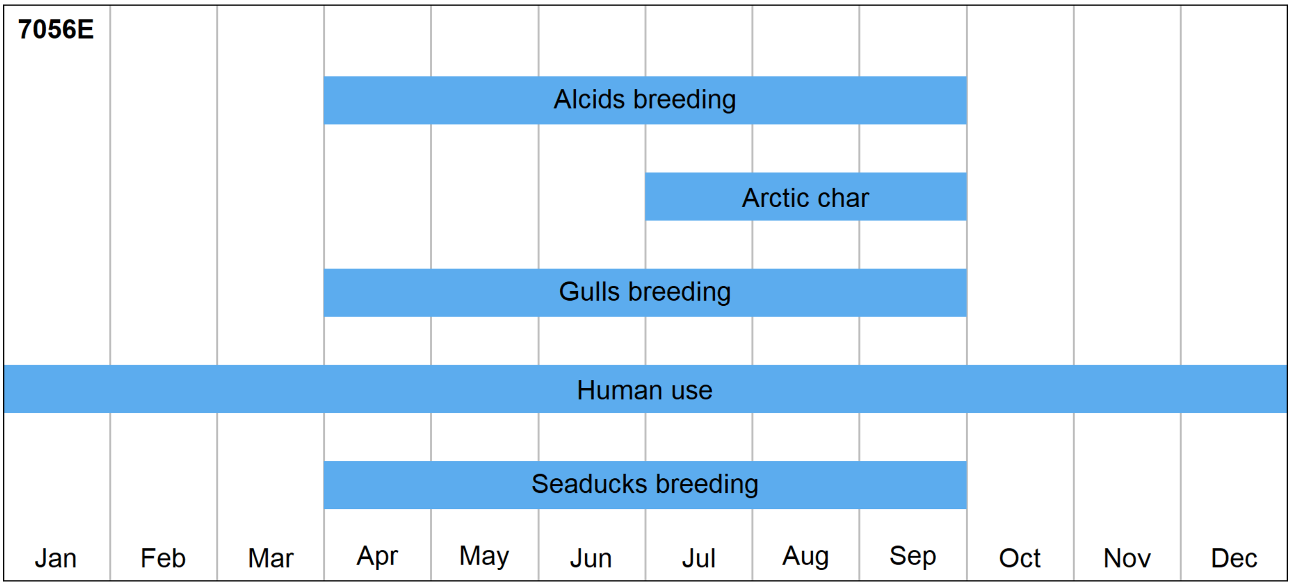
Sb70E_400	1 colony of common eiders
Ac70E_400	Important Arctic char river
Gb70E_400	2 colonies of Arctic terns and 1 colony of glaucous gulls

Site specific occurrence: blue icons

Ab8306 **(SE_11)**	Breeding black guillemots
Gb8307 **(SE_11)**	Breeding lesser black-backed gulls, Arctic terns and glau-cous gulls
Gb8385	Breeding Arctic terns
Sb8308 **(SE_11)**	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_399	24	High
70E_400	56	Extreme



Physical environment and logistics, 7056E – Kangerterajiva/Hurry Inlet

Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June. Additional dangers to navigation are present here due to icebergs that drift in from the S.

Anchorage may be obtained, in a depth of 40 m, mud, with the S islet of Fame Øer bearing 056°, distant 2 miles. However, this berth is exposed as the wind nearly always blows up and down the inlet. A small vessel is reported to have anchored at the north end of Hurry Inlet, in a depth of 24 m, close E of the two small S islets. The channels lying between the other islets in the group are reported to be encumbered with rocks. See also see the Greenland Pilot, sailing directions for East Greenland.

Shorelines in this area are exclusively talus on the E side of the fjord, and tidal flats on the W side. Landings may be possible on the tidal flats but would require reconnaissance to confirm.

There is an airport at Nerlerit Inaat/Constable Pynt (BGCO, CNP), and on map area to the SE there is a heliport at the town of Ittoqqortoormiit. It is possible to anchor S of the airport (see the Greenland Harbour Pilot, https://www.gronlandskehavnelods.dk/Details/84?&lang=ENG).

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

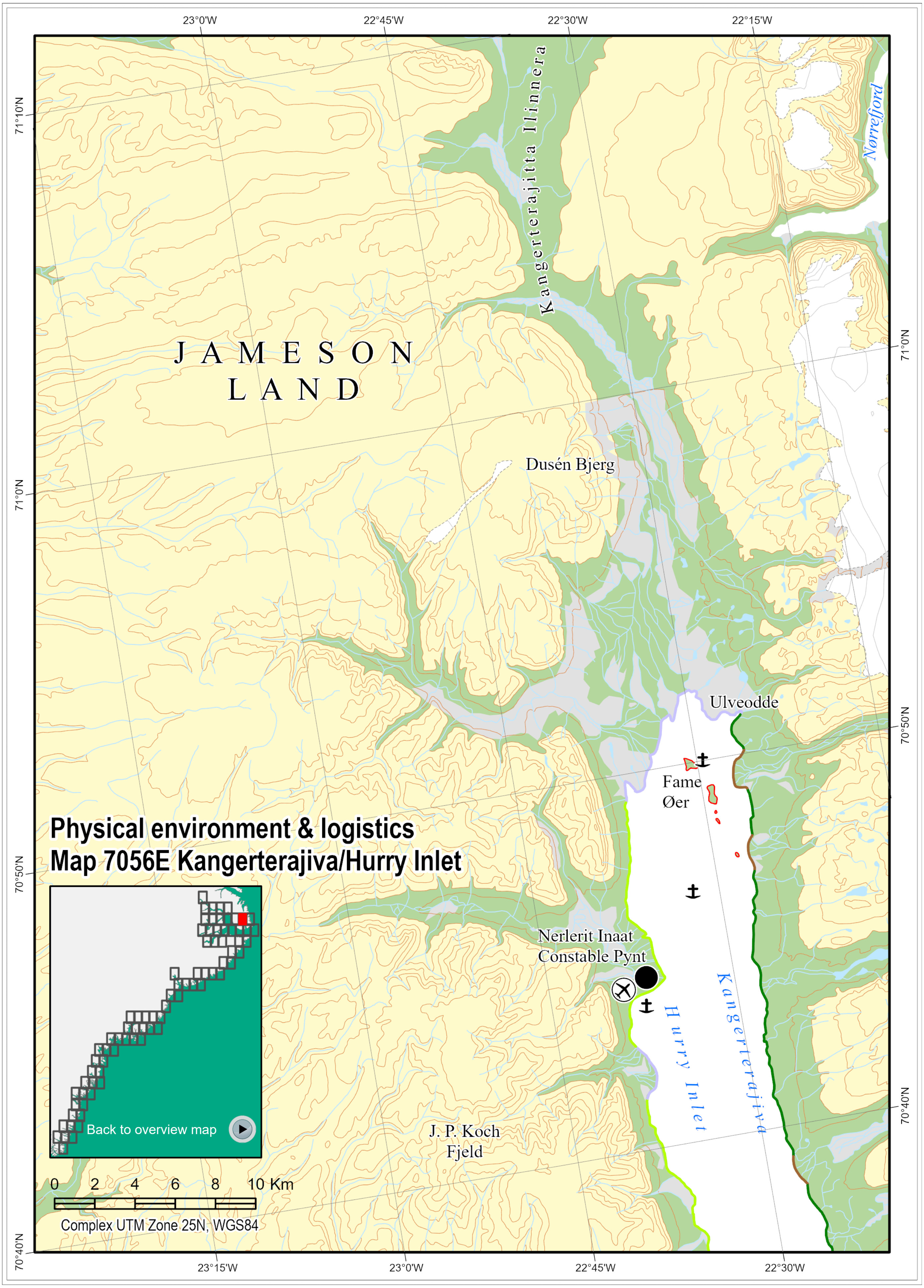
Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are exclusively talus on the E side of the fjord, and tidal flats on the W side with moderate exposure. Consideration should be given to flushing operations on the incoming tide on the tidal flats, and flushing operations in the protected waters within the fjords.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.


Physical environment & logistics
Map 7056E Kangerterajiva/Hurry Inlet
JAMESON
LAND
Kangerterajitta Ilinnera
Nørrefjord
Dusén Bjerg
Ulveodde
Fame
Øer
Nerlerit Inaat
Constable Pynt
Hurry Inlet
Kangerterajiva
J. P. Koch
Fjeld
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
23°0'W
22°45'W
22°30'W
22°15'W
23°15'W
71°10'N
71°0'N
70°50'N
70°40'N

Safe Havens
There are no potential *safe havens* identified on this map.

The waters within the fjord could be considered as a potential *safe haven* given its relatively lower sensitivity rating, but the waters are not charted and exclusion booming would be impractical. Exclusion booming would be impractical due to the width of the channel; however, the shape of the channel may afford natural containment depending on wind direction and tidal streams.

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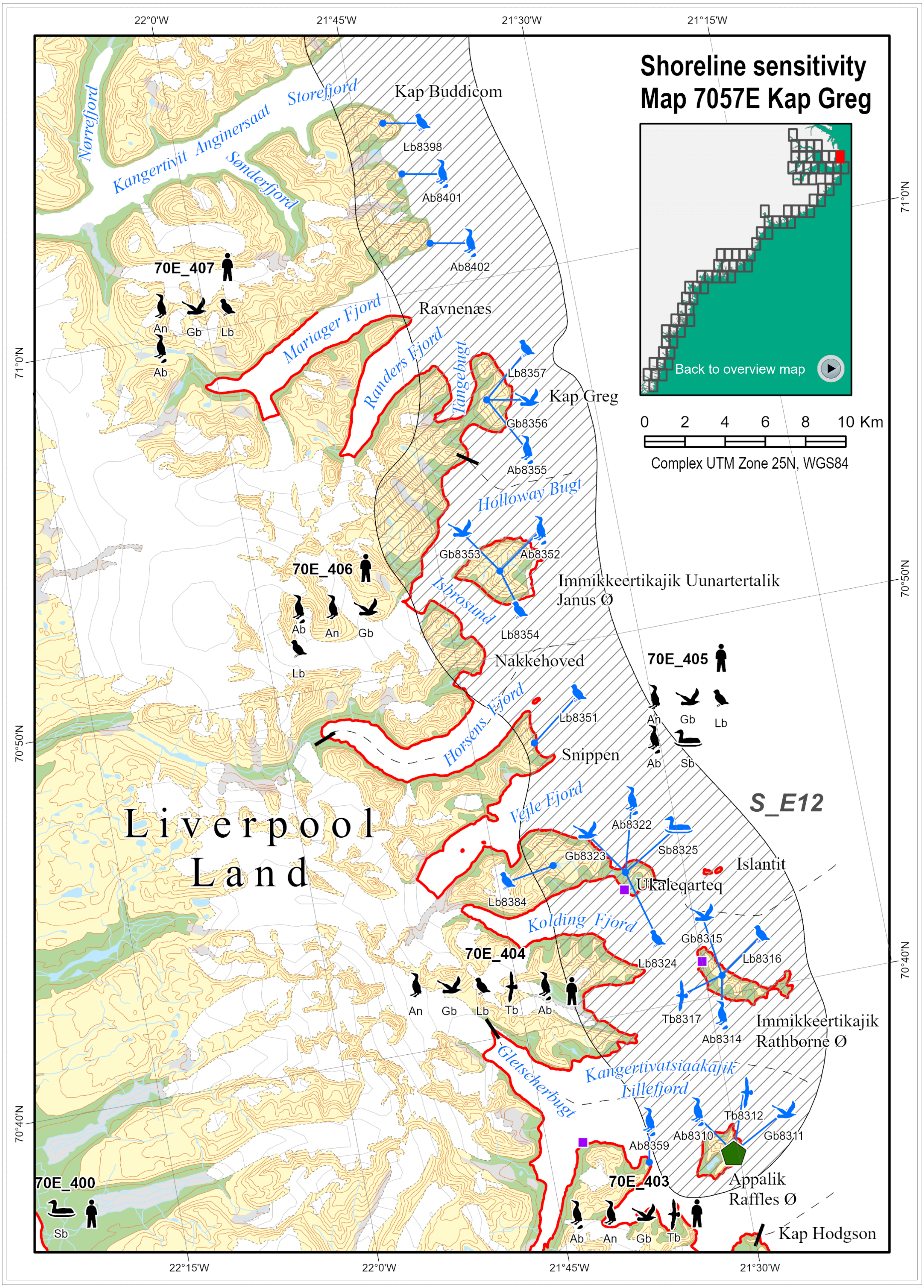


Shoreline sensitivity
Map 7057E Kap Greg
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
22°0'W
21°45'W
21°30'W
21°15'W
71°0'N
70°50'N
70°40'N
22°15'W
22°0'W
21°45'W
21°30'W
Kap Buddicom
Storefjord
Nørrefjord
Kangertivit Anginersaat
Sønderfjord
Lb8398
Ab8401
Ab8402
70E_407
An
Gb
Lb
Ab
Ravnenæs
Mariager Fjord
Randers Fjord
Tangebugt
Lb8357
Kap Greg
Gb8356
Ab8355
Holloway Bugt
Gb8353
Ab8352
Immikkeertikajik Uunartertalik
Janus Ø
Isbrosund
Lb8354
70E_406
Ab
An
Gb
Lb
Nakkehoved
70E_405
An
Gb
Lb
Ab
Sb
Lb8351
Horsens Fjord
Snippen
S_E12
Vejle Fjord
Ab8322
Sb8325
Gb8323
Islantit
Ukaleqarteq
Lb8384
Liverpool
Land
Kolding Fjord
Gb8315
Lb8316
70E_404
An
Gb
Lb
Tb
Ab
Lb8324
Tb8317
Ab8314
Immikkeertikajik
Rathborne Ø
Gletscherbugt
Kangertivatsiaakajik
Lillefjord
Tb8312
Ab8310
Gb8311
Ab8359
Appalik
Raffles Ø
70E_403
Ab
An
Gb
Tb
70E_400
Sb
Kap Hodgson

8.75 Map 7057E – Kap Greg

Shoreline sensitivity map

Human use

70E_400	Extremely important hunting area used most of the year for hunting a wide range of different species. Ringed seal hunting in Sep-Nov and broad spektrum ice edge hunting in Apr-Jun is especially important. Tourism in the area.
70E_402	Extremely important hunting area used throughout the year for hunting a wide range of different species. Tourism in the area.
70E_403, 70E_404	Area visited by hunters throughout the year. Important for polar bear hunting from late Jan to Jun. Tourist activities in the area, especially dog sledge trips during winter and spring.
70E_405 – 70E_407	Area used by hunters on rare occasions throughout the year, primarily in connection with polar bear hunting in winter and spring. Tourist activities in the area, especially dog sledge trips during winter and spring.

Species occurrence

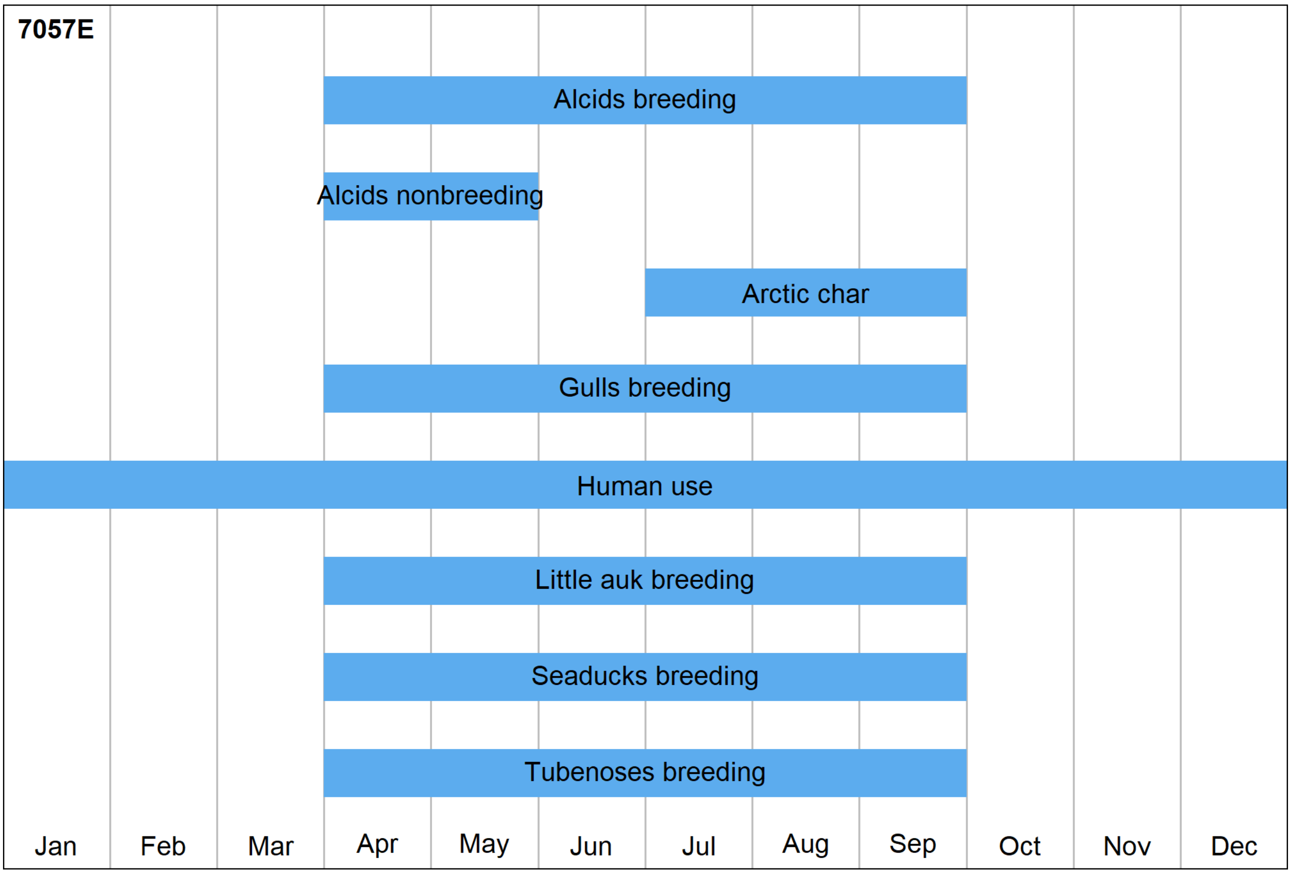
Ab70E_405	1 colony of black guillemots
Sb70E_405, Sb70E_400	1 colony of common eiders
Ab70E_407	3 colonies of black guillemots
Ab70E_404	1 colony of black guillemots
Ab70E_403	2 colonies of black guillemots and 1 colony of thick-billed murres
Ab70E_406	1 colony of black guillemots
An70E_402 – An70E_407	Concentrations of little auks and thick-billed murres
Ac70E_400	Important Arctic char river
Gb70E_405, Gb70E_407	1 colony of glaucous gulls
Gb70E_403, Gb70E_404	1 colony of black-legged kittiwakes and 1 colony of glaucous gulls
Gb70E_402	2 colonies of Arctic terns
Gb70E_406	1 colony of glaucous gulls
Gb70E_400	2 colonies of Arctic terns, 1 colony of lesser black-backed gulls and 1 colony of glaucous gulls
Lb70E_402, Lb70E_406	1 colony of little auks
Lb70E_404, Lb70E_405	2 colonies of little auks
Lb70E_407	4 colonies of little auks
Sb70E_402	2 colonies of common eiders
Tb70E_403, Tb70E_404	1 colony of northern fulmars

Site specific occurrence: blue icons

Ab8310 **(SE_12)**	Breeding black guillemots, thick-billed murres and Atlantic puffins
Ab8314 **(SE_12)**	Breeding black guillemots
Ab8322 **(SE_12)**, Ab8352 **(SE_12)**	Breeding black guillemots
Ab8355 **(SE_12)**, Ab8359 **(SE_12)**	Breeding black guillemots
Ab8401 **(SE_12)**, Ab8402 **(SE_12)**	Breeding black guillemots
Gb8311 **(SE_12)**, Gb8315 **(SE_12)**	Breeding glaucous gulls and black-legged kittiwakes
Gb8323 **(SE_12)**, Gb8353 **(SE_12)**	Breeding glaucous gulls
Gb8356 **(SE_12)**	Breeding glaucous gulls
Lb8316 **(SE_12)**, Lb8324 **(SE_12)**	Breeding little auks
Lb8351 **(SE_12)**	Breeding little auks
Lb8354 **(SE_12)**, Lb8357 **(SE_12)**	Breeding little auks
Lb8384 **(SE_12)**	Breeding little auks
Lb8398 **(SE_12)**	Breeding little auks
Sb8325 **(SE_12)**	Breeding common eiders
Tb8312 **(SE_12)**, Tb8317**(SE_12)**	Breeding northern fulmars

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
70E_400	56	Extreme
70E_402	82	Extreme
70E_403	36	Extreme
70E_404	43	Extreme
70E_405	27	Extreme
70E_406	42	Extreme
70E_407	45	Extreme



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Physical environment and logistics, 7057E – Kap Greg

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2600). Local knowledge is essential for navigation.

The fjords are covered by shorefast ice until June, and heavy drift ice occur in varying amount and extension from season to season and from year to year; in the average year the area is ice-bound from January to July. Additional dangers to navigation are present here due to icebergs.

There are no anchorages identified in this map area.

Shorelines in this area are almost exclusively rock with some talus and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the W and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

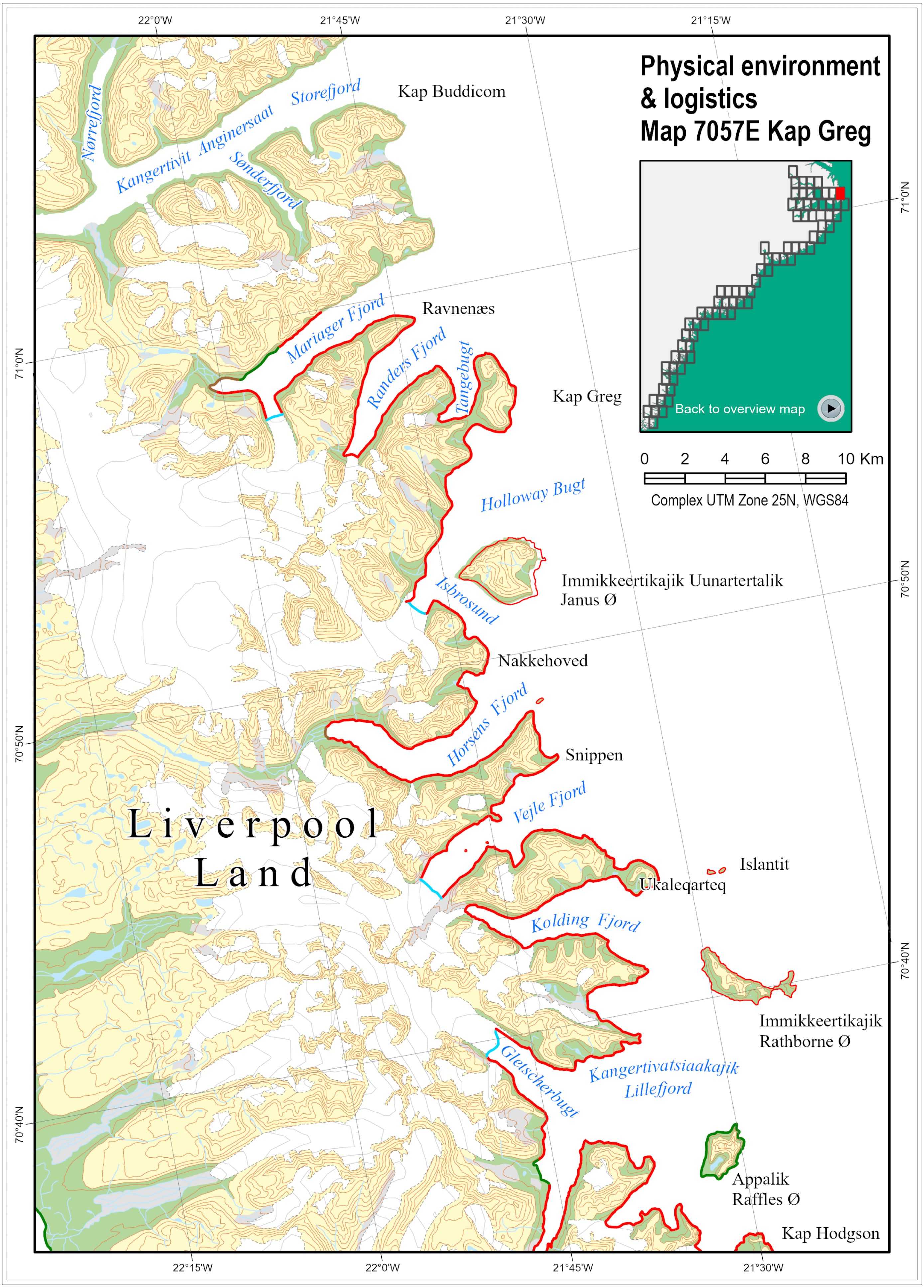
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are almost exclusively rock with some talus and glacier with mostly high exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map


Physical environment
& logistics
Map 7057E Kap Greg
Back to overview map
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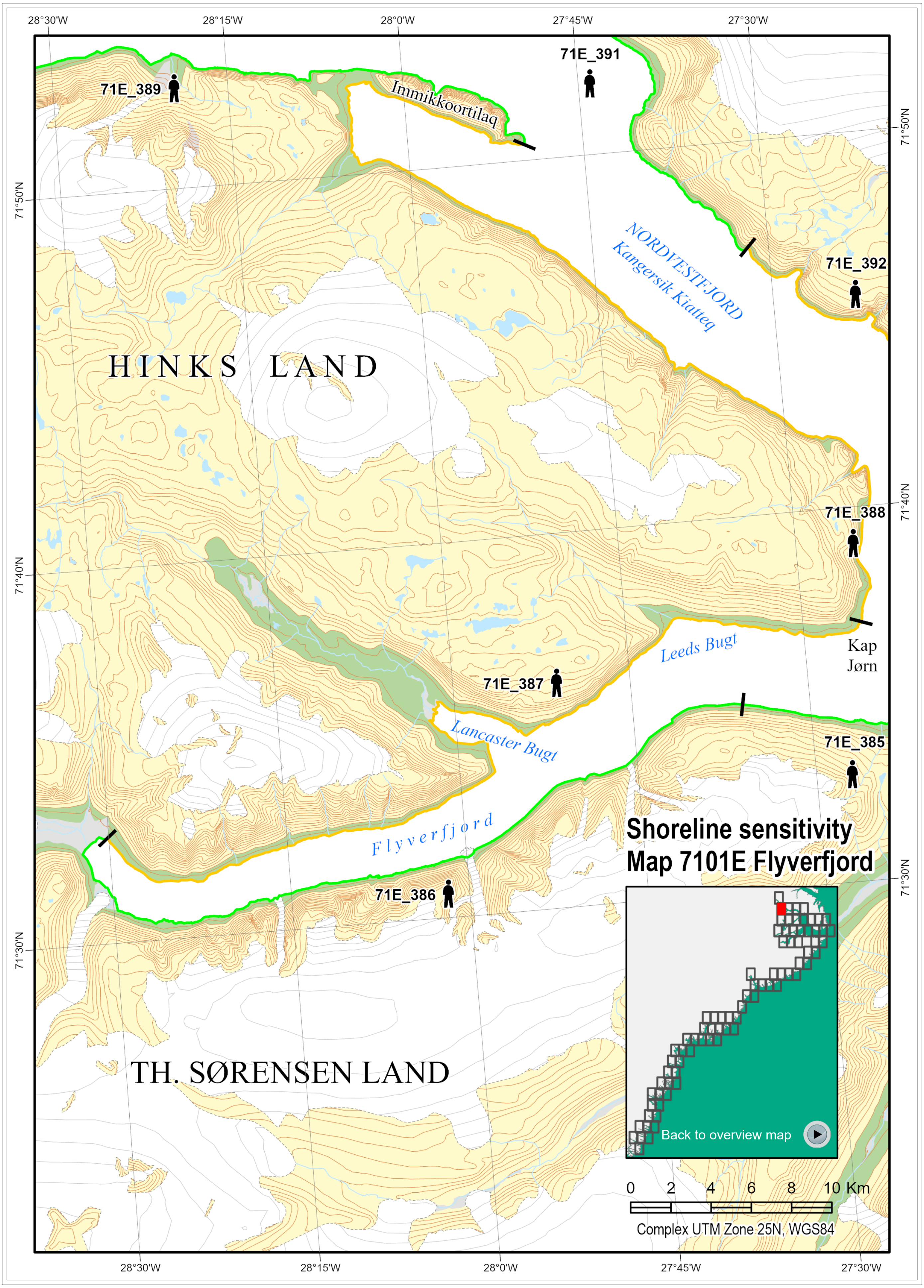
Complex UTM Zone 25N, WGS84
22°0'W
21°45'W
21°30'W
21°15'W
22°15'W
71°0'N
70°50'N
70°40'N
Nørrefjord
Kangertivit Anginersaat
Storefjord
Sønderfjord
Kap Buddicom
Mariager Fjord
Ravnenæs
Randers Fjord
Tangebugt
Kap Greg
Holloway Bugt
Immikkeertikajik Uunartertalik
Janus Ø
Isbrosund
Nakkehoved
Horsens Fjord
Snippen
Vejle Fjord
Liverpool
Land
Islantit
Ukaleqarteq
Kolding Fjord
Immikkeertikajik
Rathborne Ø
Gletscherbugt
Kangertivatsiaakajik
Lillefjord
Appalik
Raffles Ø
Kap Hodgson


28°30'W
28°15'W
28°0'W
27°45'W
27°30'W
71°50'N
71°40'N
71°30'N
71E_389
71E_391
Immikkoortilaq
NORDVESTFJORD
Kangersik Kiatteq
71E_392
HINKS LAND
71E_388
Leeds Bugt
Kap Jørn
71E_387
Lancaster Bugt
71E_385
Flyverfjord
Shoreline sensitivity
Map 7101E Flyverfjord
71E_386
TH. SØRENSEN LAND
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.76 Map 7101E – Flyverfjord

Shoreline sensitivity map

Human use

71E_385 – 71E_392	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.

Species occurrence

No species occurrences are registrered on this map, but this could be due to lack of knowledge/data

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
71E_385	17	Moderate
71E_386	16	Moderate
71E_387	19	High
71E_388	19	High
71E_389	17	Moderate
71E_391	17	Moderate
71E_392	19	High

7101E											
							Human use				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 7101E – Flyverfjord

Access
The waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until May/June. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers at the head of the fjord.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock and talus allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports or airstrips on this map area. There is an airport on map area 7056 to the SE and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

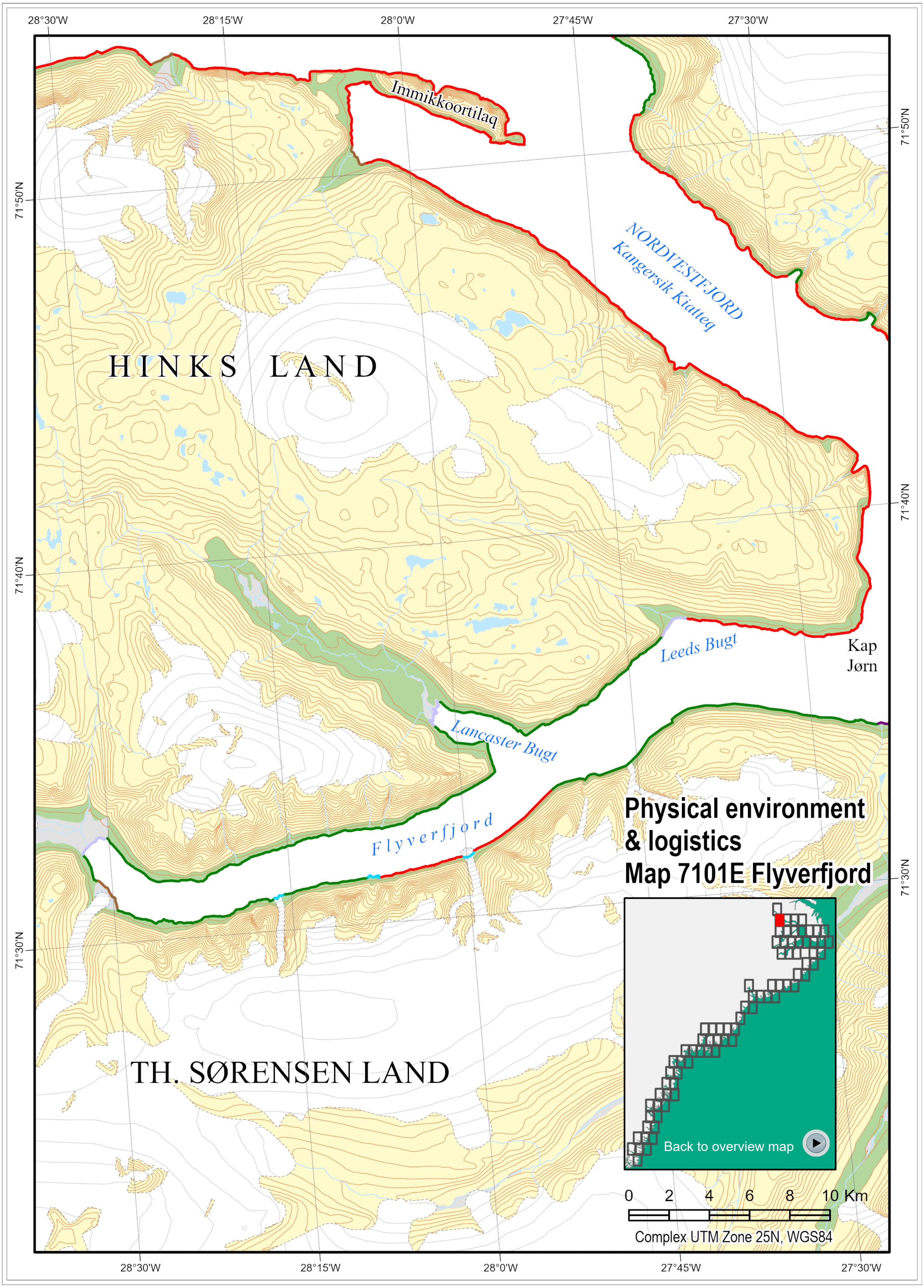
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock and talus with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map area.

The waters within the Flyverfjord could be considered as a potential *safe haven* given its relatively lower sensitivity rating, but the waters are not charted and exclusion booming would be impractical. Exclusion booming would be impractical due to the width of the channel; however, the shape of the channel may afford natural containment depending on wind direction and tidal streams.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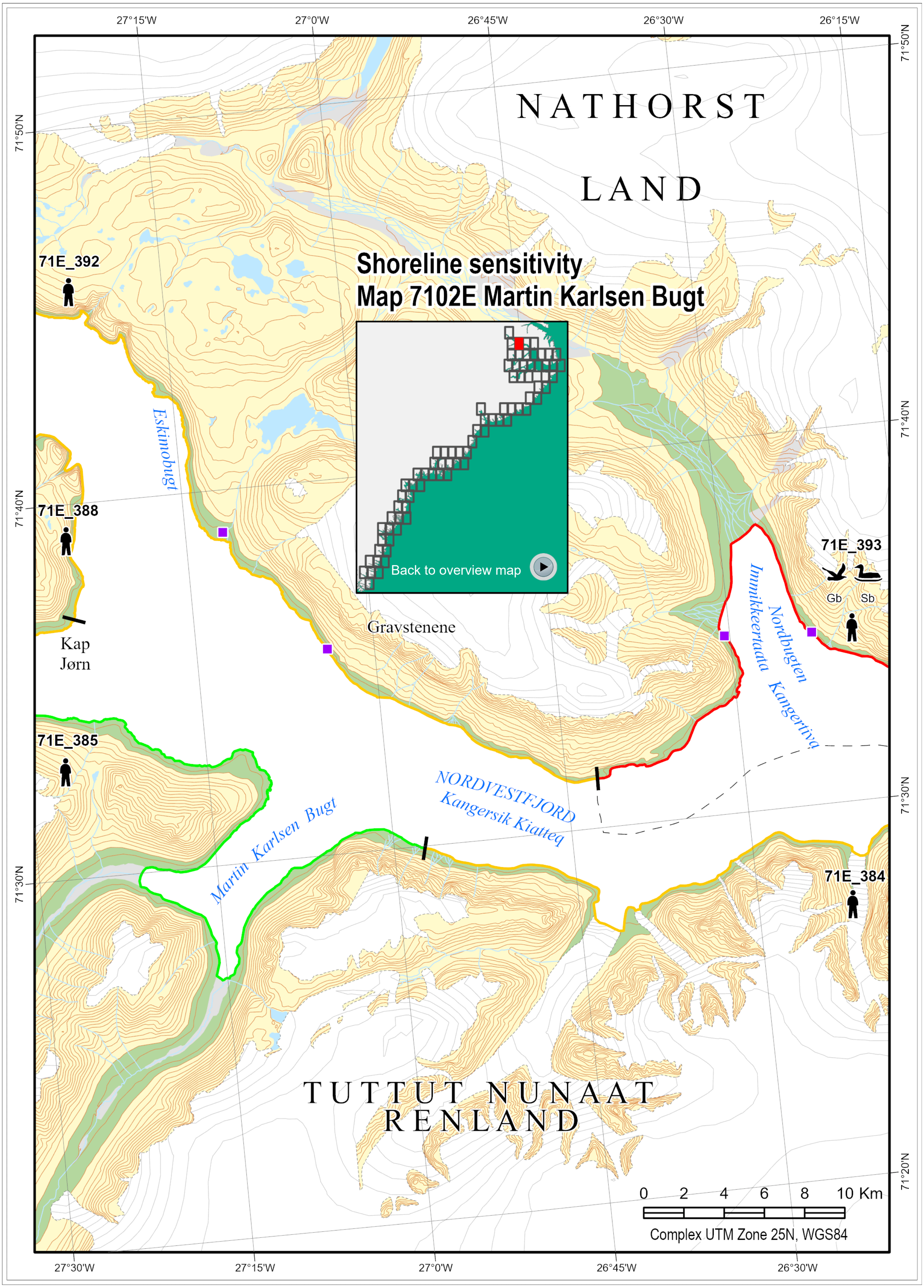
28°15'W
28°0'W
27°45'W
27°30'W
71°50'N
71°40'N
71°30'N
Immikkoortilaq
NORDVESTFJORD
Kangersik Kiatteq
HINKS LAND
Leeds Bugt
Kap Jørn
Lancaster Bugt
Flyverfjord
TH. SØRENSEN LAND
Physical environment & logistics
Map 7101E Flyverfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84


Shoreline sensitivity
Map 7102E Martin Karlsen Bugt
Back to overview map
NATHORST
LAND
TUTTUT NUNAAT
RENLAND
71E_392
71E_388
71E_385
71E_393
71E_384
Gb
Sb
Kap
Jørn
Eskimobugt
Gravstenene
Martin Karlsen Bugt
NORDVESTFJORD
Kangersik Kiatteq
Nordbugten
Inmikkeertaata Kangertiva
27°15'W
27°0'W
26°45'W
26°30'W
26°15'W
27°30'W
71°50'N
71°40'N
71°30'N
71°20'N
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84

8.77 Map 7102E – Martin Karlsen Bugt

Shoreline sensitivity map

Human use

71E_384, 71E_385	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
71E_387, 71E_388	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
71E_392, 71E_393	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.

Species occurrence

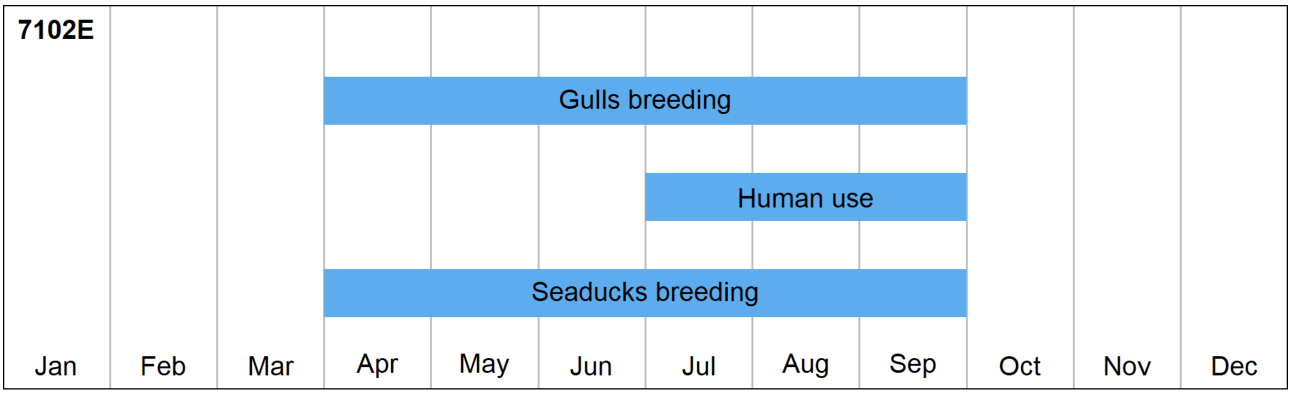
Gb71E_393	2 colonies of Arctic terns, 1 colony of great black-backed gulls and 1 colony of glaucous gulls
Sb71E_393	2 colonies of common eiders

Site specific occurrence: blue icons

Gb8418	Breeding great black-backed gulls and Arctic terns
Gb8420	Breeding glaucous gulls and Arctic terns
Sb8419, Sb8421	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
71E_384	18	High
71E_385	17	Moderate
71E_387	19	High
71E_388	19	High
71E_392	19	High
71E_393	37	Extreme



Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers ar the head of the fjord.

Nordbugten indents the N shore of Nordvestfjord about 50 km within the entrance. During the month of October, a vessel anchored, in a depth of 80 m, about 1 km from the head of this bay. At the time, several icebergs were sighted outside the entrance but the bay itself was relatively clear. It should also be possible to anchor in Martin Karlsen Bugt (Appendix E).

Shorelines in this area are predominantly rock with some talus and glacier allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the SE and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

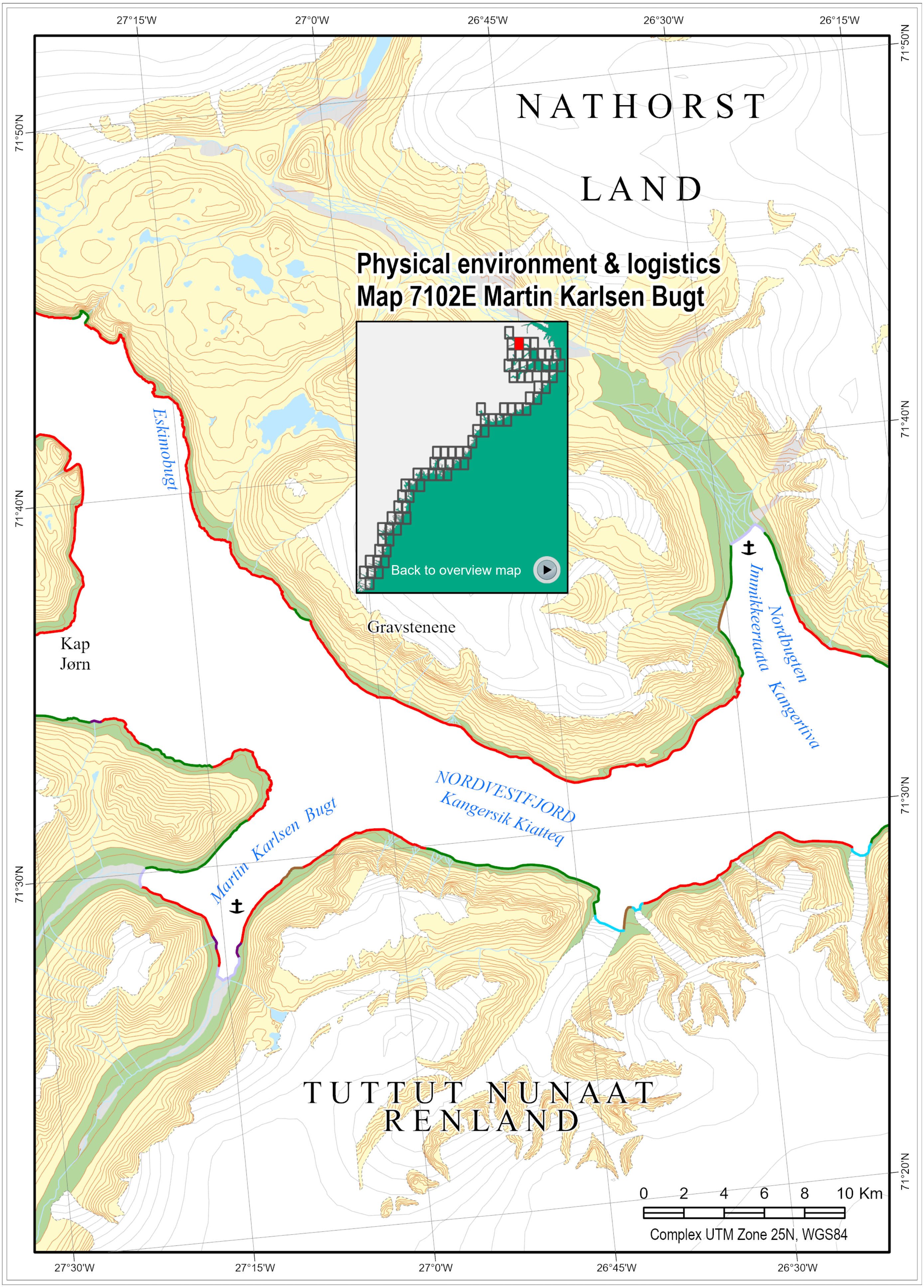
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock with some talus and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map


Physical environment & logistics
Map 7102E Martin Karlsen Bugt
Back to overview map
NATHORST
LAND
Eskimobugt
Kap
Jørn
Gravstenene
Nordbugten
Inmikkeertaata Kangertiva
NORDVESTFJORD
Kangersik Kiatteq
Martin Karlsen Bugt
TUTTUT NUNAAT
RENLAND
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
27°15'W
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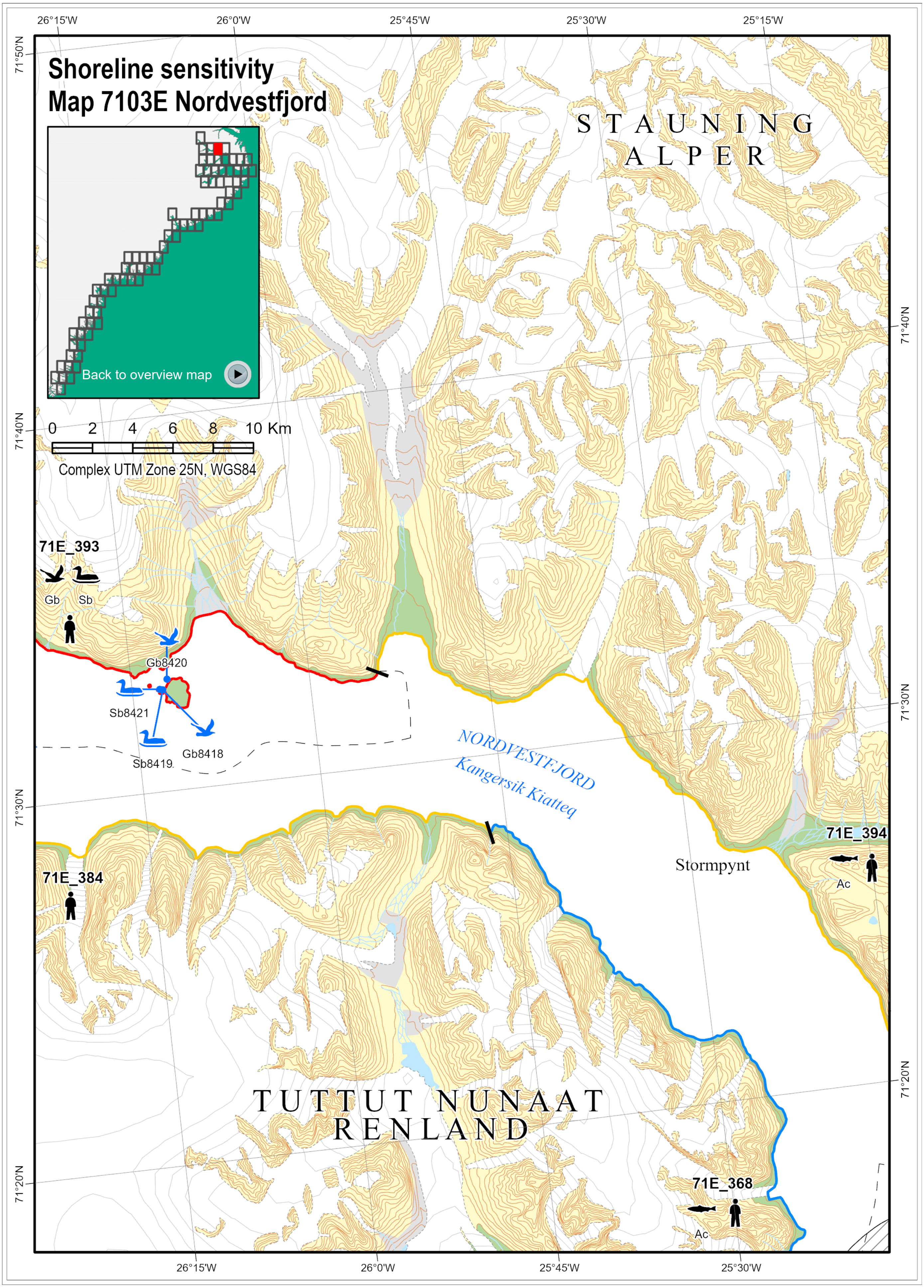

Shoreline sensitivity
Map 7103E Nordvestfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
26°15'W
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25°45'W
25°30'W
25°15'W
71°50'N
71°40'N
71°30'N
71°20'N
STAUNING ALPER
71E_393
Gb
Sb
Gb8420
Sb8421
Gb8418
Sb8419
NORDVESTFJORD
Kangersik Kiatteq
71E_394
Stormpynt
Ac
71E_384
TUTTUT NUNAAT
RENLAND
71E_368
Ac

8.78 Map 7103E – Nordvestfjord

Shoreline sensitivity map

Human use

71E_368, 71E_384	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
71E_393	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.
71E_394	Southern part of area used by hunters staying at Kangertertivarmiit (Sydkap) on a seasonal basis. A range of different species are exploited. Tourism in the area.

Species occurrence

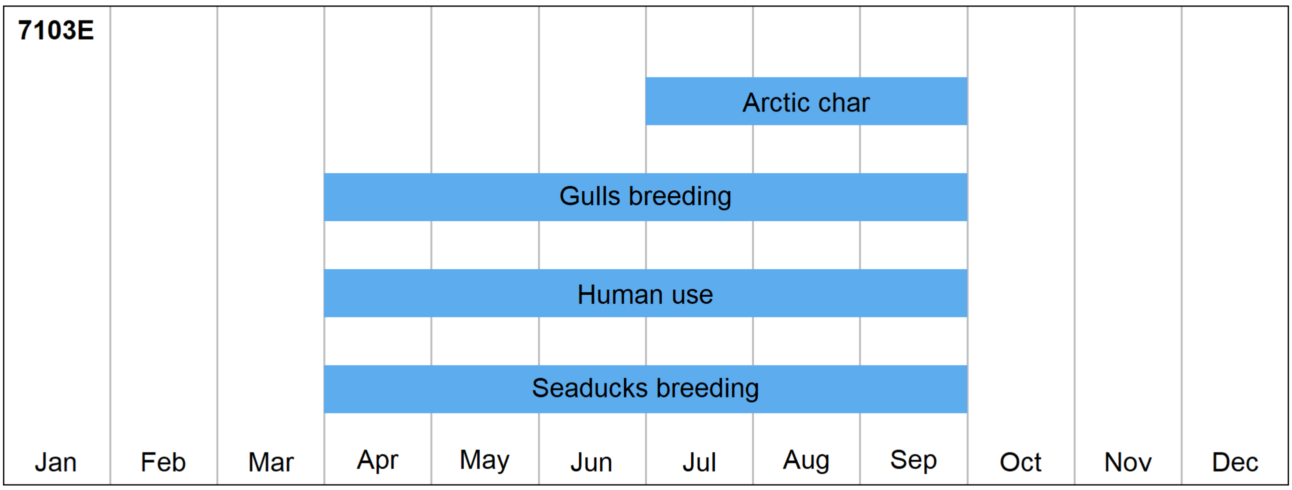
Ac71E_368, Ac71E_394	Important Arctic char river
Gb71E_393	2 colonies of Arctic terns, 1 colony of great black-backed gulls and 1 colony of glaucous gulls
Sb71E_393	2 colonies of common eiders

Site specific occurrence: blue icons

Gb8418	Breeding great black-backed gulls and Arctic terns
Gb8420	Breeding glaucous gulls and Arctic terns
Sb8419, Sb8421	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
71E_368	12	Low
71E_384	18	High
71E_393	37	Extreme
71E_394	21	High



Physical environment and logistics, 7103E – Nordvestfjord

Access

The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, nearshore, and within the islands and fjords appear to be deep, however, uncharted dangers may exist (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June/July. Additional dangers to navigation are present here due to icebergs that are discharged from the glaciers at the head of the fjord.

There is a single anchorage identified in this map area (Appendix E).

Shorelines in this area are predominantly rock talus with some delta, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the SE and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures

In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

There are no opportunities for nearshore booming in this map area.

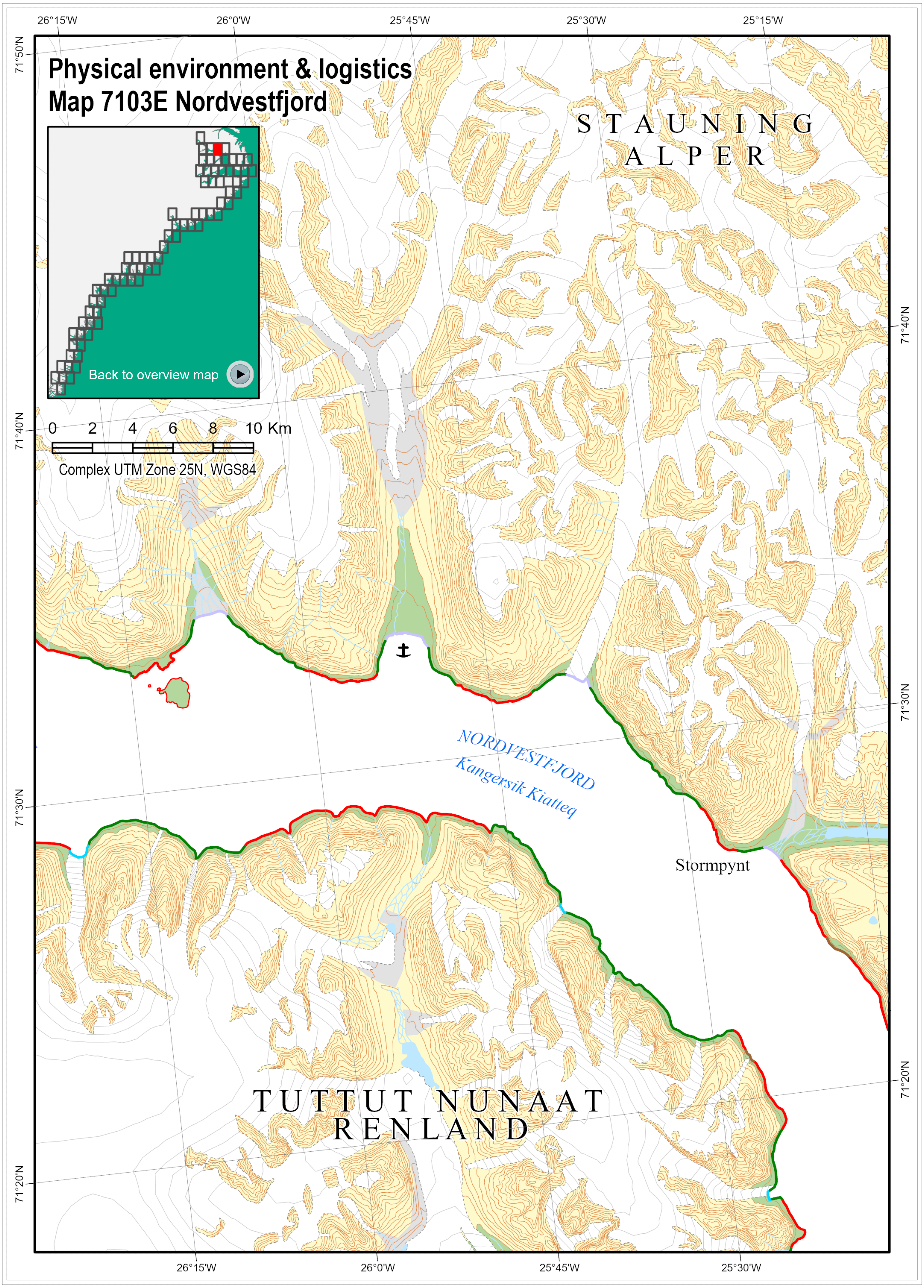
Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

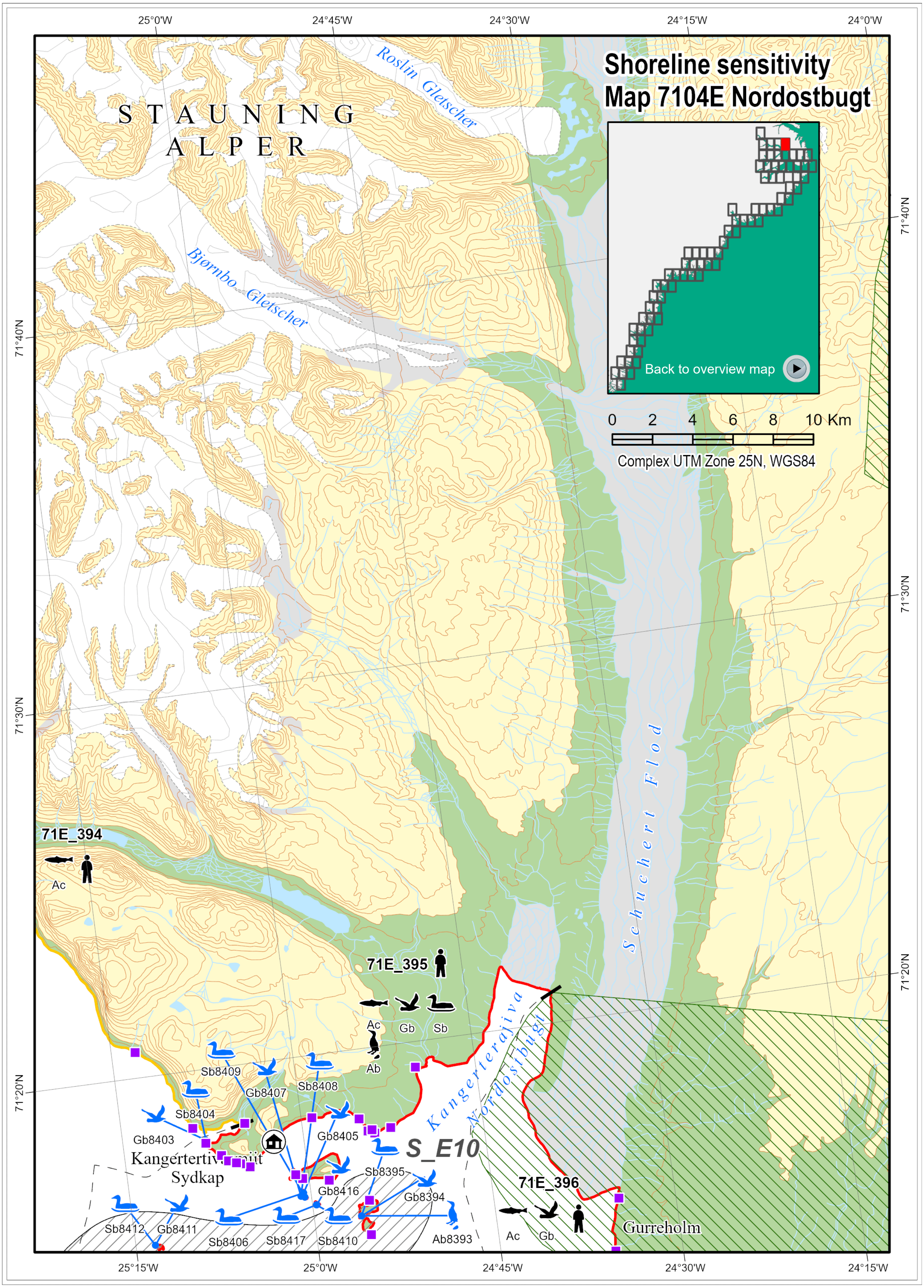
Shorelines shown on this are predominantly rock talus with some delta with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens

There are no potential *safe havens* identified on this map


Physical environment & logistics
Map 7103E Nordvestfjord
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
26°15'W
26°0'W
25°45'W
25°30'W
25°15'W
71°50'N
71°40'N
71°30'N
71°20'N
STAUNING
ALPER
NORDVESTFJORD
Kangersik Kiatteq
Stormpynt
TUTTUT NUNAAT
RENLAND


Shoreline sensitivity
Map 7104E Nordostbugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
STAUNING
ALPER
Roslin Gletscher
Bjørnbo Gletscher
Schuchert Flod
Kangerterajiva
Nordostbugt
Sydkap
Gurreholm
71E_394
71E_395
71E_396
S_E10
Ac
Gb
Sb
Ab
Sb8409
Gb8407
Sb8408
Sb8404
Gb8403
Gb8405
Sb8395
Gb8416
Gb8394
Sb8412
Gb8411
Sb8406
Sb8417
Sb8410
Ab8393
25°0'W
24°45'W
24°30'W
24°15'W
24°0'W
25°15'W
71°40'N
71°30'N
71°20'N

8.79 Map 7104E – Nordostbugt

Shoreline sensitivity map

Human use

71E_394	Southern part of area used by hunters staying at Kangertertivarmiit (Sydkap) on a seasonal basis. A range of different species are exploited. Tourism in the area.
71E_395	Hunting area for hunters staying at Kangertertivarmiit (Sydkap) on a seasonal basis. A wide range of different species are exploited. Tourism in the area.
71E_396	Traffic corridor for hunters travelling between Ittoqqortoormiit and Kangertertivarmiit (Sydkap), and occasional muskox hunting along coast. Tourism in the area.

Species occurrence

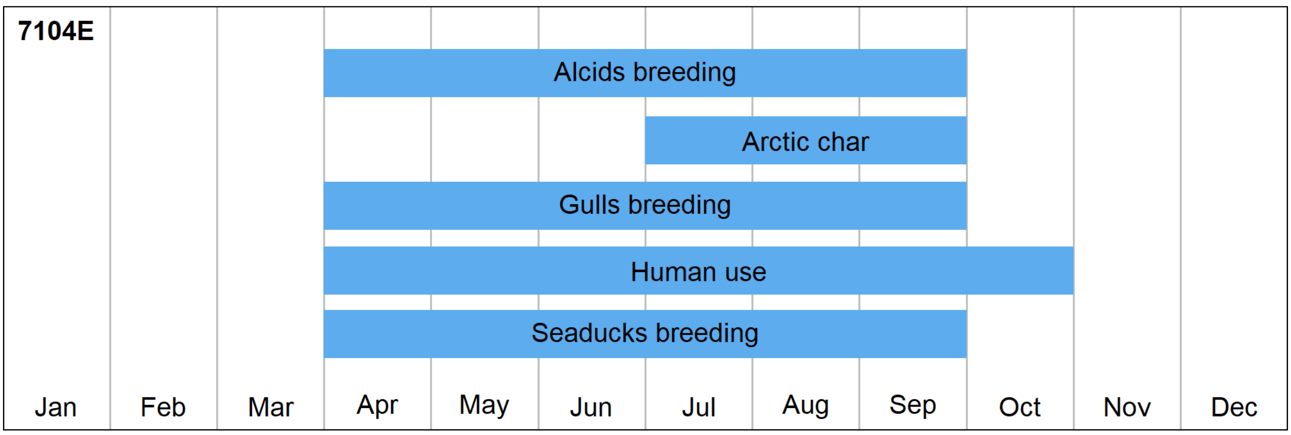
Ab71E_395	1 colony of black guillemots
Ac71E_394- Ac71E_396	Important Arctic char river
Gb71E_396	1 colony of Arctic terns and 3 colonies of Sabine's gulls
Gb71E_395	7 colonies of Arctic terns and 2 colonies of Sabine's gulls
Sb71E_395	10 colonies of common eiders

Site specific occurrence: blue icons

Ab8393 **(SE_10)**	Breeding black guillemots
Gb8394 **(SE_10)**	Breeding Sabine's gulls and Arctic terns
Gb8403	Breeding Arctic terns
Gb8405, Gb8407	Breeding Arctic terns
Gb8411 **(SE_10)**, Gb8416	Breeding Arctic terns
Sb8395 **(SE_10)**, Sb8404	Breeding common eiders
Sb8406	Breeding common eiders
Sb8408 – Sb8410	Breeding common eiders
Sb8412 **(SE_10)**	Breeding common eiders
Sb8417	Breeding common eiders

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
71E_394	21	High
71E_395	62	Extreme
71E_396	35	Extreme



Access
The nearshore waters in this area are largely uncharted and caution should be exercised. In general, the waters offshore, however appear to be deep, but uncharted dangers may exist. The entire coastline in this area appears to be foul, with few soundings and numerous islets and apparent hazards (see nautical chart 2600). Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice until June. Additional dangers to navigation are present here due to icebergs.

Anchorage is reported to be available (at approx. 71°18’N, 24°55’W, in depths of 46 to 64 m, between Sydkap (a former settlement, now a hunting camp) and the islands off it. Anchorage is also reported to be available, in a depth of 58 m, 550 m off Sydkap. Anchorage is also reported at Gurreholm Station (71°15’N, 24°36’W), an old expedition house, 11 miles E of Sydkap. Anchorage is obtainable, in depths of l8 to 27 m, 275 to 365 m offshore, W of the station.

The limited amount of shoreline in this area is a mix of rock, tidal flats, and delta: landings may be possible near the latter two shoreline types and elsewhere within the fjords but would require reconnaissance to confirm.

There are two STOL-airstrips on this map area (Appendix F). There is an airport on map area 7056 to the SE and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

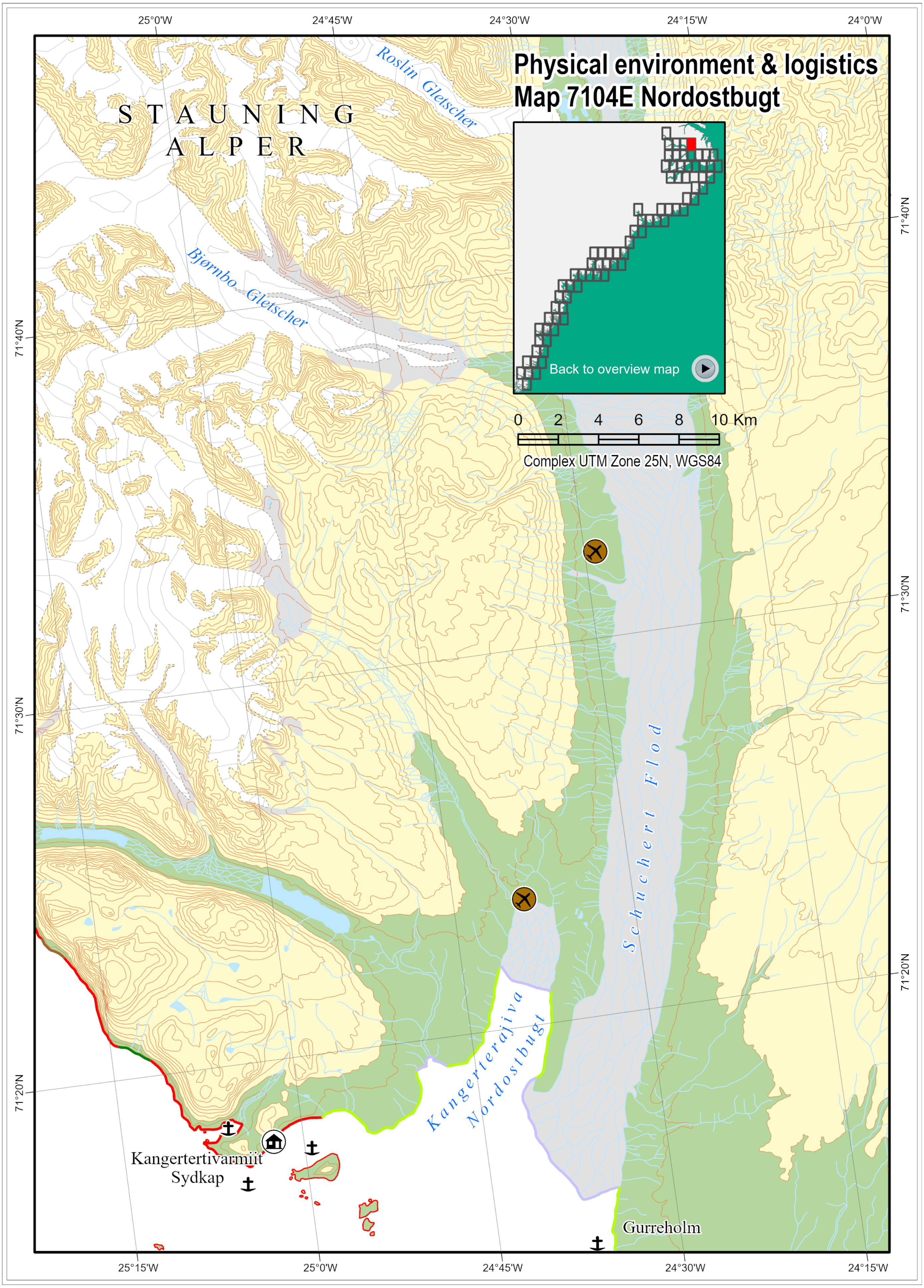
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord’s entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

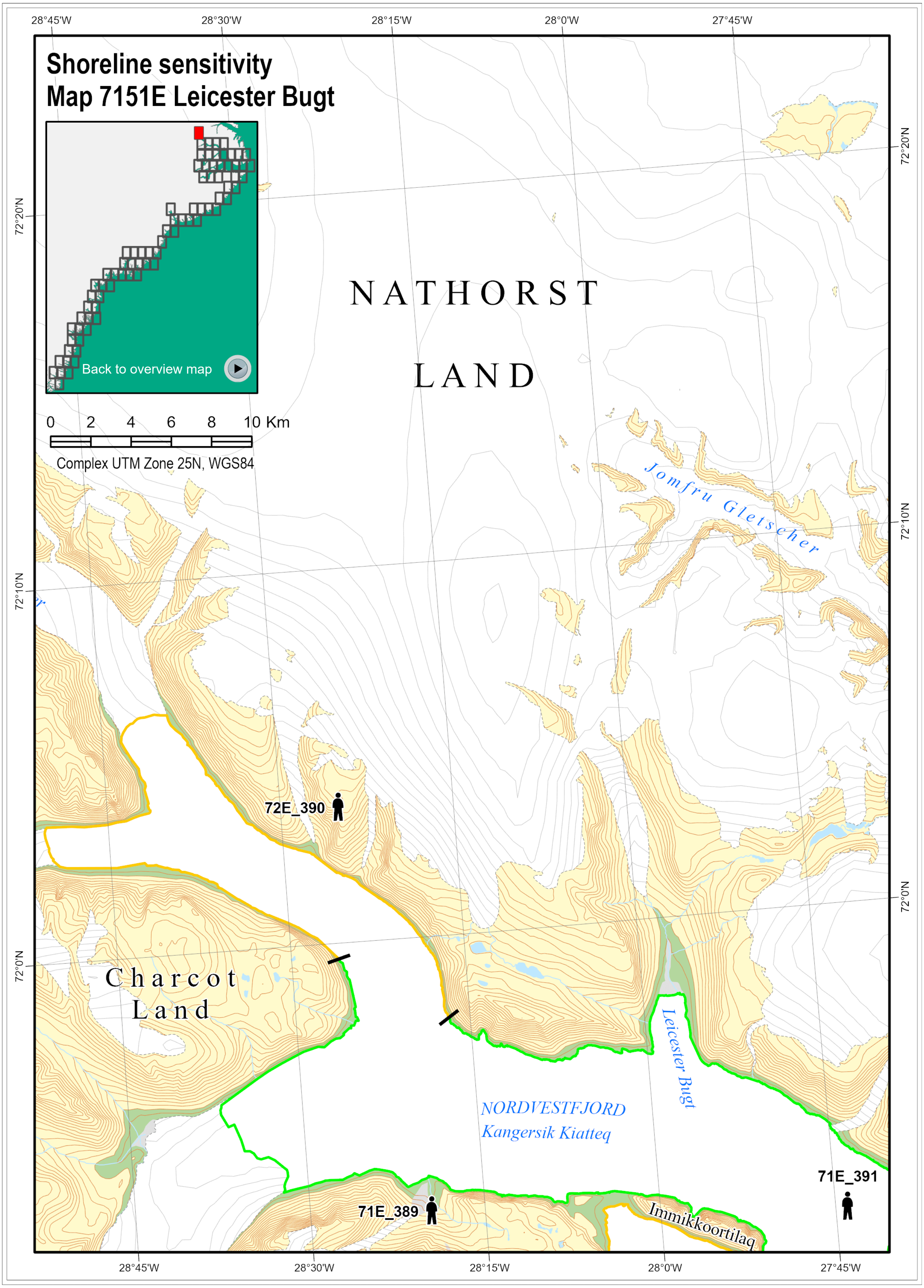
The limited amount of shoreline in this area is a mix of rock, tidal flats, and delta: the moderately exposed rock may not require active cleaning efforts unless heavily contaminated with heavy oils. Consideration should be given to flushing operations on the incoming tide on the tidal flats, and flushing operations in the protected waters within the fjords.

Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map



Physical environment & logistics
Map 7104E Nordostbugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
STAUNING ALPER
Roslin Gletscher
Bjørnbo Gletscher
Schuchert Flod
Kangerterajiva
Nordostbugt
Kangertertivarmiit
Sydkap
Gurreholm
25°0'W
24°45'W
24°30'W
24°15'W
24°0'W
25°15'W
71°40'N
71°30'N
71°20'N


Shoreline sensitivity
Map 7151E Leicester Bugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°45'W
28°30'W
28°15'W
28°0'W
27°45'W
72°20'N
72°10'N
72°0'N
NATHORST
LAND
Jomfru Gletscher
72E_390
Charcot
Land
Leicester Bugt
NORDVESTFJORD
Kangersik Kiatteq
71E_391
71E_389
Immikkoortilaq

8.80 Map 7151E – Leicester Bugt

Shoreline sensitivity map

Human use

71E_388 – 71E_391	Narwhal hunting may occasionally take place here during the open water season (Jul-Sep). Tourism in the area.

Species occurrence

No seasonal species occurrence is registrered on this map, however there could be species occurrence not known at this time

Shoreline sensitivity summary

SEG_ID	Sensitivity	Ranking
71E_388	19	High
71E_389	17	Moderate
72E_390	18	High
71E_391	17	Moderate

7151E											
						Human use	Human use	Human use			
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Physical environment and logistics, 7151E – Leicester Bugt

Access
The waters in this area are uncharted and caution should be exercised. In general, the waters appear to be deep, however, uncharted dangers may exist. Local knowledge is essential for navigation.

These fjord waters are covered by shorefast ice October-June and the innermost parts by glacier ice, when the shorefast ice is gone probably making the coasts inaccessible. Icebergs are calved in large numbers from the glaciers.

There are no anchorages identified in this map area.

Shorelines in this area are predominantly rock with some talus and glacier, allowing little opportunity for marine access. Landings may be possible near the beach and alluvial shorelines within the fjords but would require reconnaissance to confirm.

There are no airports on this map area. There is an airport on map area 7056 to the SE and a heliport at the town of Ittoqqortoormiit on map area 7007.

Countermeasures
In ice concentrations down to six tenths, *in-situ* burning of oil in conjunction with tracking of oiled ice is recommended. In open water conditions in offshore and nearshore areas, containment for recovery or burning is recommended. Dispersant application should be considered in offshore and nearshore waters to protect waterfowl and to prevent oil from entering inshore areas. Dispersant-use is cautioned against in shallow nearshore waters, which may exist within the fjords on this map: the waters appear to be deep, but as they are uncharted, soundings should be taken to confirm their depth prior to using dispersants.

Offshore countermeasures represent the only practical method of protecting most shoreline areas.

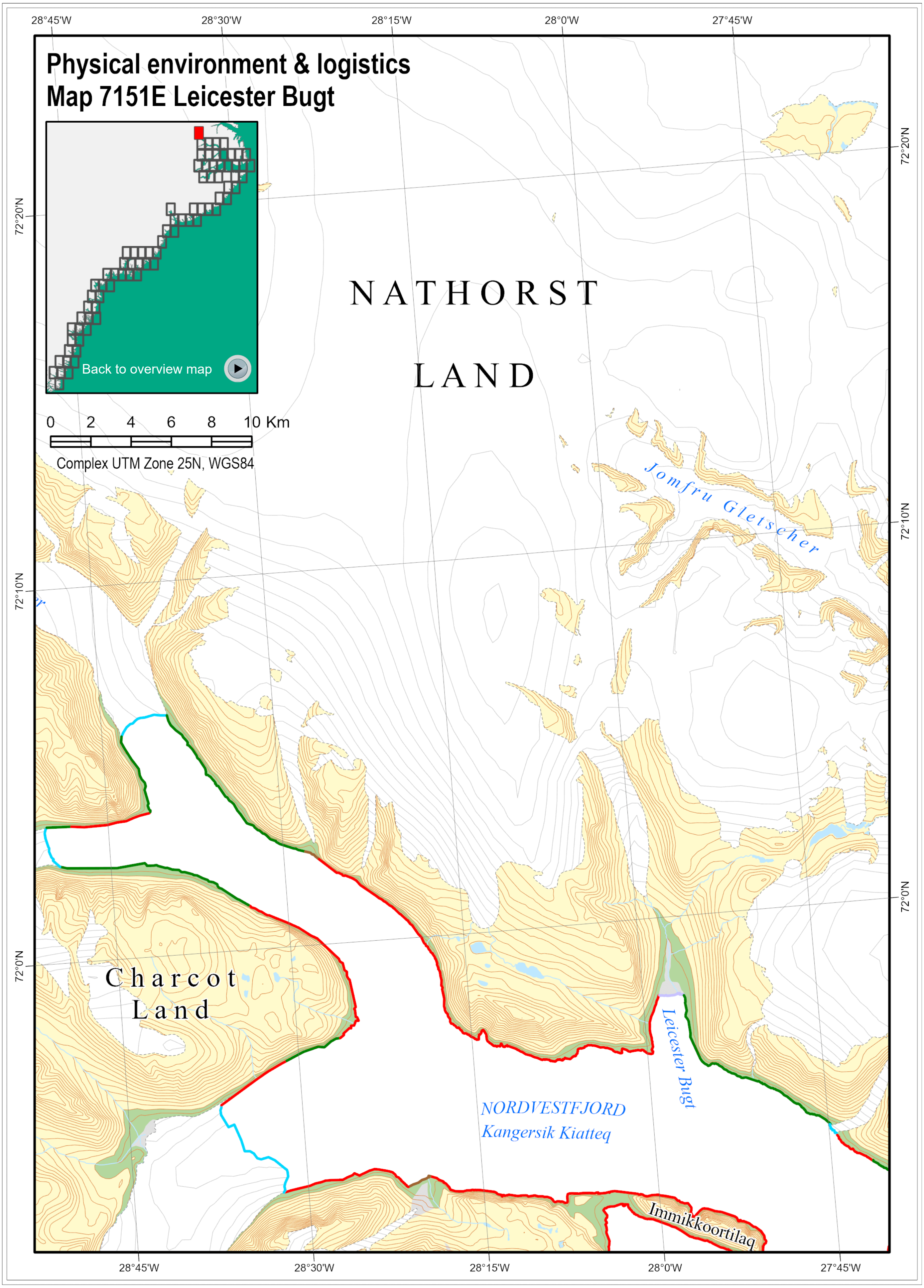
There are no opportunities for nearshore booming in this map area.

Diversion booming should be attempted at each fjord's entrance to avoid massive oiling of relatively low-energy inshore areas, but this will be complicated by the excessive length of boom required and the difficulty in anchoring in the deep nearshore waters.

Shorelines shown on this map are predominantly rock with some talus and glacier with moderate exposure, which may not require active cleaning efforts unless heavily contaminated with heavy oils.

Consideration should be given to flushing operations in the protected waters within the fjords. Access and trafficability of these areas are unknown, but it is probable that any cleanup operations would be marine-based given the likely nature of the shoreline. operations would be marine-based given the likely nature of the shoreline.

Safe Havens
There are no potential *safe havens* identified on this map


Physical environment & logistics
Map 7151E Leicester Bugt
Back to overview map
0 2 4 6 8 10 Km
Complex UTM Zone 25N, WGS84
28°45'W
28°30'W
28°15'W
28°0'W
27°45'W
72°20'N
72°10'N
72°0'N
NATHORST
LAND
Jomfru Gletscher
Charcot
Land
Leicester Bugt
NORDVESTFJORD
Kangersik Kiatteq
Immikkoortilaq

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10 Appendix A: Shoreline sensitivity ranking

Explanation of the calculations in the table:
Priority index (PI) = Assigned value (AV) x Weighting factor
Sensitivity value (S) = sum of **Priority indices (PI)**

For biological elements:
Assigned value = (Relative sensitivity (RS) x Relative abundance (RA) x Temporal modifier (TM) x Oil residency index (ORI)) / Biological resource constant (C)

Bold abbreviations indicate factors, which appear in the columns of the table. The oil resi-dency index (ORI) is given in a row for each shoreline segment. The biological resource constant (C) is 35 and the weighting factors (WF) are:

Human use, communities and archaeology	2
Biological resources	1.75
Special status areas	1.5
Oil residency index	1.5

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
60E_1	6001E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	4	0.5	4.86	8.50		
		Seaducks breeding	23	3	0.5	4.93	8.63	36	Extreme
60E_2	6001E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.80	7.19		
		Capelin	21	1	0.25	0.72	1.26	12	High
60E_3	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.56	6.84	9	Moderate
60E_4	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.63	6.94		
		Alcids breeding	25	2	0.5	3.31	5.79		
		Capelin	21	1	0.25	0.69	1.21	16	Extreme
60E_5	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.70	7.05		
		Alcids breeding	25	1	0.5	1.68	2.94		
60E_6	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.21	6.32		
		Capelin	21	1	0.25	0.63	1.11	9	Moderate
60E_7	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.75	7.12		
		Capelin	21	1	0.25	0.71	1.25	10	High
60E_8	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.95	7.43		
		Capelin	21	1	0.25	0.74	1.30	11	High
60E_9	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.81	7.21		
		Arctic char	14	1	0.25	0.48	0.84		
		Gulls breeding	17	5	0.5	5.84	10.22	20	Extreme
60E_10	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.14		
		Capelin	21	1	0.25	0.71	1.25	10	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
60E_11	6001E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	13	High
60E_12	6001E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.96	7.44		
		Capelin	21	1	0.25	0.74	1.30	13	High
60E_13	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.37	6.55		
		Capelin	21	1	0.25	0.66	1.15	10	High
60E_14	6001E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.73	7.09		
		Capelin	21	1	0.25	0.71	1.24		
		Gulls breeding	17	3	0.5	3.44	6.03	16	Extreme
60E_15	6052E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.46	6.69		
		Capelin	21	1	0.25	0.67	1.17		
		Gulls breeding	17	2	0.5	2.17	3.79	14	High
60E_16	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.01	6.01		
		Capelin	21	1	0.25	0.60	1.05	7	Low
60E_17	6052E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	High
60E_18	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
60E_19	6052E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.63	6.94		
		Capelin	21	1	0.25	0.69	1.22	10	High
60E_20	6051E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.69	7.03	9	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
60E_21	6051E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.72	5.58	8	Low
60E_22	6051E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.44	6.66	11	High
60E_23	6051E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	10	Moderate
60E_24	6001E	Human Use				1.00	2.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.80	7.20		
		Capelin	21	1	0.25	0.72	1.26	16	Extreme
60E_25	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.37	6.56		
		Alcids breeding	25	1	0.5	1.56	2.73		
		Capelin	21	1	0.25	0.66	1.15		
		Gulls breeding	17	2	0.5	2.12	3.71	14	High
60E_26	6051E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.38	6.57	7	Low
60E_27	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	8	Low
60E_28	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
60E_29	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.20	6.31	6	Low
60E_30	6052E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.69	7.03		
		Capelin	21	1	0.25	0.70	1.23		
		Gulls breeding	17	2	0.5	2.28	3.98	14	High
60E_31	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.50	6.74		
		Capelin	21	1	0.25	0.67	1.18	8	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
60E_32	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.41	6.61		
		Capelin	21	1	0.25	0.66	1.16	8	Low
60E_33	6053E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	5	0.5	6.07	10.63	28	Extreme
61E_34	6053E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.62	6.94		
		Capelin	21	1	0.25	0.69	1.21	10	High
61E_35	6052E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.44	6.66		
		Capelin	21	1	0.25	0.67	1.16	8	Moderate
61E_36	6101E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.42	6.64	7	Low
61E_37	6101E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	10	High
61E_38	6102E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.68	7.02		
		Capelin	21	1	0.25	0.70	1.23	10	High
61E_39	6101E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.86	7.29	7	Low
61E_40	6102E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
61E_41	6102E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.59	6.89		
		Alcids breeding	25	2	0.5	3.28	5.74		
		Capelin	21	1	0.25	0.69	1.21		
		Gulls breeding	17	5	0.5	5.58	9.76	26	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
61E_42	6101E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.89	7.33	9	Moderate
61E_43	6101E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.63	5.44	7	Low
61E_44	6102E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.84	7.26		
		Capelin	21	1	0.25	0.73	1.27	11	High
61E_45	6102E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	3	0.5	5.36	9.38		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	2	0.5	2.43	4.25	22	Extreme
61E_46	6102E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.98	7.47		
		Alcids breeding	25	1	0.5	1.78	3.11		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	2	0.5	2.42	4.24	16	Extreme
61E_47	6102E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	High
61E_48	6102E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.11	4.67	5	Low
61E_49	6102E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.47	6.71		
		Capelin	21	1	0.25	0.67	1.17		
		Gulls breeding	17	5	0.5	5.43	9.51	19	Extreme
61E_50	6103E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.93	7.39		
		Capelin	21	1	0.25	0.74	1.29	11	High
61E_51	6103E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	1	0.5	1.79	3.13		
		Capelin	21	1	0.25	0.75	1.31		
		Seaducks breeding	23	1	0.5	1.64	2.88	15	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
61E_52	6151E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	3	0.5	5.36	9.38		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	3	0.5	3.64	6.38	27	Extreme
61E_53	6151E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.84	5.76		
		Capelin	21	1	0.25	0.58	1.01	7	Low
61E_54	6151E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.85	5.77	6	Low
61E_55	6151E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.07	6.11		
		Capelin	21	1	0.25	0.61	1.07	7	Low
61E_56	6152E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.65	6.98		
		Capelin	21	1	0.25	0.70	1.22	8	Low
61E_57	6152E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.86	4.28		
		Capelin	21	1	0.25	0.43	0.75	5	Low
61E_58	6151E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.32	4.99		
		Capelin	21	1	0.25	0.50	0.87		
		Seaducks breeding	23	1	0.5	1.09	1.91	8	Low
	62E_59	6151E				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	1	0.5	1.79	3.13		
		Gulls breeding	17	5	0.5	6.07	10.63		
		Harbour seal	18	5	0.5	6.43	11.25	33	Extreme
62E_60	6151E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.38	6.56	7	Low
62E_61	6152E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.68	7.01		
		Harbour seal	18	5	0.5	6.01	10.52	18	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
62E_62	6152E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.98	7.46		
		Capelin	21	1	0.25	0.75	1.31		
		Harbour seal	18	5	0.5	6.40	11.20		
		Seaducks breeding	23	1	0.5	1.64	2.86	23	Extreme
62E_63	6152E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
62E_64	6201E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	High
62E_65	6202E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.96	7.44		
		Alcids breeding	25	2	0.5	3.54	6.20		
		Capelin	21	1	0.25	0.74	1.30	17	Extreme
62E_66	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.15	6.22		
		Capelin	21	1	0.25	0.62	1.09	7	Low
62E_67	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.63	6.95		
		Capelin	21	1	0.25	0.69	1.22	8	Low
62E_68	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	8	Low
62E_69	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.93	7.40	7	Low
62E_70	6201E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	High
62E_71	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
62E_72	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.79	7.18		
		Capelin	21	1	0.25	0.72	1.26	8	Low
62E_73	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.61	6.92		
		Capelin	21	1	0.25	0.69	1.21	8	Low
62E_74	6202E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.99	7.48		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
62E_75	6202E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.97	7.45		
		Capelin	21	1	0.25	0.75	1.30		
		Gulls breeding	17	2	0.5	2.41	4.22		
		Seaducks breeding	23	4	0.5	6.53	11.42	24	Extreme
62E_76	6202E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.98	4.47		
		Capelin	21	1	0.25	0.45	0.78	7	Low
62E_77	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	2	0.5	2.43	4.25	19	Extreme
62E_78	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.14		
		Capelin	21	1	0.25	0.71	1.25		
		Seaducks breeding	23	3	0.5	4.69	8.21	17	Extreme
62E_79	6201E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.73	7.10		
		Capelin	21	1	0.25	0.71	1.24		
		Seaducks breeding	23	5	0.5	7.77	13.61	24	Extreme
62E_80	6201E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.06	6.09		
		Capelin	21	1	0.25	0.61	1.07	7	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
62E_81	6251E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.72	7.08	7	Low
62E_82	6251E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.93	5.89		
		Capelin	21	1	0.25	0.59	1.03		
62E_83	6251E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	High
62E_84	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.91	7.36		
		Capelin	21	1	0.25	0.74	1.29		
		Gulls breeding	17	4	0.5	4.77	8.35		
		Seaducks breeding	23	1	0.5	1.61	2.82	20	Extreme
62E_85	6251E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.14		
		Capelin	21	1	0.25	0.71	1.25		
		Seaducks breeding	23	4	0.5	6.26	10.95	21	Extreme
62E_86	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.67	7.00		
		Capelin	21	1	0.25	0.70	1.23	8	Low
62E_87	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
62E_88	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
62E_89	6251E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.65	5.47		
		Capelin	21	1	0.25	0.55	0.96		
		Seaducks breeding	23	5	0.5	5.99	10.49	17	Extreme
62E_90	6251E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.69	7.03	7	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
62E_91	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.67	7.00	7	Low
62E_92	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	1	0.5	1.21	2.13	11	High
62E_93	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.55	6.83		
		Capelin	21	1	0.25	0.68	1.19	8	Low
62E_94	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.88	7.33		
		Capelin	21	1	0.25	0.73	1.28	9	Moderate
62E_95	6252E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.97	7.46		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	3	0.5	3.62	6.34	17	Extreme
62E_96	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
62E_97	6253E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Capelin	21	1	0.25	0.75	1.31	17	Extreme
62E_98	6253E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
63E_99	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.91	5.86	6	Low
63E_100	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.50	6.75	7	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
63E_101	6252E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	High
63E_102	6252E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.73	7.09		
		Capelin	21	1	0.25	0.71	1.24	10	Moderate
63E_103	6252E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.46	6.70	7	Low
63E_104	6253E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.14		
		Capelin	21	1	0.25	0.71	1.25	8	Low
63E_105	6253E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.89	7.33		
		Capelin	21	1	0.25	0.73	1.28		
		Seaducks breeding	23	3	0.5	4.82	8.44	19	Extreme
63E_106	6253E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.85	5.78		
		Capelin	21	1	0.25	0.58	1.01	9	Moderate
63E_107	6253E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.15		
		Capelin	21	1	0.25	0.71	1.25	14	High
63E_108	6253E	Human Use				0.00	0.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.84	7.26		
		Capelin	21	1	0.25	0.73	1.27	15	High
63E_109	6253E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	9	Moderate
63E_110	6253E	Human Use				2.00	4.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.67	7.01		
		Capelin	21	1	0.25	0.70	1.23	18	Extreme
63E_111	6301E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.36	6.53		
		Capelin	21	1	0.25	0.65	1.14	14	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
63E_112	6301E	Human Use				1.00	2.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.38	6.57	15	High
63E_113	6302E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	4	0.5	4.86	8.50	21	Extreme
63E_114	6253E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.90	7.35		
		Capelin	21	1	0.25	0.73	1.29	15	High
63E_115	6302E	Human Use				2.00	4.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.96	7.44		
		Capelin	21	1	0.25	0.74	1.30	19	Extreme
63E_116	6302E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.84	7.26		
		Capelin	21	1	0.25	0.73	1.27	15	High
63E_117	6301E	Human Use				2.00	4.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.12	6.18		
		Capelin	21	1	0.25	0.62	1.08	17	Extreme
63E_118	6301E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.75	7.12		
		Capelin	21	1	0.25	0.71	1.25	10	Moderate
63E_119	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Capelin	21	1	0.25	0.75	1.31		
		Seaducks breeding	23	3	0.5	4.93	8.63	26	Extreme
63E_120	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.82	7.23		
		Capelin	21	1	0.25	0.72	1.26	10	Moderate
63E_121	6302E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31		
		Seaducks breeding	23	5	0.5	8.21	14.38	27	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
63E_122	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.83	5.75		
		Capelin	21	1	0.25	0.57	1.01	9	Low
63E_123	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.43	6.64		
		Capelin	21	1	0.25	0.66	1.16		
		Gulls breeding	17	3	0.5	3.23	5.65	15	High
63E_124	6302E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	13	High
63E_125	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.60	6.90		
		Capelin	21	1	0.25	0.69	1.21	10	Moderate
63E_126	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.85	7.27		
		Capelin	21	1	0.25	0.73	1.27	11	Moderate
63E_127	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.75	7.13		
		Capelin	21	1	0.25	0.71	1.25	10	Moderate
63E_128	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate
63E_129	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.85	7.28		
		Capelin	21	1	0.25	0.73	1.27	11	Moderate
63E_130	6302E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.92	7.38		
		Alcids breeding	25	2	0.5	3.52	6.15		
		Capelin	21	1	0.25	0.74	1.29		
		Seaducks breeding	23	3	0.5	4.85	8.49	27	Extreme
63E_131	6302E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.11	6.16		
		Capelin	21	1	0.25	0.62	1.08	11	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
63E_132	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	5	0.5	6.07	10.63	28	Extreme
63E_133	6302E	Human Use				1.00	2.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.78	7.18		
		Capelin	21	1	0.25	0.72	1.26	16	High
63E_134	6303E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.88	7.33		
		Capelin	21	1	0.25	0.73	1.28	13	High
63E_135	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.43	6.65	9	Low
63E_136	6303E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	13	High
63E_137	6303E	Human Use				1.00	2.00		
		Archaeological Sites				5.00	10.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	21	Extreme
63E_138	6351E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.00	6.01	8	Low
63E_139	6351E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.76	5.64	8	Low
63E_140	6302E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate
63E_141	6303E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.15	6.23		
		Capelin	21	1	0.25	0.62	1.09	9	Moderate
63E_142	6303E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.73	7.09		
		Capelin	21	1	0.25	0.71	1.24	10	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
63E_143	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.83	7.24		
		Alcids breeding	25	3	0.5	5.17	9.05		
		Capelin	21	1	0.25	0.72	1.27		
		Gulls breeding	17	5	0.5	5.86	10.26	30	Extreme
63E_144	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.78	5.66		
		Capelin	21	1	0.25	0.57	0.99	9	Low
63E_145	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.95	7.42		
		Capelin	21	1	0.25	0.74	1.30	11	Moderate
64E_146	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.17	4.76		
		Capelin	21	1	0.25	0.48	0.83		
		Gulls breeding	17	3	0.5	2.31	4.05	12	Moderate
64E_147	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.68	4.02		
		Gulls breeding	17	4	0.5	2.60	4.55	11	Moderate
64E_148	6351E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.71	7.07	9	Low
64E_149	6401E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.38	6.58		
		Gulls breeding	17	2	0.5	2.13	3.73	12	Moderate
64E_150	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.83	7.25		
		Capelin	21	1	0.25	0.72	1.27		
		Gulls breeding	17	2	0.5	2.35	4.11		
		Seaducks breeding	23	4	0.5	6.35	11.11	26	High
64E_151	6352E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.59	6.89		
		Capelin	21	1	0.25	0.69	1.21	10	Low
64E_152	6401E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
64E_153	6351E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate
64E_154	6401E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	10	Low
64E_155	6401E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.65	6.98		
		Capelin	21	1	0.25	0.70	1.22	10	Low
		Capelin	21	1	0.25	0.70	1.22	10	Low
64E_156	6401E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.26	6.40		
		Capelin	21	1	0.25	0.64	1.12	12	Moderate
64E_157	6401E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.46	6.69		
		Capelin	21	1	0.25	0.67	1.17	10	Low
64E_158	6402E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.95	5.92		
		Alcids breeding	25	4	0.5	5.64	9.87		
		Capelin	21	1	0.25	0.59	1.04		
		Gulls breeding	17	5	0.5	4.80	8.39		
		Seaducks breeding	23	2	0.5	2.60	4.54	34	Extreme
64E_159	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31		
		Seaducks breeding	23	2	0.5	3.29	5.75	17	High
64E_160	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate
64E_161	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate
64E_162	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.06	6.09	8	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
64E_163	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.68	5.52		
		Capelin	21	1	0.25	0.55	0.97	8	Low
64E_164	6451E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.24	6.36	14	Moderate
64E_165	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.98	5.98		
		Capelin	21	1	0.25	0.60	1.05	9	Low
64E_166	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.90	7.34		
		Capelin	21	1	0.25	0.73	1.29	11	Low
64E_167	6451E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.43	3.64		
		Capelin	21	1	0.25	0.36	0.64	12	Moderate
64E_168	6451E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.50	6.75		
		Alcids breeding	25	3	0.5	4.82	8.44		
		Capelin	21	1	0.25	0.67	1.18		
		Gulls breeding	17	3	0.5	3.28	5.74		
		Seaducks breeding	23	3	0.5	4.43	7.76	32	Extreme
64E_169	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	3	0.5	5.36	9.38		
		Capelin	21	1	0.25	0.75	1.31	20	High
64E_170	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	3	0.5	5.36	9.38		
		Capelin	21	1	0.25	0.75	1.31	20	High
64E_171	6402E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	11	Moderate
65E_172	6451E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.48	6.72	15	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_173	6451E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.95	5.92	14	Moderate
65E_174	6451E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.57	6.85	15	Moderate
65E_175	6452E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				9.69	19.39		
		Oil Residency Index				4.43	6.64		
		Capelin	21	1	0.25	0.66	1.16	35	Extreme
65E_176	6451E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				6.74	13.48		
		Oil Residency Index				4.97	7.45		
		Capelin	21	1	0.25	0.74	1.30	30	Extreme
65E_177	6452E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.26	6.39		
		Capelin	21	1	0.25	0.64	1.12	36	Extreme
65E_178	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				5.82	11.63		
		Oil Residency Index				4.29	6.43		
		Capelin	21	1	0.25	0.64	1.13	23	High
65E_179	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.45	0.90		
		Oil Residency Index				4.80	7.19		
		Alcids breeding	25	5	0.5	8.57	14.99		
		Capelin	21	1	0.25	0.72	1.26		
		Gulls breeding	17	5	0.5	5.82	10.19		
		Seaducks breeding	23	4	0.5	6.30	11.03	50	Extreme
65E_180	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.82	7.23		
		Alcids breeding	25	3	0.5	5.16	9.04		
		Capelin	21	1	0.25	0.72	1.27		
		Gulls breeding	17	5	0.5	5.85	10.24		
		Seaducks breeding	23	3	0.5	4.75	8.32	40	Extreme
65E_181	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	13	Moderate
65E_182	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.55	5.33		
		Alcids breeding	25	4	0.5	5.08	8.88		
		Capelin	21	1	0.25	0.53	0.93		
		Gulls breeding	17	5	0.5	4.32	7.55		
		Seaducks breeding	23	1	0.5	1.17	2.04	29	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_183	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.85	7.27		
		Alcids breeding	25	3	0.5	5.19	9.09	20	High
65E_184	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.56	6.84	11	Low
65E_185	6452E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.25	6.38		
		Alcids breeding	25	1	0.5	1.52	2.66		
		Capelin	21	1	0.25	0.64	1.12		
		Gulls breeding	17	5	0.5	5.17	9.04	23	High
65E_186	6453E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.61	6.92		
		Alcids breeding	25	5	0.5	8.24	14.42		
		Capelin	21	1	0.25	0.69	1.21		
		Gulls breeding	17	5	0.5	5.60	9.80	36	Extreme
65E_187	6453E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.64	6.96		
		Alcids breeding	25	4	0.5	6.63	11.60		
		Capelin	21	1	0.25	0.70	1.22		
		Gulls breeding	17	2	0.5	2.25	3.94	30	High
65E_188	6453E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.00	6.00		
		Capelin	21	1	0.25	0.60	1.05	15	Moderate
65E_189	6453E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.85	5.78		
		Capelin	21	1	0.25	0.58	1.01	13	Moderate
65E_190	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.82	5.74		
		Capelin	21	1	0.25	0.57	1.00	13	Moderate
65E_191	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.97	7.46		
		Capelin	21	1	0.25	0.75	1.31	15	Moderate
65E_192	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.49	6.73		
		Capelin	21	1	0.25	0.67	1.18	14	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_193	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.10	6.15	12	Low
65E_194	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.59	6.89	13	Moderate
65E_195	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.65	5.48	11	Low
65E_196	6501E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	14	Moderate
65E_197	6501E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.84	1.69		
		Oil Residency Index				4.75	7.13		
		Capelin	21	1	0.25	0.71	1.25	18	Moderate
65E_198	6502E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				3.58	7.16		
		Oil Residency Index				4.39	6.59		
		Alcids breeding	25	1	0.5	1.57	2.74		
		Capelin	21	1	0.25	0.66	1.15		
		Gulls breeding	17	3	0.5	3.20	5.60	31	High
65E_199	6502E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.31	6.46		
		Capelin	21	1	0.25	0.65	1.13	18	Moderate
65E_200	6502E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				1.10	2.19		
		Oil Residency Index				5.00	7.50		
		Cormorant breeding	19	5	0.5	6.79	11.88		
		Gulls breeding	17	5	0.5	6.07	10.63	40	Extreme
65E_201	6502E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				7.76	15.53		
		Oil Residency Index				3.95	5.93		
		Capelin	21	1	0.25	0.59	1.04		
		Gulls breeding	17	5	0.5	4.80	8.40	41	Extreme
65E_202	6502E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.74	7.12		
		Capelin	21	1	0.25	0.71	1.25		
		Gulls breeding	17	5	0.5	5.76	10.08	46	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_203	6502E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.05	6.08		
		Capelin	21	1	0.25	0.61	1.06	37	Extreme
65E_204	6502E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				3.79	5.68		
		Capelin	21	1	0.25	0.57	0.99	35	Extreme
65E_205	6502E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				5.92	11.84		
		Oil Residency Index				4.61	6.92		
		Capelin	21	1	0.25	0.69	1.21	28	High
65E_206	6502E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				2.17	4.33		
		Oil Residency Index				5.00	7.50		
		Capelin	21	1	0.25	0.75	1.31	19	Moderate
65E_207	6502E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.28	6.42		
		Capelin	21	1	0.25	0.64	1.12	36	Extreme
65E_208	6502E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				2.76	5.51		
		Oil Residency Index				4.69	7.03		
		Capelin	21	1	0.25	0.70	1.23	22	High
65E_209	6502E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.67	7.01		
		Arctic char	14	1	0.25	0.47	0.82		
		Capelin	21	1	0.25	0.70	1.23	15	Moderate
65E_210	6502E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.81	7.22		
		Arctic char	14	1	0.25	0.48	0.84	15	Moderate
		Capelin	21	1	0.25	0.72	1.26		
65E_211	6503E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Capelin	21	1	0.25	0.75	1.31	16	Moderate
65E_212	6503E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Capelin	21	1	0.25	0.75	1.31	16	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_213	6503E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				3.14	6.27		
		Oil Residency Index				4.45	6.67		
		Arctic char	14	1	0.25	0.44	0.78		
		Capelin	21	1	0.25	0.67	1.17		
		Gulls breeding	17	2	0.5	2.16	3.78	27	High
65E_214	6503E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				4.20	8.41		
		Oil Residency Index				4.15	6.23		
		Arctic char	14	5	0.25	2.08	3.63		
		Capelin	21	1	0.25	0.62	1.09		
		Gulls breeding	17	3	0.5	3.02	5.29	35	Extreme
65E_215	6503E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				2.10	4.20		
		Oil Residency Index				4.70	7.05		
		Arctic char	14	1	0.25	0.47	0.82		
		Capelin	21	1	0.25	0.70	1.23	21	High
65E_216	6551E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.57	6.86		
		Arctic char	14	1	0.25	0.46	0.80	16	Moderate
65E_217	6551E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.93	7.39		
		Arctic char	14	5	0.25	2.46	4.31		
		Capelin	21	1	0.25	0.74	1.29	21	Moderate
65E_218	6551E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				4.80	7.20		
		Oil Residency Index							
		Arctic char	14	5	0.25	2.40	4.20		
		Capelin	21	1	0.25	0.72	1.26	21	Moderate
65E_219	6503E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				3.41	6.82		
		Oil Residency Index				3.97	5.95		
		Alcids breeding	25	1	0.5	1.42	2.48		
		Arctic char	14	1	0.25	0.40	0.69		
		Capelin	21	1	0.25	0.59	1.04		
		Gulls breeding	17	5	0.5	4.82	8.43	33	Extreme
66E_220	6551E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				2.99	5.97		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	3	0.5	5.36	9.38		
		Arctic char	14	1	0.25	0.50	0.88		
		Capelin	21	1	0.25	0.75	1.31		
		Cormorant breeding	19	3	0.5	4.07	7.13	51	Extreme
		Gulls breeding	17	5	0.5	6.07	10.63		

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
66E_221	6551E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.80	7.19		
		Arctic char	14	1	0.25	0.48	0.84		
		Capelin	21	1	0.25	0.72	1.26	15	Moderate
66E_222	6551E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	5	0.5	6.07	10.63	26	High
66E_223	6551E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.37	6.55		
		Arctic char	14	1	0.25	0.44	0.76	14	Low
		Capelin	21	1	0.25	0.66	1.15		
66E_224	6551E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.08	6.12	10	Low
66E_225	6551E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.80	7.20	13	Low
66E_226	6552E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.73	5.59		
		Arctic char	14	1	0.25	0.37	0.65	10	Low
66E_227	6552E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.21	6.31		
		Arctic char	14	1	0.25	0.42	0.74	11	Low
66E_228	6551E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	5	0.25	2.50	4.38		
		Capelin	21	1	0.25	0.75	1.31	21	Moderate
65E_229	6551E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				6.12	12.25		
		Oil Residency Index				4.63	6.95		
		Arctic char	14	5	0.25	2.32	4.05		
		Capelin	21	1	0.25	0.69	1.22	34	Extreme
65E_230	6504E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				7.09	14.18		
		Oil Residency Index				4.35	6.52		
		Arctic char	14	5	0.25	2.17	3.80		
		Capelin	21	5	0.25	3.26	5.70	42	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_231	6504E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				4.61	9.23		
		Oil Residency Index				4.53	6.80		
		Arctic char	14	5	0.25	2.27	3.97		
		Capelin	21	5	0.25	3.40	5.95		
		Gulls breeding	17	5	0.5	5.51	9.64	42	Extreme
65E_232	6504E	Human Use				4.00	8.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				5.19	10.37		
		Oil Residency Index				4.92	7.38		
		Arctic char	14	5	0.25	2.46	4.31		
		Capelin	21	5	0.25	3.69	6.46	43	Extreme
65E_233	6552E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				4.26	8.52		
		Oil Residency Index				4.02	6.04		
		Arctic char	14	5	0.25	2.01	3.52		
		Capelin	21	5	0.25	3.02	5.28	31	High
66E_234	6552E	Human Use				3.00	6.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.16	0.32		
		Oil Residency Index				4.03	6.04		
		Arctic char	14	5	0.25	2.01	3.52		
		Capelin	21	5	0.25	3.02	5.29		
		Gulls breeding	17	5	0.5	4.89	8.56	36	Extreme
66E_235	6552E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				2.52	5.03		
		Oil Residency Index				3.59	5.39		
		Arctic char	14	5	0.25	1.80	3.15		
		Capelin	21	5	0.25	2.70	4.72	28	High
65E_236	6504E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.77	7.15		
		Arctic char	14	1	0.25	0.48	0.83		
		Capelin	21	5	0.25	3.58	6.26	50	Extreme
65E_237	6504E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				5.35	10.69		
		Oil Residency Index				3.98	5.96		
		Arctic char	14	5	0.25	1.99	3.48		
		Capelin	21	1	0.25	0.60	1.04	27	High
65E_238	6503E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Capelin	21	1	0.25	0.75	1.31	46	Extreme
65E_239	6503E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.01	6.02		
		Arctic char	14	1	0.25	0.40	0.70		
		Capelin	21	1	0.25	0.60	1.05	40	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_240	6504E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.64	6.95		
		Arctic char	14	5	0.25	2.32	4.06		
		Capelin	21	1	0.25	0.70	1.22	48	Extreme
65E_241	6504E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				9.95	19.89		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Capelin	21	1	0.25	0.75	1.31	40	Extreme
65E_242	6504E	Human Use				4.00	8.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				8.24	16.48		
		Oil Residency Index				4.87	7.30		
		Arctic char	14	1	0.25	0.49	0.85		
		Capelin	21	1	0.25	0.73	1.28	40	Extreme
65E_244	6504E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				7.95	15.91		
		Oil Residency Index				4.38	6.57		
		Arctic char	14	1	0.25	0.44	0.77		
		Capelin	21	1	0.25	0.66	1.15	32	High
65E_245	6504E	Human Use				4.00	8.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.69	7.04		
		Arctic char	14	1	0.25	0.47	0.82		
		Capelin	21	1	0.25	0.70	1.23	43	Extreme
65E_246	6504E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				6.69	13.38		
		Oil Residency Index				3.97	5.95		
		Arctic char	14	5	0.25	1.98	3.47		
		Capelin	21	1	0.25	0.60	1.04	30	High
65E_247	6503E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	5	0.25	2.50	4.38		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	3	0.5	3.64	6.38	48	Extreme
65E_248	6503E	Human Use				4.00	8.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.17	6.25		
		Arctic char	14	1	0.25	0.42	0.73		
		Capelin	21	1	0.25	0.63	1.09	42	Extreme
65E_249	6504E	Human Use				4.00	8.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.90	7.35		
		Arctic char	14	1	0.25	0.49	0.86	43	Extreme
		Capelin	21	1	0.25	0.74	1.29		

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_250	6504E	Human Use				5.00	10.00		
		Archaeological Sites				5.00	10.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.89	7.33		
		Arctic char	14	1	0.25	0.49	0.86		
		Capelin	21	1	0.25	0.73	1.28	49	Extreme
65E_251	6504E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				3.31	4.97		
		Arctic char	14	1	0.25	0.33	0.58		
		Capelin	21	1	0.25	0.50	0.87	42	Extreme
65E_252	6504E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				2.67	5.33		
		Oil Residency Index				4.79	7.19		
		Arctic char	14	5	0.25	2.40	4.19		
		Capelin	21	1	0.25	0.72	1.26	26	High
65E_253	6504E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				1.36	2.71		
		Oil Residency Index				3.20	4.79		
		Arctic char	14	1	0.25	0.32	0.56		
		Capelin	21	1	0.25	0.48	0.84	15	Moderate
65E_254	6505E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.49	6.73		
		Arctic char	14	1	0.25	0.45	0.79		
		Capelin	21	1	0.25	0.67	1.18		
		Gulls breeding	17	4	0.5	4.36	7.63		
		Seaducks breeding	23	4	0.5	5.90	10.32	33	High
65E_255	6504E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.90	7.34		
		Alcids breeding	25	1	0.5	1.75	3.06		
		Arctic char	14	1	0.25	0.49	0.86		
		Capelin	21	1	0.25	0.73	1.29		
		Gulls breeding	17	5	0.5	5.95	10.40	31	High
65E_256	6504E	Human Use				4.00	8.00		
		Archaeological Sites				5.00	10.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				3.80	5.69		
		Arctic char	14	1	0.25	0.38	0.66		
		Capelin	21	1	0.25	0.57	1.00	45	Extreme
65E_257	6504E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				2.90	4.35		
		Arctic char	14	1	0.25	0.29	0.51		
		Capelin	21	1	0.25	0.44	0.76		
		Gulls breeding	17	1	0.5	0.70	1.23	35	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_258	6504E	Human Use				3.00	6.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.26	0.52		
		Oil Residency Index				4.49	6.73		
		Arctic char	14	1	0.25	0.45	0.79		
		Capelin	21	1	0.25	0.67	1.18		
		Gulls breeding	17	5	0.5	5.45	9.53		
		Seaducks breeding	23	1	0.5	1.47	2.58	33	High
65E_259	6504E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.62	6.92		
		Arctic char	14	1	0.25	0.46	0.81		
		Capelin	21	1	0.25	0.69	1.21		
		Gulls breeding	17	5	0.5	5.60	9.81	25	High
65E_260	6505E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.98	7.47		
		Arctic char	14	1	0.25	0.50	0.87		
		Capelin	21	1	0.25	0.75	1.31	16	Moderate
65E_261	6504E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				3.88	7.75		
		Oil Residency Index				4.28	6.42		
		Arctic char	14	5	0.25	2.14	3.75		
		Capelin	21	1	0.25	0.64	1.12		
		Gulls breeding	17	2	0.5	2.08	3.64	31	High
66E_262	6553E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.09	0.18		
		Oil Residency Index				4.30	6.45		
		Arctic char	14	5	0.25	2.15	3.76		
		Capelin	21	5	0.25	3.23	5.65	26	High
65E_263	6553E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				8.39	16.78		
		Oil Residency Index				4.31	6.46		
		Arctic char	14	5	0.25	2.15	3.77		
		Capelin	21	5	0.25	3.23	5.66		
		Gulls breeding	17	4	0.5	4.19	7.33	52	Extreme
65E_264	6553E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				4.25	8.50		
		Oil Residency Index				4.64	6.95		
		Arctic char	14	5	0.25	2.32	4.06		
		Capelin	21	1	0.25	0.70	1.22	29	High
65E_265	6505E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.58	1.16		
		Oil Residency Index				4.47	6.71		
		Arctic char	14	5	0.25	2.24	3.91		
		Capelin	21	1	0.25	0.67	1.17	19	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
65E_266	6505E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				2.98	5.97		
		Oil Residency Index				4.00	6.00		
		Arctic char	14	1	0.25	0.40	0.70		
		Capelin	21	1	0.25	0.60	1.05	22	Moderate
65E_267	6505E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.61	1.21		
		Oil Residency Index				4.94	7.42		
		Arctic char	14	1	0.25	0.49	0.87		
		Capelin	21	1	0.25	0.74	1.30	21	Moderate
65E_268	6505E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				9.33	18.65		
		Oil Residency Index				4.58	6.88		
		Arctic char	14	1	0.25	0.46	0.80		
		Capelin	21	1	0.25	0.69	1.20	38	Extreme
65E_269	6505E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.61	6.91		
		Arctic char	14	1	0.25	0.46	0.81		
		Capelin	21	1	0.25	0.69	1.21	15	Moderate
65E_270	6505E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.07	0.13		
		Oil Residency Index				4.88	7.32		
		Arctic char	14	1	0.25	0.49	0.85		
		Capelin	21	1	0.25	0.73	1.28	16	Moderate
66E_271	6553E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.95	5.92		
		Arctic char	14	1	0.25	0.39	0.69		
		Capelin	21	1	0.25	0.59	1.04	16	Moderate
65E_272	6553E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.00	6.00		
		Alcids breeding	25	2	0.5	2.86	5.00		
		Arctic char	14	1	0.25	0.40	0.70		
		Capelin	21	1	0.25	0.60	1.05	19	Moderate
66E_273	6554E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.00	6.00		
		Arctic char	14	1	0.25	0.40	0.70		
		Capelin	21	1	0.25	0.60	1.05	14	Low
66E_274	6553E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.38	3.57		
		Arctic char	14	1	0.25	0.24	0.42		
		Capelin	21	1	0.25	0.36	0.62	11	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
66E_275	6553E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.43	3.64		
		Arctic char	14	1	0.25	0.24	0.42	10	Low
66E_276	6554E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.14		
		Alcids breeding	25	1	0.5	1.70	2.97		
		Arctic char	14	1	0.25	0.48	0.83		
		Capelin	21	1	0.25	0.71	1.25		
		Gulls breeding	17	5	0.5	5.78	10.11	30	High
66E_277	6554E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.74	4.11		
		Arctic char	14	5	0.25	1.37	2.40		
66E_278	6554E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.88	2.82		
		Arctic char	14	1	0.25	0.19	0.33		
		Capelin	21	1	0.25	0.28	0.49	14	Low
66E_279	6553E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.88	7.32		
		Arctic char	14	1	0.25	0.49	0.85	16	Moderate
66E_280	6554E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.01	6.01		
		Arctic char	14	5	0.25	2.00	3.51	20	Moderate
66E_281	6554E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.74	7.11		
		Alcids breeding	25	1	0.5	1.69	2.96		
		Arctic char	14	1	0.25	0.47	0.83		
		Gulls breeding	17	5	0.5	5.76	10.08	31	High
66E_282	6554E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.90	7.35		
		Alcids breeding	25	4	0.5	7.00	12.26		
		Arctic char	14	5	0.25	2.45	4.29		
		Gulls breeding	17	3	0.5	3.57	6.25	36	Extreme
66E_283	6554E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	2	0.5	3.57	6.25		
		Arctic char	14	5	0.25	2.50	4.38		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	5	0.5	6.07	10.63	34	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
66E_284	6555E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.68	7.02		
		Alcids breeding	25	2	0.5	3.34	5.85		
		Arctic char	14	1	0.25	0.47	0.82		
		Capelin	21	1	0.25	0.70	1.23	19	Moderate
66E_285	6605E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.27	6.41		
		Capelin	21	1	0.25	0.64	1.12		
		Gulls breeding	17	5	0.5	5.19	9.08		
		Ivory gull breeding	22	5	0.5	6.71	11.75	32	High
66E_286	6605E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				4.94	7.41		
		Oil Residency Index							
		Alcids breeding	25	4	0.5	7.05	12.35		
		Gulls breeding	17	4	0.5	4.80	8.39	32	High
66E_287	6605E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	4	0.5	7.14	12.50		
		Capelin	21	1	0.25	0.75	1.31	25	High
66E_288	6605E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				4.36	6.54		
		Oil Residency Index							
		Alcids breeding	25	2	0.5	3.11	5.45		
		Capelin	21	1	0.25	0.65	1.14		
		Gulls breeding	17	5	0.5	5.29	9.26	26	High
66E_289	6605E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.85	5.78		
		Capelin	21	1	0.25	0.58	1.01	11	Low
66E_290	6605E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	5	0.5	8.93	15.63		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	5	0.5	6.07	10.63	41	Extreme
67E_291	6605E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.97	7.45		
		Alcids breeding	25	3	0.5	5.32	9.31	21	Moderate
67E_292	6651E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.52	6.79		
		Alcids breeding	25	1	0.5	1.62	2.83		
		Capelin	21	1	0.25	0.68	1.19		
		Gulls breeding	17	2	0.5	2.20	3.85	19	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
67E_293	6651E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Alcids breeding	25	4	0.5	7.14	12.50		
		Capelin	21	1	0.25	0.75	1.31		
		Gulls breeding	17	5	0.5	6.07	10.63	38	Extreme
67E_294	6651E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.07	6.11		
		Alcids breeding	25	1	0.5	1.45	2.55		
		Gulls breeding	17	5	0.5	4.94	8.65	25	High
67E_295	6651E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.81	4.22		
		Capelin	21	1	0.25	0.42	0.74	11	Low
67E_296	6651E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.90	5.85		
		Capelin	21	1	0.25	0.58	1.02	13	Low
67E_297	6651E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.13	1.69		
		Ivory gull breeding	22	5	0.5	1.77	3.10	9	Low
67E_298	6651E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.92	5.88		
		Alcids breeding	25	4	0.5	5.60	9.79		
		Capelin	21	1	0.25	0.59	1.03		
		Gulls breeding	17	2	0.5	1.90	3.33	26	High
67E_299	6651E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.31	3.46		
		Capelin	21	1	0.25	0.35	0.61		
		Gulls breeding	17	5	0.5	2.80	4.90	15	Moderate
67E_300	6701E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.94	2.91	9	Low
67E_301	6701E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.64	2.46	8	Low
67E_302	6701E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.76	7.14		
		Alcids breeding	25	5	0.5	8.50	14.88		
		Capelin	21	1	0.25	0.71	1.25		
		Gulls breeding	17	5	0.5	5.78	10.12		
		Seaducks breeding	23	2	0.5	3.13	5.48	45	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
67E_303	6701E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.93	5.90		
		Capelin	21	1	0.25	0.59	1.03	11	Low
67E_304	6702E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.51	5.27		
		Alcids breeding	25	5	0.5	6.28	10.98		
		Capelin	21	1	0.25	0.53	0.92		
		Seaducks breeding	23	2	0.5	2.31	4.04	27	Extreme
67E_305	6702E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.04	4.57		
		Alcids breeding	25	4	0.5	4.35	7.61		
		Capelin	21	1	0.25	0.46	0.80		
		Gulls breeding	17	2	0.5	1.48	2.59	20	High
68E_306	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.17	4.76		
		Alcids breeding	25	5	0.5	5.67	9.92		
		Capelin	21	1	0.25	0.48	0.83		
		Gulls breeding	17	5	0.5	3.85	6.74	32	Extreme
68E_307	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.67	5.51	16	Moderate
68E_308	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.48	3.72		
		Capelin	21	1	0.25	0.37	0.65	14	Moderate
68E_309	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.60	5.41	15	Moderate
68E_310	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.97	5.96		
		Capelin	21	1	0.25	0.60	1.04	17	Moderate
68E_311	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.52	6.77		
		Ivory gull breeding	22	3	0.5	4.26	7.45	24	High
68E_312	6751E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				3.97	7.95		
		Oil Residency Index				4.44	6.66		
		Arctic char	14	1	0.25	0.44	0.78	25	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
68E_313	6751E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				7.11	14.22		
		Oil Residency Index				4.83	7.25		
		Alcids breeding	25	2	0.5	3.45	6.04		
		Arctic char	14	1	0.25	0.48	0.85		
		Capelin	21	1	0.25	0.72	1.27		
		Gulls breeding	17	3	0.5	3.52	6.16		
		Seaducks breeding	23	5	0.5	7.94	13.89	66	Extreme
68E_314	6751E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				7.13	14.27		
		Oil Residency Index				4.10	6.15		
		Alcids breeding	25	5	0.5	7.33	12.82		
		Arctic char	14	1	0.25	0.41	0.72		
		Capelin	21	1	0.25	0.62	1.08	47	Extreme
68E_315	6752E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.93	1.86		
		Oil Residency Index				2.66	3.99		
		Alcids breeding	25	5	0.5	4.75	8.31		
		Arctic char	14	5	0.25	1.33	2.33		
		Capelin	21	1	0.25	0.40	0.70		
		Gulls breeding	17	2	0.5	1.29	2.26	29	Extreme
68E_316	6752E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.67	4.00		
		Arctic char	14	1	0.25	0.27	0.47		
		Capelin	21	1	0.25	0.40	0.70	15	Moderate
68E_317	6752E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.80	5.70		
		Alcids breeding	25	4	0.5	5.43	9.50		
		Arctic char	14	1	0.25	0.38	0.66		
		Capelin	21	1	0.25	0.57	1.00	25	High
68E_318	6752E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.14	4.72		
		Alcids breeding	25	2	0.5	2.25	3.93		
		Arctic char	14	1	0.25	0.31	0.55		
		Gulls breeding	17	5	0.5	3.82	6.68	24	High
68E_319	6753E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.76	4.14		
		Alcids breeding	25	5	0.5	4.93	8.63		
		Capelin	21	1	0.25	0.41	0.73		
		Gulls breeding	17	2	0.5	1.34	2.35	24	High
68E_320	6753E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.25	3.38		
		Alcids breeding	25	4	0.5	3.22	5.63		
		Capelin	21	1	0.25	0.34	0.59		
		Gulls breeding	17	2	0.5	1.09	1.91	22	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
68E_321	6753E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.49	2.24		
		Capelin	21	1	0.25	0.22	0.39		
		Gulls breeding	17	5	0.5	1.81	3.17	14	Moderate
68E_322	6753E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.66	3.99		
		Alcids breeding	25	3	0.5	2.85	4.99		
		Ivory gull breeding	22	1	0.5	0.84	1.46	20	High
68E_323	6754E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.66	3.99		
		Alcids breeding	25	4	0.5	3.80	6.65		
		Capelin	21	1	0.25	0.40	0.70	19	High
68E_324	6754E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.03	3.04		
		Alcids breeding	25	5	0.5	3.62	6.34	9	Low
68E_325	6754E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.24	6.36		
		Alcids breeding	25	5	0.5	7.58	13.26		
		Gulls breeding	17	3	0.5	3.09	5.41	25	Extreme
68E_326	6803E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.32	3.48		
		Alcids breeding	25	5	0.5	4.14	7.24		
		Gulls breeding	17	2	0.5	1.13	1.97	13	Moderate
68E_327	6803E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.30	3.44		
		Alcids breeding	25	3	0.5	2.46	4.31		
		Gulls breeding	17	5	0.5	2.79	4.88	13	Moderate
68E_328	6804E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.63	3.95		
		Alcids breeding	25	5	0.5	4.70	8.23	12	Low
68E_329	6804E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.46	2.19		
		Alcids breeding	25	4	0.5	2.09	3.66	6	Low
68E_330	6805E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.44	3.66		
		Alcids breeding	25	5	0.5	4.35	7.61		
		Gulls breeding	17	5	0.5	2.96	5.18	16	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
68E_331	6805E	Human Use				0.00	0.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.46	5.19		
		Alcids breeding	25	5	0.5	6.18	10.81		
		Gulls breeding	17	2	0.5	1.68	2.94	21	High
68E_332	6851E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.15	3.22		
		Alcids breeding	25	5	0.5	3.84	6.72		
		Gulls breeding	17	2	0.5	1.04	1.83	12	Low
68E_333	6851E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.73	2.60		
		Alcids breeding	25	3	0.5	1.86	3.25		
		Gulls breeding	17	4	0.5	1.68	2.95	9	Low
69E_334	6851E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.32	1.97		
		Gulls breeding	17	2	0.5	0.64	1.12	3	Low
69E_335	6852E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.42	2.13		
		Alcids breeding	25	3	0.5	1.52	2.66		
		Gulls breeding	17	2	0.5	0.69	1.21		
		Seaducks moulting	23	5	0.25	1.17	2.04	10	Low
69E_336	6852E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.31	3.47		
		Arctic char	14	1	0.25	0.23	0.40		
		Ivory gull breeding	22	5	0.5	3.64	6.36		
		Seaducks moulting	23	5	0.25	1.90	3.33	16	Moderate
69E_337	6852E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.88	2.82		
		Alcids breeding	25	3	0.5	2.02	3.53		
		Arctic char	14	1	0.25	0.19	0.33		
		Seaducks moulting	23	5	0.25	1.55	2.71	13	Moderate
69E_338	6901E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.16	4.73		
		Arctic char	14	5	0.25	1.58	2.76		
		Seaducks moulting	23	5	0.25	2.59	4.54	14	Moderate
69E_339	6901E	Human Use				1.00	2.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.09	1.64		
		Arctic char	14	5	0.25	0.55	0.96		
		Gulls breeding	17	5	0.5	1.33	2.33		
		Seaducks moulting	23	5	0.25	0.90	1.57	11	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
69E_340	6901E	Human Use				1.00	2.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.42	3.63		
		Arctic char	14	1	0.25	0.24	0.42		
		Gulls breeding	17	3	0.5	1.76	3.09		
		Seaducks moulting	23	5	0.25	1.99	3.48	13	Moderate
69E_341	6902E	Human Use				4.00	8.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.54	6.81		
		Alcids breeding	25	1	0.5	1.62	2.84		
		Arctic char	14	5	0.25	2.27	3.98		
		Seaducks breeding	23	2	0.5	2.99	5.22		
		Seaducks moulting	23	5	0.25	3.73	6.53	33	Extreme
69E_342	6954E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.68	5.52		
		Arctic char	14	5	0.25	1.84	3.22		
		Gulls breeding	17	1	0.5	0.89	1.56		
		Seaducks breeding	23	5	0.5	6.04	10.58		
		Seaducks nonbreeding	23	5	0.25	3.02	5.29	36	Extreme
69E_343	6902E	Human Use				4.00	8.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.90	5.85		
		Arctic char	14	5	0.25	1.95	3.41		
		Gulls breeding	17	3	0.5	2.84	4.97		
		Seaducks nonbreeding	23	5	0.25	3.20	5.61	30	Extreme
69E_344	6954E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.89	5.83		
		Arctic char	14	1	0.25	0.39	0.68		
		Gulls breeding	17	3	0.5	2.83	4.96		
		Seaducks breeding	23	5	0.5	6.39	11.18		
		Seaducks nonbreeding	23	5	0.25	3.20	5.59	34	Extreme
69E_345	6955E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.60	5.40		
		Alcids breeding	25	3	0.5	3.86	6.75		
		Arctic char	14	5	0.25	1.80	3.15		
		Gulls breeding	17	5	0.5	4.37	7.65		
		Seaducks breeding	23	2	0.5	2.36	4.14		
		Seaducks nonbreeding	23	5	0.25	2.96	5.17	48	Extreme
69E_346	6955E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				5.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.04	6.06		
		Alcids breeding	25	5	0.5	7.21	12.62		
		Arctic char	14	5	0.25	2.02	3.53		
		Gulls breeding	17	5	0.5	4.90	8.58		
		Seaducks breeding	23	4	0.5	5.31	9.29		
		Seaducks nonbreeding	23	5	0.25	3.32	5.80	58	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
70E_347	6955E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				3.74	7.49		
		Oil Residency Index				3.24	4.86		
		Alcids breeding	25	5	0.5	5.79	10.13		
		Alcids nonbreeding	21	5	0.25	2.43	4.26		
		Arctic char	14	1	0.25	0.32	0.57		
		Gulls breeding	17	5	0.5	3.94	6.89		
		Seaducks nonbreeding	23	5	0.25	2.66	4.66		
		Tubenoses breeding	18	3	0.5	2.50	4.38	57	Extreme
70E_348	6954E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				5.00	7.50		
		Communities				4.00	8.00		
		Oil Residency Index				1.56	2.34		
		Alcids breeding	25	4	0.5	2.23	3.90		
		Alcids nonbreeding	21	5	0.25	1.17	2.05		
		Arctic char	14	1	0.25	0.16	0.27		
		Gulls breeding	17	5	0.5	1.90	3.32		
		Little auk breeding	25	5	0.5	2.79	4.88	40	Extreme
70E_349	6954E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.18	1.77		
		Alcids breeding	25	3	0.5	1.26	2.21		
		Arctic char	14	1	0.25	0.12	0.21		
		Gulls breeding	17	5	0.5	1.43	2.51		
		Little auk breeding	25	5	0.5	2.11	3.68	14	Extreme
70E_350	6954E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.71	2.56		
		Alcids breeding	25	1	0.5	0.61	1.07		
		Gulls breeding	17	5	0.5	2.07	3.63		
		Little auk breeding	25	5	0.5	3.05	5.33	19	Extreme
70E_351	7004E	Human Use				3.00	6.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.41	5.11	11	Extreme
70E_352	6953E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				2.76	4.15	8	Low
		Oil Residency Index							
70E_353	6952E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.44	3.66	14	Moderate
70E_354	6952E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.39	6.59		
		Arctic char	14	5	0.25	2.20	3.84		
		Ivory gull breeding	22	1	0.5	1.38	2.42	23	High
70E_355	6951E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.37	5.05		
		Arctic char	14	1	0.25	0.34	0.59		
		Ivory gull breeding	22	3	0.5	3.17	5.55	21	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
70E_356	6951E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.55	5.32		
		Arctic char	14	1	0.25	0.35	0.62		
		Seaducks breeding	23	3	0.5	3.50	6.12	22	High
70E_357	6951E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.52	5.27		
		Arctic char	14	1	0.25	0.35	0.62	16	Moderate
70E_358	6952E	Human Use				2.00	4.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.05	4.57		
		Arctic char	14	1	0.25	0.30	0.53	15	Moderate
70E_359	6951E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				2.36	4.72		
		Oil Residency Index				4.20	6.30		
		Arctic char	14	5	0.25	2.10	3.68	25	High
70E_360	6951E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				1.89	3.78		
		Oil Residency Index				3.90	5.85		
		Arctic char	14	5	0.25	1.95	3.41	25	Extreme
70E_361	7001E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.95	5.92		
		Arctic char	14	1	0.25	0.39	0.69	17	Moderate
70E_362	7001E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.26	4.89		
		Arctic char	14	1	0.25	0.33	0.57	15	Moderate
70E_363	7001E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.18	4.76		
		Arctic char	14	1	0.25	0.32	0.56	9	Low
70E_364	7051E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				5.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.95	5.93		
		Arctic char	14	1	0.25	0.40	0.69	13	Low
71E_365	7051E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.67	5.51		
		Arctic char	14	1	0.25	0.37	0.64	12	Low

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
70E_366	7052E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88	12	Low
71E_367	7053E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.89	5.83		
		Arctic char	14	5	0.25	1.94	3.40	13	Low
71E_368	7053E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.47	5.21		
		Arctic char	14	5	0.25	1.74	3.04	12	Low
70E_369	7003E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.46	2.19		
		Arctic char	14	5	0.25	0.73	1.28	7	Low
70E_370	7002E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.39	5.08		
		Arctic char	14	5	0.25	1.69	2.96	12	Low
70E_371	7003E	Human Use				3.00	6.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.29	4.93		
		Arctic char	14	1	0.25	0.33	0.58	18	High
70E_372	7003E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Gulls breeding	17	5	0.5	6.07	10.63	27	Extreme
70E_373	7002E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.68	1.35		
		Oil Residency Index				4.02	6.04		
		Arctic char	14	1	0.25	0.40	0.70	20	High
70E_374	7002E	Human Use				5.00	10.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.71	1.42		
		Oil Residency Index				5.00	7.50		
		Arctic char	14	1	0.25	0.50	0.88		
		Gulls breeding	17	5	0.5	6.07	10.63	30	Extreme
70E_375	7002E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.64	5.46		
		Arctic char	14	5	0.25	1.82	3.18	15	Moderate

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
70E_376	7002E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.90	7.35		
		Arctic char	14	1	0.25	0.49	0.86	12	Low
70E_377	7052E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.69	7.04		
		Arctic char	14	1	0.25	0.47	0.82	12	Low
71E_378	7053E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.06	6.09		
		Arctic char	14	1	0.25	0.41	0.71		
		Gulls breeding	17	1	0.5	0.99	1.72		
		Seaducks breeding	23	2	0.5	2.67	4.67	17	Extreme
70E_379	7004E	Human Use				0.00	0.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				1.55	2.33		
		Oil Residency Index							
		Gulls breeding	17	2	0.5	0.76	1.32	8	Low
71E_380	7053E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				4.51	6.77		
		Arctic char	14	1	0.25	0.45	0.79		
		Gulls breeding	17	5	0.5	5.48	9.59		
		Seaducks breeding	23	1	0.5	1.48	2.60	24	Extreme
71E_381	7053E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.60	5.41		
		Arctic char	14	1	0.25	0.36	0.63		
		Gulls breeding	17	3	0.5	2.63	4.60		
		Seaducks breeding	23	4	0.5	4.74	8.29	23	Extreme
71E_382	7053E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.00	3.00		
		Arctic char	14	1	0.25	0.20	0.35	9	Extreme
71E_383	7053E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.33	1.99		
		Arctic char	14	1	0.25	0.13	0.23		
		Gulls breeding	17	2	0.5	0.64	1.13		
		Seaducks breeding	23	5	0.5	2.18	3.82	13	Extreme
71E_384	7102E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.65	5.47		
		Arctic char	14	1	0.25	0.36	0.64	18	High

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
71E_385	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.69	5.53	17	Moderate
71E_386	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.23	4.84	16	Moderate
71E_387	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				5.00	7.50	19	High
71E_388	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				4.81	7.22	19	High
71E_389	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.98	5.96	17	Moderate
72E_390	7151E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				4.53	6.80	18	High
71E_391	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.65	5.48	17	Moderate
71E_392	7101E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				4.90	7.35	19	High
71E_393	7102E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.58	5.37		
		Arctic char	14	1	0.25	0.36	0.63		
		Gulls breeding	17	5	0.5	4.34	7.60	37	Extreme
		Seaducks breeding	23	5	0.5	5.88	10.29		
71E_394	7103E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				2.07	4.13		
		Oil Residency Index				3.88	5.82		
		Arctic char	14	5	0.25	1.94	3.39	21	High
71E_395	7054E	Human Use				4.00	8.00		
		Archaeological Sites				5.00	10.00		
		Special Status Areas				5.00	0.00		
		Communities				8.29	16.57		
		Oil Residency Index				3.14	4.72		
		Alcids breeding	25	2	0.5	2.25	3.93		
		Arctic char	14	5	0.25	1.57	2.75		
		Gulls breeding	17	5	0.5	3.82	6.68		
		Seaducks breeding	23	5	0.5	5.16	9.04	62	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
71E_396	7054E	Human Use				2.00	4.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.91	5.87		
		Arctic char	14	5	0.25	1.96	3.42		
		Gulls breeding	17	5	0.5	4.75	8.31	35	Extreme
70E_397	7005E	Human Use				2.00	4.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				3.25	4.88		
		Gulls breeding	17	1	0.5	0.79	1.38	20	High
70E_398	7006E	Human Use				4.00	8.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				5.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				1.62	2.43		
		Arctic char	14	1	0.25	0.16	0.28	17	Moderate
70E_399	7007E	Human Use				5.00	10.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				4.21	8.41		
		Oil Residency Index				1.96	2.94		
		Arctic char	14	1	0.25	0.20	0.34	24	High
70E_400	7007E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				5.69	11.38		
		Oil Residency Index				4.50	6.75		
		Alcids breeding	25	1	0.5	1.61	2.81		
		Arctic char	14	5	0.25	2.25	3.94		
		Gulls breeding	17	5	0.5	5.46	9.56		
		Seaducks breeding	23	2	0.5	2.96	5.17	56	Extreme
70E_401	7007E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				2.67	4.00		
		Alcids nonbreeding	21	5	0.25	2.00	3.50		
		Arctic char	14	5	0.25	1.33	2.34	46	Extreme
70E_402	7007E	Human Use				5.00	10.00		
		Archaeological Sites				3.00	6.00		
		Special Status Areas				0.00	0.00		
		Communities				10.00	20.00		
		Oil Residency Index				4.33	6.49		
		Alcids nonbreeding	21	5	0.25	3.25	5.68		
		Arctic char	14	1	0.25	0.43	0.76		
		Gulls breeding	17	5	0.5	5.26	9.20		
		Little auk breeding	25	5	0.5	7.73	13.53		
		Seaducks breeding	23	4	0.5	5.69	9.96	82	Extreme
70E_403	7007E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				5.00	7.50		
		Communities				0.00	0.00		
		Oil Residency Index				2.17	3.25		
		Alcids breeding	25	5	0.5	3.87	6.78		
		Alcids nonbreeding	21	5	0.25	1.63	2.85		
		Arctic char	14	1	0.25	0.22	0.38		
		Gulls breeding	17	5	0.5	2.63	4.61		
		Tubenoses breeding	18	3	0.5	1.67	2.93	36	Extreme

Area	Map no.	Element	RS	RA	TM	AV	PI	S	Final ranking
70E_404	7057E	Human Use				3.00	6.00		
		Archaeological Sites				1.00	2.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.72	4.08		
		Alcids breeding	25	4	0.5	3.88	6.79		
		Alcids nonbreeding	21	5	0.25	2.04	3.57		
		Arctic char	14	1	0.25	0.27	0.48		
		Gulls breeding	17	5	0.5	3.30	5.77		
		Little auk breeding	25	5	0.5	4.85	8.49		
		Tubenoses breeding	18	5	0.5	3.49	6.11	43	Extreme
70E_405	7057E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				2.17	3.26		
		Alcids breeding	25	2	0.5	1.55	2.71		
		Alcids nonbreeding	21	5	0.25	1.63	2.85		
		Arctic char	14	1	0.25	0.22	0.38		
		Gulls breeding	17	5	0.5	2.64	4.61		
		Little auk breeding	25	5	0.5	3.88	6.79		
		Seaducks breeding	23	2	0.5	1.43	2.50	27	Extreme
70E_406	7057E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.35	5.02		
		Alcids breeding	25	5	0.5	5.98	10.46		
		Alcids nonbreeding	21	5	0.25	2.51	4.40		
		Arctic char	14	1	0.25	0.33	0.59		
		Gulls breeding	17	5	0.5	4.07	7.12		
		Little auk breeding	25	5	0.5	5.98	10.46	42	Extreme
70E_407	7057E	Human Use				2.00	4.00		
		Archaeological Sites				0.00	0.00		
		Special Status Areas				0.00	0.00		
		Communities				0.00	0.00		
		Oil Residency Index				3.83	5.75		
		Alcids breeding	25	4	0.5	5.48	9.58		
		Alcids nonbreeding	21	5	0.25	2.88	5.03		
		Arctic char	14	1	0.25	0.38	0.67		
		Gulls breeding	17	5	0.5	4.66	8.15		
		Little auk breeding	25	5	0.5	6.85	11.98	45	Extreme

11 Appendix B: Offshore sensitivity ranking

Explanation of the calculations in the table:
Priority index (PI) = Assigned value (AV) x Weighting factor (WF)
Sensitivity value (S) = sum of **Priority indices (PI)**

For biological elements:
Assigned value = (**Relative sensitivity (RS)** x **Relative abundance (RA)** x **Temporal modifier (TM)** x Marine oil residency index (ORI)) / Biological resource constant (C)

Bold abbreviations indicate factors, which appear in the columns of the table. The marine oil residency index (ORI) is given in a row for each offshore area. The biological resource constant (C) is 35 and the weighting factors (WF) are:

Human use	2
Biological resources	1.75
Special status areas	1.5
Marine oil residency index	1.5

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
1	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	2	1	4.29	7.50		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	1	1	1.03	1.80		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	2	1	3.43	6.00	24	Low
2	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	3	1	10.71	18.75		
		Bottom fish	12	2	1	3.43	6.00		
		Ice fauna	20	2	1	5.71	10.00		
		Ivory gull	22	1	1	3.14	5.50		
		Polar bear	19	1	1	2.71	4.75		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	2	1	3.71	6.50	67	Extreme
3	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	3	1	6.43	11.25		
		Bottom fish	12	3	1	3.09	5.40		
		Ivory gull	22	2	1	3.77	6.60		
		Other toothed whales	12	1	1	1.03	1.80		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	2	1	3.43	6.00	44	High
4	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	4.29	7.50		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	1	1	1.03	1.80		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	2	1	3.43	6.00	26	Low
5	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	4	1	6.86	12.00		
		Ice fauna	20	2	1	5.71	10.00		
		Ivory gull	22	2	1	6.29	11.00		
		Polar bear	19	5	1	13.57	23.75		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	2	1	3.71	6.50	95	Extreme
6	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	3	1	6.43	11.25		
		Bottom fish	12	5	1	5.14	9.00		
		Ivory gull	22	5	1	9.43	16.50		
		Narwhal	13	1	1	1.11	1.95		
		Other toothed whales	12	1	1	1.03	1.80		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	61	High

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
7	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	3	1	6.43	11.25		
		Bottom fish	12	2	1	2.06	3.60		
		Other toothed whales	12	1	1	1.03	1.80		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	2	1	3.43	6.00	29	Low
8	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				5	10		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	2	1	3.43	6.00		
		Ice fauna	20	2	1	5.71	10.00		
		Ivory gull	22	1	1	3.14	5.50		
		Non-alcid pursuit divers	20	3	1	8.57	15.00		
		Polar bear	19	1	1	2.71	4.75		
		Seaducks	23	3	1	9.86	17.25		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	114	Extreme
9	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	3	1	6.43	11.25		
		Bottom fish	12	5	1	5.14	9.00		
		Ice fauna	20	1	1	1.71	3.00		
		Narwhal	13	2	1	2.23	3.90		
		Other toothed whales	12	1	1	1.03	1.80		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	49	low
10	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	1	1	3.57	6.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Polar bear	19	2	1	5.43	9.50		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	73	High
11	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	1	1	3.57	6.25		
		Bottom fish	12	2	1	3.43	6.00		
		Ice fauna	20	2	1	5.71	10.00		
		Narwhal	13	5	1	9.29	16.25		
		Other toothed whales	12	1	1	1.71	3.00		
		Polar bear	19	2	1	5.43	9.50		
		Seals	13	2	1	3.71	6.50		
		Seals, whelping/moulting	22	1	1	3.14	5.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	80	High
12	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	1	1	3.57	6.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Polar bear	19	4	1	10.86	19.00		
		Seals	13	2	1	3.71	6.50		
		Walrus	16	1	1	2.29	4.00	63	Moderate

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
13	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	3	1	5.14	9.00		
		Ice fauna	20	3	1	8.57	15.00		
		Narwhal	13	5	1	9.29	16.25		
		Other toothed whales	12	1	1	1.71	3.00		
		Polar bear	19	3	1	8.14	14.25		
		Seals	13	3	1	5.57	9.75		
		Seals, whelping/moulting	22	2	1	6.29	11.00		
		Surface feeding seabirds	20	1	1	2.86	5.00	107	Extreme
14	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				5	7.5		
		Human Use				4	8		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Polar bear	19	2	1	5.43	9.50		
		Seals	13	1	1	1.86	3.25	54	Moderate
15	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				10	15		
		Human Use				5	10		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Polar bear	19	2	1	5.43	9.50		
		Seals	13	3	1	5.57	9.75		
		Seals, whelping/moulting	22	2	1	6.29	11.00		
		Surface feeding seabirds	20	4	1	11.43	20.00		
		Walrus	16	1	1	2.29	4.00	117	Extreme
16	Winter	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Narwhal	13	4	1	7.43	13.00		
		Other toothed whales	12	1	1	1.71	3.00		
		Polar bear	19	1	1	2.71	4.75		
		Seals	13	4	1	7.43	13.00		
		Seals, whelping/moulting	22	3	1	9.43	16.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	97	Extreme
17	Winter	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	2	1	4.29	7.50		
		Ice fauna	20	1	1	1.71	3.00		
		Narwhal	13	2	1	2.23	3.90		
		Other toothed whales	12	2	1	2.06	3.60		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	3	1	3.34	5.85		
		Seals, whelping/moulting	22	3	1	5.66	9.90		
		Surface feeding seabirds	20	1	1	1.71	3.00	44	Low
1	Spring	Marine Oil Residency Index					3	4.5	
		Special Status Areas					0	0	
		Human Use					0	0	
		Alcids	25	2	1		4.29	7.50	
		Baleen whales	9	1	1		0.77	1.35	
		Bottom fish	12	1	1		1.03	1.80	
		Other toothed whales	12	2	1		2.06	3.60	
		Seals	13	1	1		1.11	1.95	
		Surface feeding seabirds	20	2	1		3.43	6.00	

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
2	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	2	1	3.43	6.00		
		Ice fauna	20	5	1	14.29	25.00		
		Polar bear	19	1	1	2.71	4.75		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	75	Extreme
3	Spring	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	2	1	1.54	2.70		
		Bottom fish	12	3	1	3.09	5.40		
		Ice fauna	20	1	1	1.71	3.00		
		Ivory gull	22	1	1	1.89	3.30		
		Other toothed whales	12	2	1	2.06	3.60		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	42	Moderate
4	Spring	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	1	1	0.77	1.35		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	2	1	2.06	3.60		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	26	Low
5	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	1	1	3.57	6.25		
		Bottom fish	12	4	1	6.86	12.00		
		Ice fauna	20	4	1	11.43	20.00		
		Polar bear	19	5	1	13.57	23.75		
		Seaducks	23	2	1	6.57	11.50		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	99	Extreme
6	Spring	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	2	1	1.54	2.70		
		Bottom fish	12	5	1	5.14	9.00		
		Ice fauna	20	1	1	1.71	3.00		
		Ivory gull	22	1	1	1.89	3.30		
		Other toothed whales	12	2	1	2.06	3.60		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	46	Moderate
7	Spring	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	1	1	0.77	1.35		
		Bottom fish	12	2	1	2.06	3.60		
		Other toothed whales	12	2	1	2.06	3.60		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	26	Low

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
8	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				5	10		
		Alcids	25	1	1	3.57	6.25		
		Baleen whales	9	1	1	1.29	2.25		
		Bottom fish	12	2	1	3.43	6.00		
		Ice fauna	20	4	1	11.43	20.00		
		Narwhal	13	2	1	3.71	6.50		
		Non-alcid pursuit divers	20	3	1	8.57	15.00		
		Polar bear	19	1	1	2.71	4.75		
		Seaducks	23	3	1	9.86	17.25		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	121	Extreme
9	Spring	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	3	1	2.31	4.05		
		Bottom fish	12	5	1	5.14	9.00		
		Ice fauna	20	1	1	1.71	3.00		
		Ivory gull	22	1	1	1.89	3.30		
		Narwhal	13	3	1	3.34	5.85		
		Other toothed whales	12	2	1	2.06	3.60		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	57	Moderate
10	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	1	1	3.57	6.25		
		Baleen whales	9	1	1	1.29	2.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	5	1	14.29	25.00		
		Narwhal	13	1	1	1.86	3.25		
		Polar bear	19	2	1	5.43	9.50		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	1	1	1.86	3.25		
		Surface feeding seabirds	20	2	1	5.71	10.00		
		Walrus	16	1	1	2.29	4.00	86	Moderate
11	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	2	1	7.14	12.50		
		Baleen whales	9	1	1	1.29	2.25		
		Bottom fish	12	2	1	3.43	6.00		
		Ice fauna	20	4	1	11.43	20.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	5	1	9.29	16.25		
		Other toothed whales	12	2	1	3.43	6.00		
		Polar bear	19	2	1	5.43	9.50		
		Seals	13	2	1	3.71	6.50		
		Seals, whelping/moulting	22	1	1	3.14	5.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	107	High
12	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	7.14	12.50		
		Baleen whales	9	1	1	1.29	2.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	5	1	14.29	25.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	3	1	5.57	9.75		
		Polar bear	19	5	1	13.57	23.75		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	1	1	1.86	3.25		
		Seals, whelping/moulting	22	1	1	3.14	5.50		
		Surface feeding seabirds	20	1	1	2.86	5.00		
		Walrus	16	1	1	2.29	4.00	115	High

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
13	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	2	1	7.14	12.50		
		Baleen whales	9	2	1	2.57	4.50		
		Bottom fish	12	3	1	5.14	9.00		
		Ice fauna	20	5	1	14.29	25.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	5	1	9.29	16.25		
		Other toothed whales	12	2	1	3.43	6.00		
		Polar bear	19	3	1	8.14	14.25		
		Seals	13	2	1	3.71	6.50		
		Seals, whelping/moulting	22	3	1	9.43	16.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	133	Extreme
14	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				5	7.5		
		Human Use				4	8		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	5	1	14.29	25.00		
		Polar bear	19	1	1	2.71	4.75		
		Seals	13	1	1	1.86	3.25		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	78	Moderate
15	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				10	15		
		Human Use				5	10		
		Alcids	25	5	1	17.86	31.25		
		Baleen whales	9	1	1	1.29	2.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	5	1	14.29	25.00		
		Ivory gull	22	2	1	6.29	11.00		
		Narwhal	13	3	1	5.57	9.75		
		Non-alcid pursuit divers	20	2	1	5.71	10.00		
		Polar bear	19	1	1	2.71	4.75		
		Seaducks	23	3	1	9.86	17.25		
		Seals	13	3	1	5.57	9.75		
		Seals, whelping/moulting	22	2	1	6.29	11.00		
		Surface feeding seabirds	20	4	1	11.43	20.00		
		Walrus	16	3	1	6.86	12.00	200	Extreme
16	Spring	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	5	1	17.86	31.25		
		Baleen whales	9	3	1	3.86	6.75		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	5	1	14.29	25.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	4	1	7.43	13.00		
		Other toothed whales	12	1	1	1.71	3.00		
		Polar bear	19	2	1	5.43	9.50		
		Seals	13	5	1	9.29	16.25		
		Seals, whelping/moulting	22	5	1	15.71	27.50		
		Surface feeding seabirds	20	1	1	2.86	5.00	157	Extreme
17	Spring	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	3	1	6.43	11.25		
		Baleen whales	9	1	1	0.77	1.35		
		Ice fauna	20	1	1	1.71	3.00		
		Ivory gull	22	1	1	1.89	3.30		
		Narwhal	13	1	1	1.11	1.95		
		Other toothed whales	12	1	1	1.03	1.80		
		Polar bear	19	1	1	1.63	2.85		
		Seals	13	3	1	3.34	5.85		
		Seals, whelping/moulting	22	5	1	9.43	16.50		
		Surface feeding seabirds	20	1	1	1.71	3.00	55	Low

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
1	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	1	1	0.77	1.35		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	3	1	3.09	5.40		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	26	Low
2	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	5.71	10.00		
		Baleen whales	9	1	1	1.03	1.80		
		Bottom fish	12	2	1	2.74	4.80		
		Ice fauna	20	1	1	2.29	4.00		
		Other toothed whales	12	1	1	1.37	2.40		
		Polar bear	19	1	1	2.17	3.80		
		Seaducks	23	1	1	2.63	4.60		
		Seals	13	4	1	5.94	10.40		
		Surface feeding seabirds	20	2	1	4.57	8.00	58	High
3	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	3	1	2.31	4.05		
		Bottom fish	12	3	1	3.09	5.40		
		Other toothed whales	12	3	1	3.09	5.40		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	32	Moderate
4	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	2	1	1.54	2.70		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	3	1	3.09	5.40		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	25	Low
5	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	2	1	5.71	10.00		
		Baleen whales	9	1	1	1.03	1.80		
		Bottom fish	12	4	1	5.49	9.60		
		Ice fauna	20	1	1	2.29	4.00		
		Other toothed whales	12	2	1	2.74	4.80		
		Polar bear	19	4	1	8.69	15.20		
		Seaducks	23	1	1	2.63	4.60		
		Seals	13	4	1	5.94	10.40		
		Seals, whelping/moulting	22	5	1	12.57	22.00		
		Surface feeding seabirds	20	2	1	4.57	8.00	102	Extreme
6	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	3	1	2.31	4.05		
		Bottom fish	12	5	1	5.14	9.00		
		Other toothed whales	12	4	1	4.11	7.20		
		Pelagic fish	12	2	1	2.06	3.60		
		Seals	13	2	1	2.23	3.90		
		Seals, whelping/moulting	22	1	1	1.89	3.30		
		Surface feeding seabirds	20	1	1	1.71	3.00	50	Moderate

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
7	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	2	1	1.54	2.70		
		Bottom fish	12	2	1	2.06	3.60		
		Other toothed whales	12	3	1	3.09	5.40		
		Pelagic fish	12	4	1	4.11	7.20		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	38	Moderate
8	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				5	10		
		Alcids	25	2	1	5.71	10.00		
		Baleen whales	9	3	1	3.09	5.40		
		Bottom fish	12	2	1	2.74	4.80		
		Ice fauna	20	2	1	4.57	8.00		
		Ivory gull	22	2	1	5.03	8.80		
		Narwhal	13	3	1	4.46	7.80		
		Non-alcid pursuit divers	20	2	1	4.57	8.00		
		Other toothed whales	12	4	1	5.49	9.60		
		Pelagic fish	12	1	1	1.37	2.40		
		Polar bear	19	1	1	2.17	3.80		
		Seaducks	23	1	1	2.63	4.60		
		Seals	13	3	1	4.46	7.80		
		Seals, whelping/moulting	22	5	1	12.57	22.00		
		Surface feeding seabirds	20	2	1	4.57	8.00		
		Walrus	16	1	1	1.83	3.20	130	Extreme
9	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	5	1	3.86	6.75		
		Bottom fish	12	5	1	5.14	9.00		
		Narwhal	13	1	1	1.11	1.95		
		Other toothed whales	12	4	1	4.11	7.20		
		Pelagic fish	12	5	1	5.14	9.00		
		Seals	13	2	1	2.23	3.90		
		Seals, whelping/moulting	22	1	1	1.89	3.30		
		Surface feeding seabirds	20	1	1	1.71	3.00	60	High
10	Summer	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	4	1	11.43	20.00		
		Ivory gull	22	2	1	6.29	11.00		
		Narwhal	13	3	1	5.57	9.75		
		Other toothed whales	12	2	1	3.43	6.00		
		Polar bear	19	3	1	8.14	14.25		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	3	1	5.57	9.75		
		Seals, whelping/moulting	22	2	1	6.29	11.00		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	136	Extreme

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
11	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	1	1	2.86	5.00		
		Baleen whales	9	2	1	2.06	3.60		
		Bottom fish	12	2	1	2.74	4.80		
		Ice fauna	20	2	1	4.57	8.00		
		Narwhal	13	2	1	2.97	5.20		
		Other toothed whales	12	2	1	2.74	4.80		
		Pelagic fish	12	1	1	1.37	2.40		
		Seals	13	2	1	2.97	5.20		
		Seals, whelping/moulting	22	1	1	2.51	4.40		
		Surface feeding seabirds	20	1	1	2.29	4.00	57	Moderate
12	Summer	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	7.14	12.50		
		Baleen whales	9	1	1	1.29	2.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	4	1	11.43	20.00		
		Ivory gull	22	2	1	6.29	11.00		
		Narwhal	13	4	1	7.43	13.00		
		Other toothed whales	12	1	1	1.71	3.00		
		Polar bear	19	4	1	10.86	19.00		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	2	1	5.71	10.00		
		Walrus	16	2	1	4.57	8.00	124	High
13	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	1	1	2.86	5.00		
		Baleen whales	9	2	1	2.06	3.60		
		Bottom fish	12	3	1	4.11	7.20		
		Ice fauna	20	1	1	2.29	4.00		
		Narwhal	13	1	1	1.49	2.60		
		Other toothed whales	12	2	1	2.74	4.80		
		Pelagic fish	12	3	1	4.11	7.20		
		Polar bear	19	1	1	2.17	3.80		
		Seals	13	1	1	1.49	2.60		
		Seals, whelping/moulting	22	1	1	2.51	4.40		
		Surface feeding seabirds	20	1	1	2.29	4.00	59	Moderate
14	Summer	Marine Oil Residency Index				5	7.5		
		Special Status Areas				5	7.5		
		Human Use				4	8		
		Alcids	25	4	1	14.29	25.00		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	5	1	14.29	25.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	5	1	9.29	16.25		
		Non-alcid pursuit divers	20	3	1	8.57	15.00		
		Polar bear	19	1	1	2.71	4.75		
		Seaducks	23	2	1	6.57	11.50		
		Seals	13	1	1	1.86	3.25		
		Surface feeding seabirds	20	2	1	5.71	10.00		
		Walrus	16	1	1	2.29	4.00	146	Extreme

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
15	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				10	15		
		Human Use				5	10		
		Alcids	25	5	1	14.29	25.00		
		Baleen whales	9	1	1	1.03	1.80		
		Bottom fish	12	1	1	1.37	2.40		
		Ice fauna	20	3	1	6.86	12.00		
		Ivory gull	22	1	1	2.51	4.40		
		Narwhal	13	4	1	5.94	10.40		
		Non-alcid pursuit divers	20	2	1	4.57	8.00		
		Other toothed whales	12	1	1	1.37	2.40		
		Pelagic fish	12	1	1	1.37	2.40		
		Polar bear	19	2	1	4.34	7.60		
		Seaducks	23	2	1	5.26	9.20		
		Seals	13	3	1	4.46	7.80		
		Seals, whelping/moulting	22	3	1	7.54	13.20		
		Surface feeding seabirds	20	4	1	9.14	16.00		
		Walrus	16	2	1	3.66	6.40	160	Extreme
16	Summer	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	4	1	11.43	20.00		
		Baleen whales	9	3	1	3.09	5.40		
		Bottom fish	12	1	1	1.37	2.40		
		Ice fauna	20	1	1	2.29	4.00		
		Ivory gull	22	1	1	2.51	4.40		
		Narwhal	13	2	1	2.97	5.20		
		Other toothed whales	12	2	1	2.74	4.80		
		Pelagic fish	12	3	1	4.11	7.20		
		Polar bear	19	1	1	2.17	3.80		
		Seals	13	2	1	2.97	5.20		
		Seals, whelping/moulting	22	3	1	7.54	13.20		
		Surface feeding seabirds	20	2	1	4.57	8.00		
		Walrus	16	1	1	1.83	3.20	97	Moderate
17	Summer	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	1	1	0.77	1.35		
		Narwhal	13	1	1	1.11	1.95		
		Other toothed whales	12	2	1	2.06	3.60		
		Pelagic fish	12	5	1	5.14	9.00		
		Seals	13	1	1	1.11	1.95		
		Seals, whelping/moulting	22	1	1	1.89	3.30		
		Surface feeding seabirds	20	1	1	1.71	3.00	44	Low

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
1	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				0	0		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	1	1	0.77	1.35		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	3	1	3.09	5.40		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	3	1	5.14	9.00	28	Low
2	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	3	1	6.43	11.25		
		Bottom fish	12	2	1	2.06	3.60		
		Ivory gull	22	1	1	1.89	3.30		
		Other toothed whales	12	1	1	1.03	1.80		
		Polar bear	19	1	1	1.63	2.85		
		Seaducks	23	2	1	3.94	6.90		
		Seals	13	4	1	4.46	7.80		
		Surface feeding seabirds	20	2	1	3.43	6.00	50	Moderate
3	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	3	1	6.43	11.25		
		Baleen whales	9	4	1	3.09	5.40		
		Bottom fish	12	3	1	3.09	5.40		
		Ivory gull	22	2	1	3.77	6.60		
		Other toothed whales	12	3	1	3.09	5.40		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	3	1	5.14	9.00	54	Moderate
4	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	2	1	1.54	2.70		
		Bottom fish	12	1	1	1.03	1.80		
		Other toothed whales	12	3	1	3.09	5.40		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	2	1	3.43	6.00	28	Low
5	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	3	1	6.43	11.25		
		Bottom fish	12	4	1	4.11	7.20		
		Ivory gull	22	2	1	3.77	6.60		
		Other toothed whales	12	2	1	2.06	3.60		
		Polar bear	19	3	1	4.89	8.55		
		Seaducks	23	3	1	5.91	10.35		
		Seals	13	4	1	4.46	7.80		
		Surface feeding seabirds	20	2	1	3.43	6.00	72	High
6	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	4	1	3.09	5.40		
		Bottom fish	12	5	1	5.14	9.00		
		Ivory gull	22	4	1	7.54	13.20		
		Other toothed whales	12	4	1	4.11	7.20		
		Pelagic fish	12	2	1	2.06	3.60		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	3	1	5.14	9.00	69	High

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
7	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	1	1	2.14	3.75		
		Baleen whales	9	2	1	1.54	2.70		
		Bottom fish	12	2	1	2.06	3.60		
		Other toothed whales	12	3	1	3.09	5.40		
		Pelagic fish	12	4	1	4.11	7.20		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	38	Low
8	Autumn	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				5	10		
		Alcids	25	3	1	8.57	15.00		
		Baleen whales	9	3	1	3.09	5.40		
		Bottom fish	12	2	1	2.74	4.80		
		Ivory gull	22	1	1	2.51	4.40		
		Narwhal	13	1	1	1.49	2.60		
		Non-alcid pursuit divers	20	2	1	4.57	8.00		
		Other toothed whales	12	4	1	5.49	9.60		
		Pelagic fish	12	1	1	1.37	2.40		
		Polar bear	19	1	1	2.17	3.80		
		Seaducks	23	4	1	10.51	18.40		
		Seals	13	4	1	5.94	10.40		
		Surface feeding seabirds	20	3	1	6.86	12.00		
		Walrus	16	1	1	1.83	3.20	116	Extreme
9	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	2	1	4.29	7.50		
		Baleen whales	9	5	1	3.86	6.75		
		Bottom fish	12	5	1	5.14	9.00		
		Ivory gull	22	1	1	1.89	3.30		
		Narwhal	13	3	1	3.34	5.85		
		Other toothed whales	12	4	1	4.11	7.20		
		Pelagic fish	12	5	1	5.14	9.00		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00		
		Walrus	16	1	1	1.37	2.40	68	Moderate
10	Autumn	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				3	6		
		Alcids	25	3	1	10.71	18.75		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	2	1	5.71	10.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	2	1	3.71	6.50		
		Other toothed whales	12	2	1	3.43	6.00		
		Polar bear	19	2	1	5.43	9.50		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	104	High

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
11	Autumn	Marine Oil Residency Index				4	6		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	2	1	5.71	10.00		
		Baleen whales	9	1	1	1.03	1.80		
		Bottom fish	12	2	1	2.74	4.80		
		Ice fauna	20	1	1	2.29	4.00		
		Ivory gull	22	1	1	2.51	4.40		
		Narwhal	13	4	1	5.94	10.40		
		Other toothed whales	12	2	1	2.74	4.80		
		Pelagic fish	12	1	1	1.37	2.40		
		Seals	13	2	1	2.97	5.20		
		Surface feeding seabirds	20	1	1	2.29	4.00		
		Walrus	16	1	1	1.83	3.20	65	Moderate
12	Autumn	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				1	2		
		Alcids	25	2	1	7.14	12.50		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	5	1	9.29	16.25		
		Other toothed whales	12	1	1	1.71	3.00		
		Polar bear	19	5	1	13.57	23.75		
		Seaducks	23	1	1	3.29	5.75		
		Seals	13	2	1	3.71	6.50		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	120	Extreme
13	Autumn	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	3	1	10.71	18.75		
		Baleen whales	9	2	1	2.57	4.50		
		Bottom fish	12	3	1	5.14	9.00		
		Ice fauna	20	2	1	5.71	10.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	5	1	9.29	16.25		
		Other toothed whales	12	2	1	3.43	6.00		
		Pelagic fish	12	3	1	5.14	9.00		
		Seals	13	1	1	1.86	3.25		
		Surface feeding seabirds	20	2	1	5.71	10.00		
		Walrus	16	1	1	2.29	4.00	108	Extreme
14	Autumn	Marine Oil Residency Index				5	7.5		
		Special Status Areas				5	7.5		
		Human Use				4	8		
		Alcids	25	1	1	3.57	6.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	2	1	3.71	6.50		
		Polar bear	19	1	1	2.71	4.75		
		Seals	13	3	1	5.57	9.75		
		Surface feeding seabirds	20	3	1	8.57	15.00		
		Walrus	16	1	1	2.29	4.00	93	Moderate

Area	Season	Element	RS	RA	TM	AW	PI	S	Final Ranking
15	Autumn	Marine Oil Residency Index				5	7.5		
		Special Status Areas				10	15		
		Human Use				5	10		
		Alcids	25	3	1	10.71	18.75		
		Baleen whales	9	2	1	2.57	4.50		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	3	1	8.57	15.00		
		Ivory gull	22	2	1	6.29	11.00		
		Narwhal	13	3	1	5.57	9.75		
		Non-alcid pursuit divers	20	2	1	5.71	10.00		
		Other toothed whales	12	1	1	1.71	3.00		
		Pelagic fish	12	1	1	1.71	3.00		
		Polar bear	19	2	1	5.43	9.50		
		Seaducks	23	2	1	6.57	11.50		
		Seals	13	3	1	5.57	9.75		
		Surface feeding seabirds	20	4	1	11.43	20.00		
		Walrus	16	2	1	4.57	8.00	169	Exteme
16	Autumn	Marine Oil Residency Index				5	7.5		
		Special Status Areas				0	0		
		Human Use				2	4		
		Alcids	25	3	1	10.71	18.75		
		Baleen whales	9	5	1	6.43	11.25		
		Bottom fish	12	1	1	1.71	3.00		
		Ice fauna	20	1	1	2.86	5.00		
		Ivory gull	22	1	1	3.14	5.50		
		Narwhal	13	3	1	5.57	9.75		
		Other toothed whales	12	2	1	3.43	6.00		
		Pelagic fish	12	3	1	5.14	9.00		
		Polar bear	19	1	1	2.71	4.75		
		Seals	13	1	1	1.86	3.25		
		Surface feeding seabirds	20	2	1	5.71	10.00		
		Walrus	16	1	1	2.29	4.00	102	High
17	Autumn	Marine Oil Residency Index				3	4.5		
		Special Status Areas				0	0		
		Human Use				4	8		
		Alcids	25	3	1	6.43	11.25		
		Baleen whales	9	1	1	0.77	1.35		
		Ivory gull	22	1	1	1.89	3.30		
		Narwhale	13	1	1	1.11	1.95		
		Other toothed whales	12	2	1	1.06	3.06		
		Pelagic fish	12	5	1	5.14	9.00		
		Seals	13	1	1	1.11	1.95		
		Surface feeding seabirds	20	1	1	1.71	3.00	48	Low

12 Appendix C: Methods and documentation

12.1 Introduction

In the Chapters 4, 5 and 6, the methods and data used in the present atlas project were outlined on an overall level. However, technical details and data documentation were not included in these chapters and are presented here.

12.2 The parameters of the Greenland oil spill sensitivity application

Below is a list of the parameter settings in the Greenland oil spill sensitivity application (Mosbech et al. 2004), used for the sensitivity index calculations of shoreline segments and offshore areas in this atlas.

Assigned Values (AV) to shoreline and offshore areas:

Community score (CM), range	0–10*
Special status area (SSA) score	5 per SSA area
Human use (HU), range**	0–5
Archaeological sites (AS), range**	0–5
Animal relative abundance (RA), range**	0–5 per species group
Oil residency index (ORI), range	1-5

* Calculated in GIS, using a 10 km buffer zone around each permanently inhabited place. The index value is proportional to the length of shoreline segments included within this buffer zone.
** Range from 0 (no importance) to 5 (extreme importance).

Weighting factors:

Human use, communities and archaeology	2
Biological resources	1.75
Special status areas	1.5
Oil residency index	1.5

Application constants:

Biological resource constant (shoreline)	35
Biological resource constant (offshore)	35
Maximum ORI value	5

With these settings the average contributions (in terms of PI-values) to the final sensitivity values of the shoreline segments are: biological occurrences 31%, human use 21%, oil residency index 31%, archaeological sites 5%, communities 10% and special status areas (Ramsar sites) 1.4%. However, this is a simplification since the oil residency index value is a factor in the calculation of the PI-value for biological occurrences, and thus has a higher relative contribution to the final sensitivity value than indicated here.

The final ranking of shoreline segments into the four oil spill sensitivity classes "low", "moderate", "high" and "extreme" was based on a neighborhood analysis, comparing each shoreline segment's sensitivity value to those of all segments within a 250 km radius. For this reason, the sensitivity value domains have slight overlaps (Table 1). For a detailed description of the sensitivity ranking procedure of both shoreline segments and offshore areas see Chapter 12.6 in this appendix.

Table 1. Statistics of the four sensitivity classes.

Sensitivity class	PI value domain	No. Segments	Length (km)
Low	3,09 – 15,22	89	4295,08
Moderate	7,82 – 21,73	106	5139,34
High	9,5 – 34,06	97	4737,67
Extreme	9,35 – 81,62	114	5519,82

12.3 Geomorphological information

The objective of performing a geomorphological classification is two-fold. The first goal is to provide the physical environment and logistics section of the atlas (Chapter 8) with useful in-formation regarding potential oilspill mitigation, and an illustration of the nature of the coast. The second objective is to determine an ORI (oil residency index) value for each shoreline segment, which is an important component in the oil spill sensitivity calculation (Chapter 4.3).

The geomorphology of the Southeast Greenland coast between 59° N and 71° N has been classified according to shore type, sediment type and exposure. The classification covers the coastline from Ikerasassuaq / Prins Christian Sund in the south, to and including the entirety of Scoresby Sound fjord complex in the north. The total length of this shoreline is c. 19,574 km on the 1:250,000 scale topographic map.

12.3.1 Methods

The classification is based on a mixture of information from topographic maps (1:250,000), geological maps in 1:500,000 and 1:2,500,000, and Landsat 8 (15m resolution) and Sentinel 2 (30m resolution) imagery from 2018. The coastal classification is mainly based on the methods outlined in the proposal 'West Greenland Coastal Atlas for Environmental Protection. A Pro-posal to the Danish Energy Agency' produced by AXYS in July 1999 (Mosbech et al. 2005).

The overall process consisted of the following steps:

1. A revision of the coastline from the 1:250,000 scale topographic map for the changes in extent of marine terminating glaciers. This mapping also identified all shores of the type "glacier coast". A Landsat 8 and Sentinel 2 satellite imagery composite from August – September 2018 was used for this.
2. An identification and delineation of primarily the loose deposits as mapped in the geological maps. Secondarily, the bedrock type was identified.
3. Areas classified as "undifferentiated deposits" in the geological maps were split into sedimentary shore types based on topographic information and satellite imagery.
4. The remaining hard rock areas were classified into "rocky coast", "archipelago" and "talus" according the complexity of the coastline, presence of small islands, and interpretation of Landsat and Sentinel satellite imagery.

The shore types resulting from the classification are listed in Table 2. Based on these, the shoreline was divided into shore type segments. A shore type is a repeatable category of coastal geomorphology, which indirectly indicates the coastal sediment type. No specific low-er segment length was applied, but in practical terms this has led to a lower segment limit of c. 200 meters. The segments were marked and classified directly on the revised digital shoreline of the 1:250,000 scale topographic map.

Table 2. Classification of shore types in Southeast Greenland. Numbering based on a system with 17 different types, here reduced to only 11 types.

Shore type	Shore type no.	Characteristics
Rocky coast	1	- Coast developed in bedrock of varying morphology, elevation and gradient.
		- Narrow beach with coarse sediment consisting of boulders, cobbles and pebbles might occur.
		- The occurrence of abraded inter-tidal platforms is indicated by the gradient.
Archipelago	3	- Several smaller islands, normally developed in solid rock.
		- Rocky coasts and pocket beaches might occur, but have only been classified individually if the perimeter of the island exceeds 6 kilometers.
Glacier coast	4	- Glacier ice reach the tidal zone, tidal glacier.
Moraine	5	- Shore developed in unconsolidated glacial sediments.
		- Narrow beach with coarse sediment consisting of boulders, cobbles and pebbles might occur.
		- The occurrence of abraded intertidal platforms are indicated by the gradient.
Alluvial fan	7	- Shore developed in alluvial fan.
		- Narrow beach with sediment consisting of boulders, cobbles, pebbles, gravel and sand might occur.
		- The occurrence of intertidal platforms is indicated by the gradient.
Talus	9	- Shore developed in talus (colluvial fan) of varying gradient.
		- Narrow beach with coarse sediment consisting of boulders, cobbles and pebbles might occur.
Beach	10	- Long, linear depositional beaches of well-sorted sand, gravel, pebbles, cobbles or boulders.
		- Beach ridge plains often occur landwards the beach.
Barrier beach	11	- Coastal environment consisting of coastal barriers and lagoons with beaches, dunes, salt marsh and tidal flats.
		- Spits often occur near tidal inlets.
		- Wash-over fans might occur on barriers.
		- Beaches consisting of well-sorted sand, gravel, pebbles or cobbles.
Salt marsh and/or tidal flat	14	- Wide salt marshes with or without salt marsh cliff and/or wide intertidal flats.
		- Consisting of relatively fine sediments (mud, sand, silt and clay).
Delta	16	- Low gradient intertidal platform developed by fluvial sediments in front of a river valley.
		- Braided river channels often occur within the inter-tidal zone.
		- Sediment normally fine grained ranging from clay to fine sand.
Not classified	17	- The shore has not been classified due to lack of air photo information (cloud cover, shadow, etc.) The coastal substrate type of the shore type segments have been derived based on a reclassification of the shore types (see Tables 3 and 4).

Table 3. Substrate classification of shore types in Southeast Greenland between 60° N and 71° N.

Substrate class	Substrate, general	Substrate, specific	Shore description
1	Ice	Ice	Glacial ice within the intertidal zone.
2	Rock	Rock	Bedrock within the intertidal zone.
3	Rock and sediment	Rock and coarse sediment	A combination of bedrock and coarse sediment including boulders, cobbles and pebbles, either as veneers over the bedrock or as small pocket beaches interspersed with bedrock.
4		Rock and fine sediment	A combination of bedrock and fine sediment including mud, sand or mixtures of sand and boulders, cobbles or pebbles. Sediments most likely to occur as small pocket beaches interspersed with bedrock.
5	Sediment	Coarse sediment	Boulders, cobbles and pebbles. Collectively referred to as 'gravel'. Includes 'shingle-type' beaches.
6		Fine sediment	Mud, clay, sand and combinations of sand and gravel.

Table 4. Substrate types derived from shore types.

Shore type (cf. Table 2)	Substrate type (substrate class, cf. Table 3)
Moraine (5)	Fine sediment (6)
Alluvial fan (7)	Fine sediment (6)
Delta (16)	Fine sediment (6)
Talus (9)	Coarse sediment (5)
Beach (11)	Fine sediment (6)
Archipelago (3)	Rock (2)
Rocky coast (1)	Rock and coarse sediment (3)
Glacier coast (4)	Ice (1)

Classification of exposure

For each shore type segment, an exposure class has been attributed. The classification of expo-sure has been performed as a grid analysis with a cell size of 1000 meters and UTM zone 26 as the orthogonal coordinate systems. The basis for the classification has been the distance to coast in the 8 main directions (N, NE, E, SE, S, SW, W and NW). The distance threshold has been set to 150 km. Definitions of the exposure classes are shown in Table 5.

For maximum open water periods less than 8 weeks, the exposure class was lowered by 1 (though resulting values < 1 were rounded up to 1). The length of the open water period for each shore type segment was calculated based on the segment's coverage by fast ice polygons on mid-month sea ice charts 2015–2019 from the Danish Meteorological Institute (Green-land_WA dataset).

Figure 1 shows how the exposure classes are distributed along the coast.

Table 5. Exposure classification for Southeast Greenland coasts between 60º and 71º N. Fetch is defined as is the length of water over which a given wind has blown without obstruction.

Exposure class	Exposure	Definition
1	Protected	Maximum distance in any direction 4 km AND The mean distance of all directions less than 2 km
2	Semi-protected	Not fulfilling any criteria for the other categories (remaining shorelines)
3	Semi-exposed	Distance of min. 150 km from one of the main fetch directions OR Mean distance of all main fetch directions greater than 10 km.
4	Exposed	Distances min 150 km from at least two of the main fetch directions

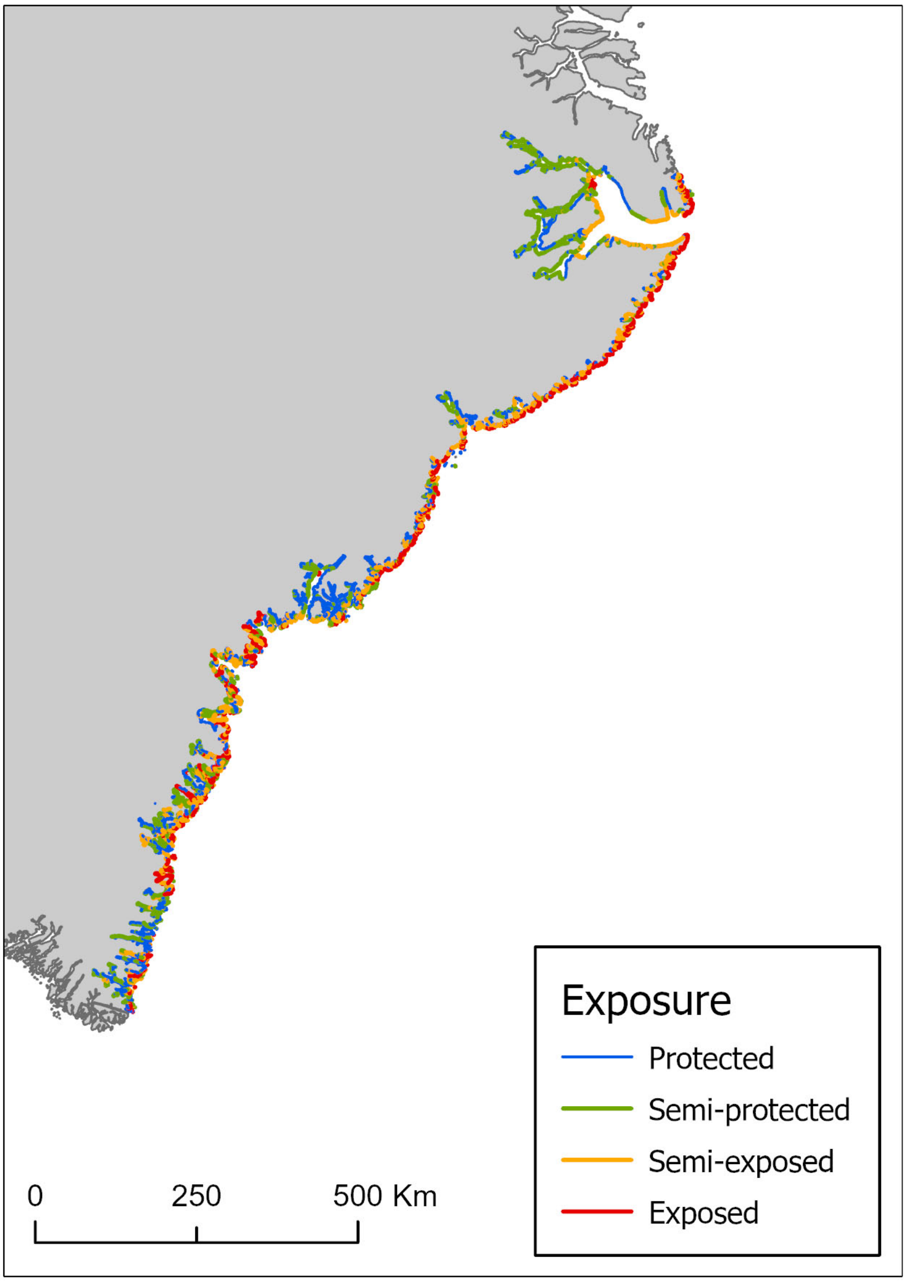


Figure 1. Exposure of the shorelines of the atlas region.

Table 6. Basic oil residency index (ORI) ranking based on a combination of shore type and exposure for the East Greenland area

Shore type / Exposure class	Protected	Semi-protected	Semi-exposed	Exposed
Moraine (5)	4	3	1	1
Alluvial fan (7)	4	3	1	1
Talus (9)	5	4	1	1
Beach (11)	4	3	1	1
Archipelago (3)	5	4	2	2
Rocky coast (1)	5	4	2	1
Glacier coast (4)	1	1	1	1

Classification of slope

Based on the digital elevation model from GIMP (Howat et al. 2015), a slope layer was calculated in ArcGIS in a 30m resolution. The mean slope for each shore type segment was calculated within a 60 meter buffer on either side of the shore type segment polylines. Based on the resulting mean slope, the shore type segments were classified as flat, inclined or steep (Table 7).

Table 7. Slope classes.

Slope class	Mean slope
Steep	>= 15%
Inclined	<15% and >= 2%
Flat	<2%

Deriviation of oil spill residency (ORI) values for the shore type segments

For each shore type segment, an oil spill residency (ORI) index value between 1 and 5 was de-rived based on the combination of the shore type and the exposure class. This value enters the sensitivity calculation. Table 6 shows the basic relation between shore type, exposure class and the resulting ORI value. After this basic classification, a number of ORI modifiers were applied to account for shoreline slope and some speciel shore types considered to have longer residence times. These shoreline ORI modifiers were as follows:

ORI slope modifiers:

Steep (slope >= 15%): ORI -1
Flat (slope < 2 %): ORI +1

ORI shore type modifiers:

Archipelagos: ORI +1
Barrier beach: ORI +1
Delta: ORI +1

After applying the ORI modifiers, resulting ORI values > 5 were rounded down to 5, and resulting ORI values < 1 were rounded up to 1.

Aggregation of shore type segments into shoreline segments

Finally, the shore type segments were aggregated into shoreline segments of approx. 50 km (+/- 10 km) length, which form the basic analythical units in the shoreline sensitivity analysis. The aggregation was done by hand with the aim of keeping the resulting shoreline segments homogenous with respect to geomorphology, exposure and steepness. The ORI of each shore-line segment was calculated as a weighted average of the ORI values of the constituent shore type segments, using their proportional lengths as weights.

Deriviation of oil spill residency (ORI) values for offshore areas
In the offshore oil spill sensitivity analysis, the ORI index is based on sea ice cover rather than coastal geomophology. The presence of dynamic pack ice with floes and ice edges will act to restrict oil movement and thus significantly increase the potential oil residence time. The off-shore ORI have been defined with values increasing from 3 to 5 based on the length of the open water period. Within each offshore area, the length of the open water period was determined in the following way: For each month, the size of the area with a sea ice concentra-tion of more than 15% was determined based on mean monthly sea ice concentration maps for the period 1979 - 2019 (Stroeve & Meier 2018). If that area covered less than 50% of the offshore area in question, the month was classified as being part of the open water period. Having determined the open water period for each offshore area, seasonal offshore ORI val-ues were attributed as specified below.

Offshore ORI values (ORI for offshore areas):
0-50% of season within the open water period 5
51-90% of season within the open water period 4
91-100% of season within the open water period 3

12.3.2 Shore type statistics

Based on the 1:250,000 scale topographic map, the total length of the coastline is c. 19,575 km, of which c. 1994 km are archipelagos and c. 17,580 km are mainland coasts and larger is-lands.

The distribution of segments on shore type, exposure categories and slope classes are given in Tables 8 -10. In terms of shoreline length, the 'Rocky coast' is the dominant shore type (62.24%) and 'Protected' is the dominant exposure type (40.27%). Together, the 'Rocky coast' and 'Archipelago' shore types constitute 72.43% of the total investigated shoreline.

Table 8. Shore type statistics.

Shore type	No. of stretches	Km	%
1	1752	12182.85	62.24
3	1058	1994.24	10.19
4	432	941.08	4.81
5	252	536.01	2.74
6	1	3.49	0.02
7	61	102.61	0.52
9	825	3398.44	17.36
13	3	9.81	0.05
14	55	325.41	1.66
16	28	80.71	0.41
Total	**4467**	**19574.65**	**100**

Table 9. Exposure statistics.

Exposure class	Km	%
1 – Protected	7882.26	40.27
2 – Semi-protected	4492.05	22.95
3 – Semi-exposed	3952.09	20.19
4 – Exposed	3248.25	16.59
Total	**19574.65**	**100**

Table 10. Slope statistics.

Slope class	Length (km)	%
Steep	1873.44	9.57
Inclined	15990.03	81.69
Flat	1711.18	8.74

12.4 Information on biological resources

12.4.1 Introduction

This section provides a detailed description of the different species/species groups constituting the biological input to the sensitivity calculations. Focus is on:

- which species are included in the different species groups in the shoreline and offshore analysis;
- how the relative abundance (RA) values for the different species/species groups were derived for the shoreline segments and the offshore areas;
- which data the assigned RA values are based on.

12.4.2 Shoreline analysis

The analysis of shoreline sensitivity included 13 species groups (Table 11). Their relative oil spill sensitivity values (RS) are detailed in Chapter 4, Table 1, and this section will focus on how their relative abundance values (RA; scale 0-5) were derived, and on which data they are based. Many more species of birds, marine mammals and fish/shellfish occur in the region. These are, however, of less importance as hunting/fishing objects, they occur widespread without any known concentration areas, they are not particularly exposed to oil in case of a spill in the region or the information available is too limited to be included. Finally, it must be stressed that the knowledge on the biology and ecology of the region is limited compared to West and Northeast Greenland, and there are many data gaps awaiting study.

Table 11. Overview of the species and species groups included in the shoreline analysis

Species group	Species included	Data source for relative abundance (RA) values
Alcids breeding	Colonies of breeding Atlantic puffins, black guillemots, razorbills and thick-billed murres	Boertmann et al. 2010, 2020b
Cormorant breeding	Colonies of breeding great cormorants	Boertmann et al. 2010, 2020b
Gulls breeding	Colonies of breeding glaucous gulls, Arctic terns, Iceland gulls, black-legged kittiwakes, lesser black-backed gulls, great black-backed gulls, and Sabine's gulls.	Boertmann et al. 2010, 2020b
Ivory gull breeding	Colonies of breeding ivory gulls	Boertmann et al. 2010, 2020b
Little auk breeding	Colonies of breeding little auks	Boertmann et al. 2010, 2020b
Seaducks breeding	Colonies of breeding common eiders	Boertmann et al. 2010, 2020b
Tubenoses breeding	Colonies of breeding northern fulmars	Boertmann et al. 2010, 2020b
Alcids nonbreeding	Spring concentrations of little auks and thick-billed murres	Boertmann et al. 2020a
Seaducks moulting	Common eider and king eider moulting areas	Boertmann et al. 2020a
Seaducks nonbreeding	Spring concentrations of common eiders and king eiders	Boertmann et al. 2020a
Arctic char	Arctic char	Boertmann et al. 2020a, Petersen1993, Flora et al. 2019, 2020
Capelin	Capelin	Surveydata from GINR, Petersen 1993 Flora et. al. 2019, 2020
Harbour seal	Harbour seal	Boertmann & Rosing-Asvid 2014

Breeding seabirds

All the species groups in Table 11 that contain the word "breeding" in the title refer to the occurrence of seabird breeding colonies along the shorelines. The information on breeding seabirds in the atlas derives from a database of seabird breeding colonies covering the entire Greenland, the so-called Greenland Seabird Colony Register (Boertmann et al. 2010). This database holds all historic records (based on published data) and is continuously updated when new colony surveys are conducted by DCE, GINR and others (see e.g. Boertmann et al. 2020b). The updates include both discoveries of new colony sites, and re-counts of already known colonies to check if the numbers of birds breeding there have changed. The extract for the current atlas includes all known colonies of the seabird species listed in Table 11, and for each colony we used the most recent count of high quality (e.g. aircraft based surveys are often inferior to boat based surveys). For all species, breeding numbers originally expressed in pairs (or nests) have been transformed to individuals (no. of pairs or nests * 1.7).

The relative abundance values (RA) for a species groups involving breeding seabirds were attained through a step-wise process, which was conducted for both East Greenland sensitivity atlases at the same time. First, for each of the species making up the species group, the number of birds breeding along each shoreline segment was calculated. For a given shoreline segment, this often involved adding up the numbers from several different colonies (e.g. two black guillemot colonies along a segment). Then, the breeding numbers of the species on the shoreline segments were turned into ranks (1-5), based on their placement within a percentile distribution (divided in 20% intervals), involving all segments in both East Greenland sensitivity atlases with birds of that species present (breeding numbers > 0). If for a given segment, the number of birds breeding fell within the lowest 20% of all segments with breeding numbers > 0, the rank was set to 1. If for a given segment, the number of birds breeding fell within the top 20% of all segments with breeding numbers > 0, the rank was set to 5, and so forth. This was done for each species making up a species group, and subsequently, for each segment, the sub-species ranks were added up to attain the relative abundance (RA) value of the species group. In cases, where the species ranks added up to a value greater than five, the value was rounded down to RA=5. Table 12 gives an overview of how the species were ranked, including the breeding population numbers corresponding to the 20% percentile interval cut-off values. As can be seen from the table, some species were not wide-spread enough to complete the automatic 20% percentile ranking, and in these cases the ranking was done by expert judgement. This was also the case for species, where counting the number of birds in the colonies are almost impossible, due to hidden nest and very large breeding populations (little auks).

In terms of seasonality, all seabirds are assumed to breed from April to September.

Table 12. Overview of how the number of breeding seabirds of the different species along the shoreline segments were ranked. On the shoreline segments, relative abundance values (RA) of the species groups were calculated as the sum of the ranks of the constituent species, rounded down to five.

Species group	Species	Range (indv.)	Rank
Alcids breeding	Atlantic puffin	All colonies	5
	Thick-billed murre	All colonies	5
	Black guillemot	1 – 5	1
		6 – 19	2
		20 – 40	3
		47 – 175	4
		193 – 622	5
Lille auk breeding	Little auk	All colonies	5
Gulls breeding	Glaucous gull	1	1
		2 – 4	2
		5 – 10	3
		11 – 20	4
		21 – 120	5
	Arctic tern	1 – 8	1
		10 – 20	2
		24 – 57	3
		59 – 165	4
		175 – 1051	5
	Iceland gull	1	1
		2 – 4	2
		5 – 10	3
		12 – 20	4
		21 – 415	5
	Black-legged kittiwake	4 – 21	1
		29 – 50	2
		60 – 120	3
		128 – 230	4
		475 – 1257	5
	Lesser black-backed gull	1	1
		2 – 4	2
		35	5
	Great black-backed gull	1	1
		3	2
	Sabine’s Gull	All colonies	5
Ivory gull breeding	Ivory gull	1 – 8	1
		10 – 10	2
		18 – 18	3
		23 – 168	4
		203 – 574	5
Cormorants breeding	Great cormorant	3	1
		12	5
Seaducks breeding	Common eider	2 – 9	1
		11 – 17	2
		18 – 18	3
		20 – 48	4
		49 – 1530	5
Tubenoses breeding	Northern fulmar	33 – 89	1
		105	2
		110	3
		113	4
		240 – 1201	5

Other seabird groups

Areas where high concentrations of little auks and thick-billed murres have been located in spring (April – May) based on aerial surveys are included as "Alcids non-breeding". The polynya at the entrance to Scoresby Sound constitutes such an area, and all coastal segments intersecting this area have been assigned a RA weight of 5 for "Alcids non-breeding".

In August and September concentrations of moulting king eiders and common eiders (grouped as "Seaducks moulting") occur in the area. These concentration areas are mainly found along the Blosseville Coast (Boertmann et al. 2020a). All coastal segments intersecting such areas have been assigned a RA weight of 5 for "Seaducks moulting".

In spring (April – May) large concentrations of common eiders and king eiders can be found south of the entrance to Scoresby Sound (Boertmann et al. 2020a). All segments intersecting these areas have been assigned a RA weight of 5 for the species group "Seaducks non-breeding".

Fish

In the shoreline analysis, Arctic char is included with the mouth of the rivers, where they winter and spawn (based on data from Boertmann et al. 2020a, Petersen 1993, Flora et al. 2019, 2020). Every segment with such a river outlet is assigned RA = 5 for Arctic char, and all segments intersecting a 25 km radius of the river outlet is assigned RA = 1 for Arctic char. The season of occurrence is set to range from July to September.

Capelin is very abundant in the atlas area, but specific details on distribution, spawning areas and general prevalence are lacking. Based on GINR surveys, it is presumed they are present on all segments during summer, and as such all segments has been assigned a minimum RA value of 1 for capelin, except in fiords and along coasts bounded by glacial ice. In some areas, specifically near Tasiilaq, there are known to be large spawning concentrations of capelin during summer (Petersen 1993, Flora et al. 2019). These places has been assigned a RA value of 5 for capelin. The seasonal occurrence is set to range from June to July.

Harbour seal

A single possible harbor seal breeding area is known near Kap Steen Bille (Map 6152E) (Boertmann & Rosing-Asvid 2014). All segments within a radius of 10 km of that area is given RA = 5 for harbour seal from June through September.

12.4.3 Offshore analysis

The offshore oil spill sensitivity analysis was conducted as one big analysis, covering both East Greenland Atlas areas. In terms of biological resources, the offshore analysis included 15 species groups (Table 13). The relative oil spill sensitivity values (RS) of these species groups are detailed in Chapter 4, and the present section will therefore focus on how we derived their relative abundance values (RA; scale 0-5) in the different offshore areas during the four seasons of the year.

Table 13. List of the 15 species groups in the offshore oil spill sensitivity analysis, including information on which species are considered in the different groups, and the main data source used in deriving relative abundance (RA) values for the different offshore areas during the four seasons of the year.

Species group	Species included	Data source for relative abundance (RA) values
Alcids	Atlantic puffin, black guillemot, common murre, lit-tle auk, razorbill, thick-billed murre	Boertmann et al. 2020a (Glahder 1993, Boertmann 2014, Boertmann et al. 2020b, Norwegian SEATRACK-data (Link))
Baleen whales	Blue whale, bowhead whale, fin whale, humpback whale, minke whale, North Atlantic right whale, sei whale	Boertmann et al. 2020a
Bottom fish	Atlantic cod, Greenland halibut, redfish	Fishery data from GINR
Ice fauna	Sea ice associated fauna, particularly polar cod	Sea ice data from NSIDC, Stroeve & Meier 2018
Ivory gull	Ivory gull	Boertmann et al. 2020a (Boertmann et al. 2020b, Gilg et al. 2010)
Narwhal	Narwhal	Boertmann et al. 2020a (Boertmann et al. 2020b)
Non-alcid pursuit divers	Great cormorant, red-breasted merganser, red-throated diver	Boertmann et al. 2020a (Boertmann et al. 2020b)
Other toothed whales	Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, northern bottlenose whale, sperm whale, white-beaked dolphin	Boertmann et al. 2020a
Pelagic fish	Capelin (Iceland population), mackerel, herring	Fishery data from GINR
Polar bear	Polar bear	Boertmann et al. 2020a
Seaducks	Common eider, king eider	Boertmann et al. 2020a (Boertmann et al. 2020b)
Seals	Bearded seal, harbour seal, harp seal, hooded seal, ringed seal	Boertmann et al. 2020a
Seals, whelping/moulting	Harp seal, hooded seal	Boertmann et al. 2020a
Surface feeders	Arctic tern, black-legged kittiwake, glaucous gull, great black-backed gull, great shearwater, Iceland gull, lesser black-backed gull, Northern fulmar, Ross gull, Sabines gull	Boertmann et al. 2020a (Boertmann et al. 2020b, Norwegian SEATRACK-data (Link))
Walrus	Walrus	Boertmann et al. 2020a

As can be seen from Table 13, the RA values of most species groups in the offshore analysis were based on data from Boertmann et al. 2020a (important references drawn on in Boert-mann et al. 2020a are in turn given in brackets). Specifically, we used input data from the GIS overlay analysis presented in Chapter 8 of that publication (Johansen et al. 2020). For that analysis, seasonal distribution maps of 59 species/ecosystem components were prepared, based on information presented in the report and other recently published data. Each seasonal distribution map, demarked by a species specific start and end date, has a spatial resolution of 1x1 km and covers all marine areas off East Greenland. The cell values of the seasonal maps reflect both the relative abundance of the species in the cell at that time of year, and the im-portance of the species relative to the other species included in the analysis (see Christensen et al. 2015; 2016; in prep for a detailed description).

To derive RA values for the offshore analysis based on these data, we did the following: For every species group, we calculated a GIS sum-overlay of the seasonal map layers of the spe-cies included in the group (see "Species included" in Table 13) for every 15 days throughout the year. Per species group, we then averaged the 15d sum-overlays within the four seasons of the year used in the offshore oil spill sensitivity analysis. This resulted in one distribution map (with species weighted relative abundance values) per species group per season. For each species group and season, we then calculated the average cell value within the 35 off-shore areas used in the oil spill sensitivity analyses of the two East Greenland atlases. Finally, to arrive at RA values on a scale of

0 – 5, the average cell values of the 35 offshore areas were ranked per species group and season according to the classification scheme listed in Table 14.

Table 14. Classification scheme used for deriving relative abundance (RA) values for the different species groups in the different offshore areas during the four seasons of offshore oil spill sensitivity analysis, based on input data from Boertmann et al. 2020a.

Offshore area average cell value	Relative abundance (RA)
0	0
Within 0 – 50 percentile of OS areas with average cell values > 0	1
Within 50 – 70 percentile of OS areas with average cell values > 0	2
Within 70 - 85 percentile of OS areas with average cell values > 0	3
Within 85 – 95 percentile of OS areas with average cell values > 0	4
Within 95 – 100 percentile of OS areas with average cell values > 0	5

Thus, if for a given season and species group, the average cell value of the offshore area is zero, RA = 0 (species group absent in the area during the season in question). If, for a given season and species group, the average cell value of the offshore area falls within the 50% of offshore areas with the lowest average cell values (above zero), RA = 1. If, for a given season and species group, the average cell value of the offshore area falls within the top 5% of offshore areas with the highest average cell values (above zero), RA = 5, etc.

Using this formal, automated procedure, 1680 relative abundance values (12 species groups x 35 offshore areas x 4 seasons) were directly derived from the input data for the overlay analysis presented in Boertmann et al. 2020a. All these values were subsequently mapped (per species group and season) and subjected to an extensive manual quality control. In that process, approx. 35% of the RA values were adjusted. However, the average change in RA values from the automated output to the manually adjusted values was only approx. -0.36.

The relative abundance values for the species groups "Bottom fish" and "Pelagic fish" were based on fishery data compiled by Greenland Institute of Natural Resources. For each of these species groups, the total biomass of the catch between 2014 and 2019 of the included species was determined for each of the 35 offshore areas. Then, to achieve RA values on a scale 0-5, the biomasses of the offshore areas were ranked using a percentile scheme identical to the one listed in Table 14. For "Bottom fish", the calculated RA-values were assumed to be valid all four seasons (stationary species). For "Pelagic fish", the calculated RA-values were only applied in Summer and Autumn, whereas RA values of all offshore areas were set to zero during Winter and Spring (migratory species).

The species group "Ice fauna" is meant to represent the different life forms associated with the sea ice, in particular the distribution of the ecological key species, Polar cod. As data on the latter is partial at best, we decided to base RA values on sea ice cover data instead. Thus, based on the dataset "Sea Ice Trends and Climatologies from SMMR and SSM/I-SSMIS, Version 3" from National Snow & Ice Data Center (Stroeve & Meier 2018), with the average monthly sea ice concentration 1979-2019, we delimited the area within which the average sea ice concentration is greater than or equal to 15%. This was done separately for each of the four seasons in offshore analysis. Then, for each season and offshore area, we calculated the degree of overlap in % between the offshore area and the "≥15% ice cover polygon", and attributed RA based on the classification scheme listed in Table 15.

Table 15. Classification scheme used for defining relative abundance (RA) values for the species group "Ice fauna", based on the overlap between the offshore area in question, and the "≥15% ice cover polygons" for the four season of the offshore oil spill sensitivity analysis.

Seasons	Overlap between OS area and "≥15% ice cover polygon"	Relative abundance (RA)
Autumn, Winter	Overlap = 0%	0
	0% < Overlap ≤ 50%	1
	50% < Overlap < 100%	2
Spring, Summer	Overlap = 0%	0
	0% < Overlap ≤ 25%	1
	25% < Overlap ≤ 50%	2
	50% < Overlap ≤ 75%	3
	75% < Overlap < 100%	4
	Overlap = 100%	5

12.5 Information on human use

In both the shoreline and offshore oil spill sensitivity analysis, human use is factored into the calculations with an assigned value (named HU) ranging between 0 (no human use) and 5 (extensive human use), similar to the relative abundance (RA) scores of the biological re-sources. This section describes how the HU scores were derived for individual shoreline seg-ments and offshore areas, including the data on which they are based. Characteristic of both shoreline segments and offshore areas is that human use mainly relates to hunting, fishing and tourist activities. However, since both data sources and methods differ between the shoreline and offshore analysis, the description is split accordingly into two sub-sections.

12.5.1 Human use in the shoreline analysis

In the shoreline analysis, HU values are first and foremost based on the study presented in Flora et al. (2019) (for Greenlandic version, see Flora et al. 2020), which was undertaken spe-cifically to provide input for the current oil spill sensitivity atlas. The study entailed that 20 hunters from Ittoqqortoormiit and the Tasiilaq area used hand-held GPS-devices with a cus-tom-made app to document their hunting activities for a full year. Thus, the project resulted, amongst many other things, in a large number of track lines from the hunter's trips in the landscape, and geographic coordinates of individual harvest events, where different kinds of game (mammals, birds, fish and shellfish) were bagged.

Based on these data, and as a first step towards deriving HU values for the shoreline segments, the total length of hunting trip track lines (in km) and the total biomass of recorded harvest (in kg) were summarized for each shore line segment, using non-overlapping buffers of max 20 km radius around the shoreline segments as "catchment polygons". Then, both the total trip length and the total harvest biomass of the shoreline segments were ranked (based on unique values), and the ranks subsequently scaled linearly to the range 0-5. A preliminary HU value was then calculated for each shoreline segment as a weighted average between the trip length rank and the harvest biomass rank, using the relative weights 1 and 2 (double in-fluence of biomass compared to trip length). This whole process was done separately for the hunting ranges around Ittoqqortoormiit and the Tasiilaq area, which are non-overlapping, and the results were subsequently merged into one dataset with preliminary shoreline seg-ment HU values.

Since the study presented in Flora et al. (2019) covers only one year in an area with large year-to-year fluctuations in hunting patterns, and involves only a subset of the total number of hunters in East Greenland, the preliminary HU values were subsequently complemented and adjusted based on a number of other data sources.

Firstly, four of the hunters that participated in the GPS-mapping project were interviewed in Nuuk in December 2019. They were asked to evaluate the representativity of the GPS-mapping in terms of the hunting areas normally used during an annual cycle, and to fill in obvious gaps in the mapping. Based on this interview, the HU values of the shoreline seg-ments were raised in a number of areas, especially within the Tasiilaq area hunting range.

Secondly, we took into account data from the Greenland hunting statistics. Generally, har-vested game is reported only within large geographical units (e.g. municipalities), but for spe-cies, where the harvest is regulated through quotas, hunters are required to provide geo-graphical coordinates for their kills. In Flora et al. (2019), data on polar bear, walrus, narwhal, minke whale and muskox were processed and mapped for East Greenland, and based on these maps, the HU values of the shoreline segments were raised in several areas, especially in vicinity of important narwhal hunting sites.

Thirdly, tourist operators in both the Tasiilaq area (Arctic Wonder, Destination East Green-land and Arctic Dream) and in Ittoqqortoormiit (Nanu Travel) kindly provided information on where they take tourist on sightseeing tours, and where they usually set up tourist camps in the landscape. In those areas, the HU values of the shoreline segments were typically raised with 1, if not already maxed out at 5.

Based on this methodology, the final HU values of the shoreline segments can broadly be summarized as indicated in Table 16.

Table 16. Summary description of the kinds of human use, which are implied by the different human use (HU) values on the shoreline segments.

Description	Human use (HU) value
No human use recorded	0
Very little human use, mostly just a little motorboat traffic passing through the area on a seasonal basis	1
Occasional seasonal stays in the area with associated hunting, fishing and tourist activities	2
Hunting, fishing and tourist activities in the area on a regular basis	3
Hunting, fishing and tourist activities for most of the year (several different species exploited), or highly important hunting areas for individual key game species (e.g. narwhal hunting sites)	4
Extensive hunting, fishing and tourist activities all year (many different species exploited), often near towns/settlements. Irreplaceable hunting areas for individual key game species (e.g. narwhal hunting sites)	5

If the HU value of a shoreline segment is > 0, a short description of the human use of the area is provided, as is a delimitation of the season of use (start date, end date). Both the description of use and the season of use are based on the same data sources as the HU values, primarily Flora et al. (2019). In determining the season of use, we have always used the maximum sea-son across all human use activities along the shoreline segment.

12.5.2 Human use in the offshore analysis

As already mentioned several times before, the offshore oil spill sensitivity analysis was con-ducted as one large analysis, covering both East Greenland Atlas areas. Human use in the off-shore areas of East Greenland relates mostly to commercial fishery activities, and we therefore used fishery data as a first step towards deriving HU values.

Based on fishery data compiled by Greenland Institute of Natural Resources, we calculated the total catch (in tons) between 2014 and 2019 of the commercially important species capelin, Atlantic cod, Greenland halibut, mackerel, northern shrimp, redfish and herring in each of the 35 offshore areas covering East Greenland. We then converted the catch in each offshore area into an approximate monetary value, using the species-specific trade price listed in Table 17.

Table 17. Approximate trade price of the commercially important fish species in East Greenland, based on average trade prices 2015-2018 from Statistics Greenland (https://stat.gl/).

Species	Approx. DKK per kg
Greenland halibut	25
Northern shrimp	19
Herring	11
Redfish	10
Atlantic cod	9
Mackarel	6
Capelin	3

Finally, to arrive at preliminary HU values on a scale of 0 – 5, the monetary values of the fish-ery in the 35 offshore areas were ranked according to the classification scheme listed in Table 18. Thus, for all offshore areas, where the monetary value of the commercial fishery 2014-19 was 0, preliminary HU was set to 0. If the monetary value of the commercial fishery in an off-shore area was among the 50% of offshore areas with the lowest monetary value (above ze-ro), preliminary HU was set to 1. If the monetary value of the commercial fishery in an off-shore area was within the top 5% of offshore areas with the highest monetary value (above zero), preliminary HU was set to 5, etc.

Table 18. Classification scheme used for deriving preliminary human use (HU) values for the 35 offshore areas in East Greenland, based on the monetary value of the commercial fishery in the areas during 2014-19.

Monetary value of commercial fishery within offshore area 2014-19	Preliminary human use (HU) value
0	0
Within 0 – 50 percentile of OS areas with monetary value > 0	1
Within 50 – 70 percentile of OS areas with monetary value > 0	2
Within 70 - 85 percentile of OS areas with monetary value > 0	3
Within 85 – 95 percentile of OS areas with monetary value > 0	4
Within 95 – 100 percentile of OS areas with monetary value > 0	5

The preliminary HU values of the offshore areas, derived exclusively from fishery data, were subsequently complemented and adjusted based on other human use data from East Greenland.

Firstly, HU values were increased in offshore areas, where Flora et al. (2019) documented resource use by local hunters. Thus, HU was increased to 5 in

OS 8 and 15. These offshore areas border the two main settlement (and tourist) areas in East Greenland, and were used extensively by the hunters that participated in the GPS mapping project. HU values were also increased in OS 10, 14 and 19, but only to 3, 4 and 3, respectively, as these areas constitute more peripheral parts of the hunting range, and are only visited seasonally by hunters as well as tourist.

Secondly, HU values were increased from 0 to 1 in all offshore areas bordering the Northeast Greenland National Park (OS 18, 23, 27, 30, 33), because tourist cruises, expeditions and scientific activities occasionally take place here in coastal areas, mainly during summer. A few places in the Northeast Greenland National Park are permanently inhabited (military outposts and weather station), or used for recurring environmental monitoring and research (Zackenberg Research Station). Here, HU values of bordering offshore areas were additionally increased from 1 to 2 (OS 18, 23, 27).

Thirdly, the HU values of OS 29 and 32 were increased from 0 to 1, because of occasional Svalbard-based tourist cruises during spring.

Finally, the fishery based HU values of OS 17 and 23 were lowered by one rank to 4 and 0, respectively. In the former case, because the HU value is based only on fishery, and albeit large, the fishery in the area is very variable between years (mainly mackerel and herring); and in the latter case, because the few fishery recordings from the area were considered to originate from coordinate errors in the data reporting from the fishery vessels.

If the HU value of an offshore area is > 0, a short description of the human use is provided, as is a delimitation of the season of use (start date, end date). The description of use and the season of use are based on the same data sources as the HU values. In determining the season of use, we have always used the maximum season across all human use activities in the area.

12.6 Sensitivity ranking procedures

The oil spill sensitivity calculations result in one numeric sensitivity value (S) for each shoreline segment and four numeric sensitivity values for each offshore area (one for each season) (see appendix A and B). However, to ease the interpretation of the maps in Chapters 7 and 8, the oil spill sensitivity of the shoreline segments and offshore areas were ranked into the four classes Extreme, High, Moderate and Low. This ranking was done using a neighborhood approach. The numeric sensitivity value of each shoreline segment/offshore area was compared to the sensitivity values of all shoreline segments/offshore areas that intersect a buffer of 250 km around the shoreline segment/offshore area being ranked.

A shoreline segment was given the rank:

- Extreme, if it was among the 75-100% highest scoring segments within the 250 km buffer (the top 25%), or if it intersects a Selected Area (see Chapter 14.7).
- High, if it was among 50-75% highest scoring segments within the 250 km buffer.
- Moderate, if it was among 25-50% highest scoring segments within the 250 km buffer.
- Low, if it was among 0-25% highest scoring segments within the 250 km buffer (the bottom 25%).

An offshore area was given the rank:

- Extreme, if it was among the 75-100% highest scoring areas within the 250 km buffer during the given season (the top 25%).
- High, if it was among 45-75% highest scoring areas within the 250 km buffer during the given season.
- Moderate, if it was among 15-45% highest scoring areas within the 250 km buffer during the given season.
- Low, if it was among 0-15% highest scoring areas within the 250 km buffer during the given season (the bottom 15%).

The use of this procedure means that the ranking of shoreline segments and offshore areas is area relative/local. The ranking indicates how oil spill sensitive a given shoreline segment/offshore area is compared to other shoreline segment/offshore areas within c. 500-1000 km. This ensures that the sensitivity ranking captures local differences in sensitivity and is not dominated by large-scale patterns, e.g. latitudinal biodiversity gradients.

When the shoreline segments of the current atlas were ranked, segments from both the Northeast and Southeast Greenland Sensitivity Atlases were included in the ranking procedure. This ensures a seamless and smooth transition between the two atlases in terms of shoreline sensitivities. However, due to its age (2004), shoreline segments from the South Greenland Oil Spill Sensitivity Atlas were not included in the analysis.

When the offshore areas of the current atlas were ranked, offshore areas from both of the East Greenland Sensitivity Atlases and all the West Greenland Sensitivity Atlases were considered in the ranking procedure. The latter areas were included because the West Greenland offshore sensitivity analysis was updated in 2011. However, due to differences between East and West Greenland in the definition of species groups etc., the seasonal average sensitivity of West Greenland offshore areas was scaled to the same mean as East Greenland offshore areas prior to including them in the ranking.

12.7 Selected areas

Brief description of the selected areas referred to in Chapter 4.4:

S_E1 on map 6402E: Group of small islands with breeding colonies of Arctic terns, common eiders and black guillemots.

S_E2 on map 6452E: Group of islands with breeding colonies of black-legged kittiwakes, common eiders and black guillemots.

S_E3 on map 6453E: Island with steep cliffs and breeding colonies of black-legged kittiwakes.

S_E4 on maps 6453E, 6501E and 6502E: Island with steep cliffs and breeding colonies of black-legged kittiwake.

S_E5 on map 6502E: Steep cliff with breeding colony of great cormorants.

S_E6 on map 6551E: Two islands with breeding colonies of Arctic terns, great cormorants and gulls.

S_E7 on maps 6701E and 6702E: Three islands with large breeding colonies of Arctic tern.

S_E8 on map 6955E: Two groups of small islands with breeding colonies of black-legged kittiwakes, common eiders and other seabirds.

S_E9 on maps 6954E, 6955E, 7005E, 7006E, 7007E and 7008E: Steep cliffs and talus slopes with numerous breeding colonies of little auks, one colony of thick billed murres and colonies with black-legged kittiwakes, northern fulmars etc.

S_E10 on maps 7053E, 7054E, 7103E and 7104E: Numerous islands with breeding colonies of Arctic terns, Sabine's gulls, common eiders and other species

S_E11 on map 7056E: Group of islands with breeding colonies of common eiders and Arctic terns.

S_E12 on maps 7008E and 7057E: Steep coasts with numerous breeding colonies of little auks, one colony of thick-billed murres, and many other seabirds.

12.8 Archaeology and history

12.8.1 Settlement in Greenland

Greenland has been populated for two long periods, which together span ca. 4,400 years. The oldest period is from ca. 2400 BCE to 200 CE; the recent period is from ca. 1000 CE until the present day. The settlement strategy of the various cultures, the visibility of the features, and the utilisation of the resources of the country have left their mark on the landscape.

The atlas area covers the east coast of Greenland between approx. 60° N and 71° N. The straight line distance is 1525 km, but the coastline is much longer due to indented shores, fjords, islands, sounds etc. In the area, there are some 518 archaeological and historic sites, i.e. localities containing man-made structures, which are registered in the central database of Nunatta Katersugaasivia Allagatteqarfialu/the Greenland National Museum & Archives (NKA) and which are, therefore, subject to the terms of the Conservation Act (see below). Of the 518 known sites, the vast majority are positioned immediately by the coast.

The natural conditions within the mapped coastal stretch vary greatly from north to south and from the outer coast to the inner fjord lands. Islands, peninsulas and narrow strips of land between the inland ice sheet and the sea consist of alpine areas and lowlands along the coasts and in valleys, and in the more low-lying and sheltered parts with more or less continuous vegetation. Such areas, with subsistence potential for muskoxen or caribou, have also attracted Inuits through the ages. But marine areas with predictable open waters (e.g. polynyas) have also attracted the people of East Greenland and large aggregations of ruins have been found at such sites (e.g. Hvalros Ø and Île de France in the region to the north of this atlas)

In the summer, the open waters usually have drifting ice floes and icebergs. In the winter, the sea near the coasts is covered with solid fast ice, except at the polynyas. These conditions provide very different possibilities for settlement, for transport and for access to resources, depending on the traditions and cultural preconditions.

All Inuit immigrations to East Greenland came through the Avanersuaq (Thule) region and people subsequently spread along the north and east coast of Greenland or along the west coast.

Around year 1000 CE, Icelandic farmers ("the Norse Greenlanders") settled in south Greenland, and with Hans Egede' s establishment of the mission station "Håbets Koloni" ("Hope Colony") in 1721, the foundation was laid for the Colonial Period and the later development of modern Greenland. However, the Norse settlement did not include East Greenland.

In northeast Greenland, the oldest part of the paleo-inuit period in Greenland comprised the cultural periods Independence I and Independence II, from ca. 2400 BCE to 200 CE.

In the course of the thirteenth century, the last massive Inuit wave arrived from Alaska. Via Canada, the people of the Thule culture crossed Smith Sound to the Avanersuaq area. From there, they quickly spread all over the country. The Thule people were whalers and sealers. The umiaq ('women's boat'), kayak and dog-sledges gave them great mobility and the potential for incorporating whaling in their way of living. Around 1500 CE, the Norse Greenlanders had gone and the Thule people had settled along the entirety of the Greenland coasts. In the following centuries, there were great migrations of people along the coasts and an incipient concentration of the population in particular regions and large settlements. The Thule people died out in Northeast Greenland during the 1800s, while an almost isolated population remained in Southeast around the present day town of Tasiilaq. In 1925, the village Scoresbysund (Ittoqqortoormiit) was established in the northern part of the region covered by this atlas.

There are also some abandoned settlements, expedition houses and remains from WWII activities (e.g. an US air base) here and there in the area.

12.8.2 Which items of archaeological and historical interest are included?

All known coastal archaeological and historical find-sites (minus colonial trading posts, abandoned weather stations, settlements and the like) are included in this atlas, but only the basic site information is included. Detailed information about the individual sites can, if needed for example in case of an oil spill, be obtained from the Greenland National Museum & Archives, Box 145, DK-3900 Nuuk or by e-mail: nka@natmus.gl.

12.8.3 The Conservation Act

If a man-made feature predates the year 1900, it is protected by the terms of "Inatsisartutlov nr. 11 af 19. maj 2010 om fredning og anden kulturarvsbeskyttelse afkulturminder" ("The Conservation Act"). The Greenland National Museum & Archives administers this act and is responsible for the registration of antiquities.

12.8.4 Description of the data

History
For more than 200 years, information on archaeological sites in Greenland has been collected. The oldest reports concern Norse remains in West Greenland; and only after 1900 serious interest in the indigenous population of the country arose. Actual archaeological investigation of the prehistory of the Inuit began in the 1930s.

In the 1950s the first systematic archaeological investigations were conducted at Sermermiut near Ilulissat in West Greenland. There, for the first time, stratigraphic deposits were found from the three Inuit periods: the Saqqaq culture, the Dorset culture and the Thule culture. Today Sermermiut is part of an area designated as a World Heritage Site under the auspices of UNESCO.

With the transfer of the conservation and museum acts to the Greenland Home Rule Government in 1981, the collected knowledge of antiquities in Greenland was systematised in the form of card indices, overview maps, conservation numbers etc. This knowledge has been regularly developed and updated by surveys and other ways of gathering information about the antiquities. This material has since been entered into a database, which is subject to on-going expansion and quality assurance and which provides the data included in the present atlas.

The data

Information concerning the individual sites is a mixture of experts' inspections in older and more recent times and various pieces of information from past and present. It is a mixture of high quality site information and less good and poor information. The latter categories may also include information that has not yet been verified by specialists. Information that seem credible and which can be localised is included in this atlas. The settlement type has typically been inferred from the feature types. Place-names have been used to shed light on the activities in the area in question.

Data quality

For most of the coastal sites we have no information on their position in terms of elevation above sea level. In some cases this has been estimated on the basis of other available information and/or personal experience. All coastal sites with no information on elevation above sea level are treated in this atlas as being in the risk zone for oil spills, i.e. Group 2, until proved otherwise.

The more recent surveys in the area have given rise to two typical comments in the database:
a) the site could no longer be found
b) the site no longer exists

The first of these indicates that the site is not at the position indicated, but that it may exist somewhere else nearby, or that it may have been eroded away. Sites with such information have been retained as fully valid items in this atlas, since the littoral zone may have unverified remains, or there may be features/remains close by which have not yet been registered.

The second comment means that we have positive knowledge that there was once a feature or features at the place but that they have now disappeared. This may have happened for example as a result of coastal erosion or construction activities. Sites listed with such information have been retained as fully valid items in this atlas, since the beach zone may still have remains or traces of the features originally observed.

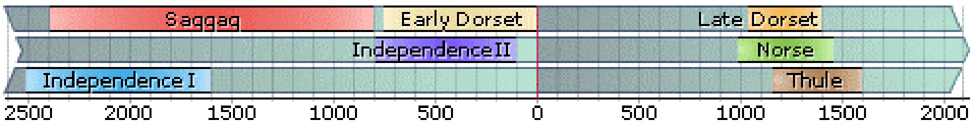
In a number of cases there is uncertainty about the precise geographical position of the site. On the original physical maps of the antiquities each 'antiquity circle' covers an area with a diameter of 500 metres. The transfer of 'points' from physical maps to a digital map has only increased the precision if more recent GPS coordinates have been obtained.

In the section 12.8.5 "Archaeological sensitivity assessment" there is an account of the principles underlying the assessment of the individual sites.

See also Table 19 and Table 20.

Table 19. Explanation of the classification and terms used in the atlas.

Identification	Each archaeological site entered in the Nunniffiit database (Greenland Archive of Antiquities) has a conservation number. When a report on a new find is received, the site is assigned a conservation number and entered in the Nunniffiit database.
Datings	
Periods of cultural history	For each site in the Nunniffiit database there is an account of when or in what periods the individual features were used – that is, which periods of cultural history are represented. Distinctions are made between Inuit, Norse and European origin. If we only know that there are ruins on the location with no dating we use the overall category "Unknown".
Inuit	The timeline below shows the Inuit cultural periods that are known in Greenland and their chronological placing. If no accurate dating has been possible, one must refer to the next level above. The remains from the Independence cultures are found in North and Northeast Greenland.



The paleo-inuit period is considered as lasting until the end of "Late Dorset". With "Thule" begins the neo-inuit period, which lasts until 1800 CE.

Norse	The period from the landnam (pioneering settlement) of Eric the Red until the collapse of the Norse society, i.e. ca. 985–1450 CE.
Whaling	European cultural traces dated within the period ca. 1450 – 1721 CE, the latter being the year when the Danish colonisation of Greenland began.
Colonial	The period from 1721 until 1900 CE.
Recent	All cultural remains more recent than 1900 CE. If there are recent features at an archaeological site, this is noted in the Nunniffiit database, even if they are not subject to the protection of the Conservation Act. No distinction is made here between Inuit and European features.

The general terms for site types given in table 20 are used in the Nunniffiit database. More detailed information on the feature types and other signs of activity at the individual sites have been entered in the database if they are available.

Table 20. Archaeological site types. The general terms for site types given below are used in the Nunniffiit database.

Site type
Settlement • Summer • Winter • Other season • Assembling camp
Camp for capelin-fishery
Sea-hunting camp
Muskox hunting camp
Base camp
Overnight camp
Caribou hunting camp
Camp for catching arctic char
Gravesite or graveyard
Hunting system
Cache
Mineral utilization • Pit or exposed mineral • Mine
Cairn
Town
Village

Expedition base camp
Trapper station
Fishery station
Sheep farm
Trading post
Churchyard
Missionary station
Wintering camp
Fox farm
Recent camp site
Train-oil production
Norse farm
Isolated norse building
Isolated norse structure
Other
Indeterminable structure

12.8.5 Archaeological sensitivity assessment

General assessment
Most of the coastal Inuit settlements were established close to the sea and just above the pre-sent-day high water line.

Because of the sinking of the land and/or the rising of the sea, many sites may today lie very close to – or even below – the current high water line. These will therefore be particularly sen-sitive in the event of an oil spill:

- Directly, because contamination will in several ways mean a deterioration of the sci-entific documentation value of the cultural deposits:
- The preservation conditions for organic material will become considerably poorer
- The possibility of conducting analyses and scientific dating will be rendered impossible.
- Indirectly, because oil spill response measures or other land based actions would be difficult to implement without causing substantial physical damage to the coastal ru-ins and culture layers.

Many of the registered cultural remains are very difficult to recognize in the terrain, even for the trained eye. The sensitivity assessment of the archaeological sites must therefore only be regarded as a guideline. It is assumed that in the event of a spill, archaeological expertise will be involved in the planning of the response measures and in the practical implementation of the response plans.

The assessment of sensitivity is based both on factual knowledge of the relevant local cultural history of the region and on qualified opinion. Since the atlas covers all the known coastal sites, these are all – in principle – at risk in the event of land based activities on the coasts in connection with an oil spill.

Criteria for the assessment
The criteria applied are in principle the same as were used for the sensitivity assessment of the antiquities in the five Oil Spill Sensitivity Atlases covering entire West Greenland (Mosbech et al. 2000, 2004, Stjernholm et al. 2011, Clausen et al. 2012, 2016). The differences lie on the one hand in a more rigorous linguistic approach to the criteria and on the other in the transfer of all

"coastal sites on which there is at present no more detailed information" from Group 1 to Group 2, until we have evidence that suggest a site should be in one of the other groups.

The sensitivity of the items of archaeological interest is expressed on an ascending scale from 1 to 3:
1. Sites considered not likely to be affected by an oil spill.
2. Sites considered likely to be directly affected by an oil spill.
3. Sites of special importance which require special status in the event of an oil spill or other activities in connection with raw material exploration and ex-traction.

Group 1 comprises sites situated more than 20 meters above sea level, or remains of features considered to be of very little importance as historical documentation, because they are very poorly preserved. In principle, the features in this group could be threatened by land based activities, for example in connection with oil spill response.

Group 2 comprises a) all coastal archaeological sites deemed to represent historical source value, b) sites considered to have recreational value or sightseeing value, and c) sites which can be localised, but about which there is at present no further information. In principle, the features in this group could be threatened by land based activities, for example in connection with oil spill response.

Group 3 meets the criteria for Group 2, items a) and b), but these sites also contain additional information, especially in scientific respects. The basis of this evaluation may be the result of archaeological investigations, historical source material or the like. The sightseeing value or the local population's use of the locality in question may also be included as criteria. In principle, the features in this group could be threatened by land based activities, for example in connection with oil spill response.

In the shoreline sensitivity index calculation, each segment is assigned a value for archaeological sites between 0 and 5 (AS), summarizing the oil spill sensitivity of the sites along the segment. AS was derived by attributing a score to each site based on its allocation in the three above mentioned sensitivity groups (0 to Group 1 sites, 3 to Group 2 sites and 5 to Group 3 sites). Then, for each segment, the scores of the sites along the segment were summed, and an AS value was assigned according to the following key:

- Sum of site scores < 1 AS = 0
- Sum of site scores 1-9 AS = 1
- Sum of site scores 10-25 AS = 3
- Sum of site scores > 25 AS = 5

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13 Appendix D: Place names

This appendix alphabetically lists all place names used on the shoreline sensitivity maps and the physical environment and logistics maps (Chapter 8). The table includes a reference to the maps on which the place names are shown, and the coordinates of the place names on the maps.

Place name	Maps	Latitude	Longitude
16. September Gletscher	6553E	66° 17.22’ N	036° 36.39’ W
A.P. Bernstorff Gletscher	6351E	63° 53.71’ N	041° 47.76’ W
Aakkarnertivaq	6505E	65° 49.73’ N	036° 17.46’ W
Aaluik	6252E	62° 39.67’ N	042° 15.78’ W
Aaluitsiviata Kangertiva	6252E	62° 43.41’ N	042° 06.21’ W
Aammangaa	6552E	66° 15.65’ N	037° 31.59’ W
Aammangaaq	6505E, 6553E	65° 52.86’ N	036° 06.34’ W
Aariaa	6551E	65° 53.17’ N	037° 43.53’ W
Aflandshage	6453E	64° 59.48’ N	039° 39.99’ W
Akerninnarmiit Kiammut Kangertivat	6302E	63° 27.47’ N	041° 17.26’ W
Akia	6102E, 6103E	61° 31.33’ N	042° 32.19’ W
Akileqit	6555E, 6604E, 6605E	66° 23.51’ N	034° 42.99’ W
Akinnarteqitaa	6955E	69° 53.88’ N	023° 06.84’ W
Akitsaq	6252E	62° 40.10’ N	042° 00.40’ W
Akorninnarmiit Oqqummut Kangertivat	6302E	63° 26.08’ N	041° 22.80’ W
Alfheimbjerg	6351E	63° 49.95’ N	041° 34.74’ W
Alukajik	6352E	64° 01.97’ N	040° 37.13’ W
Aluup Kangerlua	6001E	60° 10.63’ N	043° 05.18’ W
Aluup Tunua	6001E	60° 12.83’ N	043° 15.63’ W
Amdrup Tårne	6751E	68° 13.67’ N	032° 34.85’ W
Amdrup Hytte	6902E	69° 25.38’ N	024° 02.96’ W
Amdrup Pynt	6751E	68° 09.01’ N	031° 58.70’ W
Amitsivartiva	6503E	65° 44.99’ N	038° 05.19’ W
Ammassaliip Kangertiva	6504E, 6552E	65° 54.90’ N	037° 04.94’ W
Ammassalik Ø	6503E, 6504E	65° 44.99’ N	037° 35.94’ W
Anaana	6554E	66° 04.70’ N	035° 33.08’ W
Anaanap Kangertiva Oqqorseq	6554E	66° 07.12’ N	035° 46.88’ W
Andræ Havn	6402E, 6451E	64° 42.23’ N	040° 35.85’ W
Ankervig	6951E, 7002E	70° 22.31’ N	028° 05.99’ W
Annat Fjord	6252E	63° 04.11’ N	041° 55.06’ W
Annikitsup Kangerlua	6001E	60° 29.03’ N	043° 04.22’ W
Anorituup Kangerlua	6102E, 6151E	61° 32.33’ N	042° 48.54’ W
Apitseruulu	6505E	65° 47.20’ N	036° 07.49’ W
Appalik / Raffles Ø	7008E, 7057E	70° 34.74’ N	021° 28.68’ W
Apuseerajik / Fernisgletscher	6601E	66° 33.84’ N	037° 38.15’ W
Apusiikajiip Kangertiva	6302E	63° 31.93’ N	041° 00.70’ W
Apusiikajiip Kangertiva	6252E	62° 49.59’ N	041° 59.73’ W
Apusiikajik	6301E	63° 19.41’ N	041° 59.67’ W
Aputiteeq	6651E, 6702E	67° 48.17’ N	032° 12.00’ W
Aputiteertiip Apusiia	6751E	68° 02.75’ N	032° 32.79’ W
Aqissip Kangertiva	7051E	71° 03.29’ N	027° 47.51’ W

Place name	Maps	Latitude	Longitude
Aqitseq	6452E	64° 57.51’ N	040° 03.82’ W
Arpertilo / Vestfjord	6554E	66° 14.17’ N	035° 34.29’ W
Atilaat / Horneman Ø	6453E	65° 08.52’ N	039° 43.07’ W
Atilaat Saarsiat / Vahl Ø	6453E	65° 08.72’ N	039° 26.46’ W
Atterteq / Amdrup Fjord	6751E	68° 13.15’ N	032° 21.92’ W
Attertia	6651E	67° 21.83’ N	033° 33.05’ W
Attertiat	6605E	66° 48.83’ N	034° 01.44’ W
Attivata Imaa	6401E, 6402E	64° 20.90’ N	040° 48.84’ W
Auluit	6452E	65° 00.50’ N	040° 01.89’ W
Avaaqqat Kangerluat	6102E	61° 19.23’ N	043° 01.94’ W
Avaleeq	6502E	65° 30.76’ N	038° 43.58’ W
Bagnæsset	6751E	68° 12.73’ N	032° 09.31’ W
Barclay Bugt	6852E, 6901E	69° 14.71’ N	025° 02.23’ W
Bartholin Bræ	6902E	69° 38.67’ N	024° 06.03’ W
Batbjerg	6801E	68° 37.64’ N	032° 42.13’ W
Bittefjord	6001E	60° 28.27’ N	043° 12.90’ W
Bjørnbo Gletscher	7104E	71° 40.53’ N	024° 55.23’ W
Bjørneøer	7054E	71° 09.42’ N	025° 09.84’ W
Blanke Bugt	7004E	70° 31.97’ N	025° 52.20’ W
Blosseville Kyst	6803E, 6804E, 6805E, 6851E	68° 51.24’ N	026° 18.82’ W
Borggraven	6804E	68° 40.57’ N	028° 06.68’ W
Borgvig	6954E	70° 08.90’ N	023° 51.84’ W
Brage Bjerge	6351E	63° 57.11’ N	041° 22.81’ W
Bregnepynt	7054E	70° 55.72’ N	025° 18.92’ W
Bruce Fjord	6955E	69° 52.57’ N	022° 54.75’ W
C. Hofman Halvø	7051E	70° 57.75’ N	027° 45.61’ W
Caroline Amalie Havn	6253E, 6302E	63° 10.04’ N	041° 19.31’ W
Champs Elysées Gletscher	6603E	66° 42.82’ N	036° 18.05’ W
Charcot Havn	7004E, 7054E	70° 46.94’ N	025° 20.87’ W
Charcot Gletscher	7004E	70° 45.63’ N	025° 40.92’ W
Charcot Land	7151E	71° 59.01’ N	028° 40.63’ W
Courtauld Fjord	6801E	68° 27.14’ N	032° 14.43’ W
Courtauld Gletscher	6801E	68° 32.51’ N	032° 09.15’ W
Danmark Ø / Ujuaakajiip Nunaa	7003E	70° 29.08’ N	026° 14.18’ W
Dannebrog Ø	6501E	65° 19.57’ N	039° 35.02’ W
Deception Ø	6701E	67° 38.37’ N	032° 46.95’ W
Deichmann Fjord	6955E	69° 47.26’ N	023° 11.61’ W
Devaux Bjerg	6603E	66° 27.69’ N	036° 22.94’ W
Dronning Louise Ø / Kissarsuutilik	6001E	60° 22.61’ N	043° 14.78’ W
Dusén Bjerg	7056E	70° 58.43’ N	022° 36.02’ W
Ebba Havn	6253E	62° 59.20’ N	041° 29.95’ W
Eielson Gletscher	7051E	71° 09.96’ N	028° 07.18’ W
Ensomheden	6351E	63° 43.01’ N	041° 08.18’ W
Erik den Røde Ø	6505E	65° 47.68’ N	036° 16.88’ W
Ernineq Fjord	6252E	62° 54.88’ N	042° 20.97’ W
Ersingerseq	6651E	67° 17.21’ N	033° 24.58’ W
Ertholmene	6451E	64° 56.29’ N	040° 48.81’ W

Place name	Maps	Latitude	Longitude
Eskimobugt	7102E	71° 41.24’ N	027° 15.92’ W
Falkepynt	7003E	70° 28.24’ N	026° 28.82’ W
Fame Øer	7056E	70° 49.30’ N	022° 31.62’ W
Fegin Elv	7055E	71° 12.72’ N	023° 50.67’ W
Femfjordspynt	6252E	63° 00.37’ N	041° 54.70’ W
Femstjernen	6602E	66° 40.64’ N	036° 39.72’ W
Finnsbu	6302E	63° 22.79’ N	041° 19.12’ W
Fladepynt	7001E	70° 30.59’ N	028° 33.12’ W
Fladø	6702E	67° 46.38’ N	032° 29.76’ W
Fladøerne	6554E	66° 02.49’ N	035° 48.44’ W
Flakkerhuk	7006E	70° 25.94’ N	023° 07.09’ W
Flyverfjord	7101E	71° 32.26’ N	028° 02.80’ W
Franche Comté Gletscher	6602E	66° 32.67’ N	036° 46.78’ W
Fridtjof Nansen Halvø	6402E	64° 23.54’ N	040° 26.93’ W
Fønbugt	7003E	70° 29.88’ N	026° 56.02’ W
Fønfjord	7002E, 7003E	70° 28.74’ N	026° 48.09’ W
Gardiner Sø	6801E	68° 35.41’ N	033° 04.03’ W
Garm	6252E	63° 03.10’ N	042° 21.93’ W
Geikie Plateau	6953E	69° 54.07’ N	026° 00.62’ W
Geologvig	6751E	68° 16.67’ N	031° 53.66’ W
Gletscherbugt	7057E	70° 38.67’ N	021° 44.88’ W
Graah Havn	6302E	63° 22.40’ N	041° 06.39’ W
Graah Fjord	6302E	63° 22.25’ N	041° 11.93’ W
Graah Øer	6453E	65° 11.85’ N	039° 15.14’ W
Gravstenene	7102E	71° 35.87’ N	026° 56.70’ W
Grivel Bugt	6804E	68° 32.68’ N	027° 40.97’ W
Grivel Fjord	6804E	68° 35.47’ N	027° 33.04’ W
Grydevig	6052E	60° 35.40’ N	042° 53.53’ W
Gurreholm	7054E, 7104E	71° 14.18’ N	024° 31.49’ W
Gyldenbørste	6301E	63° 28.94’ N	042° 17.23’ W
Gåsefjord	6951E	70° 04.63’ N	027° 43.47’ W
Gåseland	6951E, 6952E, 7002E, 7003E	70° 23.16’ N	026° 39.36’ W
Hall Bredning	7054E	71° 01.47’ N	024° 52.92’ W
Halvdan Fjord	6302E	63° 14.68’ N	041° 20.84’ W
Hansêraq Fjord	6251E	62° 51.03’ N	042° 32.17’ W
Harefjord	7051E	70° 55.52’ N	028° 01.49’ W
Heimdal Gletscher	6251E	62° 54.85’ N	042° 42.49’ W
Hekla Havn	7003E	70° 27.43’ N	026° 07.91’ W
Helge Halvø	6302E	63° 14.06’ N	041° 09.34’ W
Helgenæs	7004E, 7005E	70° 22.82’ N	025° 03.10’ W
Helheim Fjord	6551E, 6601E	66° 20.73’ N	037° 56.12’ W
Henry Land	6902E, 6954E	69° 41.67’ N	023° 54.63’ W
Henry Leon Bjerg	6603E	66° 24.65’ N	036° 08.28’ W
Hinks Land	7101E	71° 45.14’ N	028° 15.64’ W
Hjørnedal	6951E	70° 19.41’ N	028° 13.60’ W
Holloway Bugt	7057E	70° 54.12’ N	021° 36.64’ W
Horsens Fjord	7057E	70° 48.35’ N	021° 43.86’ W
Hugin Sø	7055E	70° 46.27’ N	024° 02.41’ W
Hurry Inlet	7007E, 7056E	70° 42.01’ N	022° 35.03’ W

Place name	Maps	Latitude	Longitude
Håbet Gletscher	6553E, 6603E	66° 22.98’ N	036° 11.89’ W
Hørring Nunatak	6402E	64° 32.30’ N	040° 42.92’ W
Høst Havn	6852E, 6901E	69° 14.35’ N	024° 46.22’ W
Icecamp Greenland	6503E	65° 46.57’ N	037° 52.20’ W
Igutsaat Fjord	6102E	61° 10.68’ N	042° 53.61’ W
Igutsaat Øer	6102E	61° 10.37’ N	042° 40.90’ W
Iissalik	6502E	65° 32.29’ N	039° 04.39’ W
Ikaasaalaq	6552E	65° 56.00’ N	037° 21.72’ W
Ikaasaartik	6402E	64° 20.42’ N	040° 21.91’ W
Ikaasaatik	6502E	65° 34.31’ N	038° 47.41’ W
Ikaasak	6502E, 6504E, 6505E, 6553E	65° 53.93’ N	036° 20.04’ W
Ikaasakajik	7052E, 7053E	70° 58.92’ N	026° 15.49’ W
Ikaasakitsip Kangertiva	6553E	65° 56.51’ N	035° 57.14’ W
Ikaasammiit	6651E	67° 03.08’ N	033° 35.73’ W
Ikaasartivaq	6504E, 6552E	65° 50.84’ N	037° 27.53’ W
Ikeq	6452E	65° 08.69’ N	039° 58.78’ W
Ikeq / Køge Bugt	6451E, 6452E	64° 53.08’ N	040° 21.86’ W
Ikerasassuaq / Prins Christian Sund	6001E	60° 05.22’ N	043° 22.73’ W
Ikermiit	6202E, 6452E	64° 47.91’ N	040° 15.98’ W
Ikermiuarsuk	6152E	61° 56.00’ N	042° 00.71’ W
Ikertivaq	6501E, 6605E	66° 27.70’ N	034° 30.20’ W
Ikkatteq	6503E	65° 38.12’ N	037° 59.54’ W
Iliartalik	6553E	65° 56.62’ N	036° 08.52’ W
Ilimananngip Nunaa	7004E	70° 42.21’ N	025° 30.27’ W
Ilimananngip Nunaa	7002E, 7003E, 7053E	70° 52.80’ N	025° 54.50’ W
Ilinnikajiip Kiammut Nuua / Kap Russel	6955E	69° 57.31’ N	022° 17.80’ W
Ilittaaliip Kangertiva	6651E	66° 59.47’ N	033° 58.24’ W
Ilittiilaq	6505E	65° 45.73’ N	036° 23.19’ W
Ilivinga	6505E, 6552E	65° 52.65’ N	036° 46.34’ W
Illukulik	6051E	60° 31.74’ N	043° 36.92’ W
Iluileq	6053E	60° 52.21’ N	042° 47.36’ W
Iluileq / DanellFjord	6052E	60° 53.42’ N	043° 11.82’ W
Iluillup Qeqertaa	6053E	60° 49.63’ N	042° 41.47’ W
Imaarsivik	6302E	63° 20.95’ N	041° 03.81’ W
Imartineq	6452E	65° 04.29’ N	040° 01.06’ W
Imiilaa	6504E	65° 47.18’ N	037° 26.86’ W
Imiilaq	6702E, 6751E	67° 54.90’ N	032° 10.61’ W
Imilik	6505E, 6605E	66° 49.51’ N	033° 59.17’ W
Imittilaq	6505E	65° 41.21’ N	036° 38.88’ W
Immikkeertikajik	6551E	65° 56.39’ N	038° 21.18’ W
Immikkeertaata Kangertiva	7102E	71° 34.81’ N	026° 27.15’ W
Immikkeerterajivit / Dunholm Øer	6955E	69° 54.48’ N	022° 32.99’ W
Immikkeertikajik	6551E, 7057E	70° 38.86’ N	021° 21.75’ W
Immikkeertikajik / Turner Ø	6954E, 6955E	69° 40.77’ N	023° 04.92’ W
Immikkeertikajik Ilitteq	6501E	65° 31.51’ N	039° 30.79’ W
Immikkeertikajik Uunartertalik	7057E	70° 51.15’ N	021° 26.77’ W
Immikkoortilaq	7101E, 7151E	71° 51.72’ N	027° 56.50’ W
Ingeqqajarpik	6202E	62° 12.19’ N	042° 11.26’ W

Place name	Maps	Latitude	Longitude
Ingolf Fjeld	6603E	66° 25.33’ N	035° 39.01’ W
Innakajik / Kap Stewart	7007E	70° 26.39’ N	022° 33.70’ W
Innartiip Kangertiva	6551E	65° 59.68’ N	037° 47.53’ W
Innartivaq	6551E	66° 01.42’ N	037° 41.14’ W
Inussuit	6152E	61° 42.56’ N	042° 16.39’ W
Isbrosund	7057E	70° 51.66’ N	021° 43.50’ W
Isertoq	6502E	65° 33.46’ N	038° 58.52’ W
Isertup Kangertiva	6502E	65° 36.45’ N	039° 04.36’ W
Isertup Ikaasaa	6452E	65° 05.81’ N	039° 56.02’ W
Isip Ilua	6503E	65° 37.93’ N	038° 17.06’ W
Islantit	7057E	70° 43.26’ N	021° 23.80’ W
Isortoq	6102E, 6103E	61° 28.44’ N	042° 30.99’ W
Ispynt	7001E	70° 26.77’ N	028° 53.09’ W
Issortooq	6103E	61° 25.85’ N	042° 25.72’ W
Isstjernen	6302E, 6351E	63° 39.25’ N	041° 38.47’ W
Ittaajimmiit	7007E	70° 26.78’ N	022° 17.12’ W
Ittaasiartikajiip Kangertiva	6251E	62° 42.56’ N	042° 33.77’ W
Ittertivaa / Kap Dalton	6902E	69° 23.78’ N	024° 01.14’ W
Ittikasaat Qaqqaat / Blokken	6505E	65° 46.43’ N	036° 50.41’ W
Ittip Kangertiva	6452E	65° 04.07’ N	040° 19.98’ W
Ittit	6501E	65° 17.22’ N	039° 38.97’ W
Ittoqqortoormiit	7007E	70° 29.90’ N	021° 57.09’ W
Ittoqqortoormiit Qinngerajivat	7007E	70° 28.18’ N	022° 03.71’ W
Ittoqqortoormiit Ilinnerat	7008E	70° 32.16’ N	021° 38.27’ W
Ittutarajik	6702E	67° 37.35’ N	032° 34.59’ W
J. P. Koch Fjeld	7056E	70° 41.07’ N	022° 53.73’ W
J.A.D. Jensen Fjord	6753E	68° 16.62’ N	030° 11.01’ W
J.C. Jacobsen Fjord	6752E	68° 10.04’ N	031° 01.93’ W
Jameson Land	7006E, 7056E	71° 02.12’ N	022° 57.10’ W
Jameson Land	7055E	71° 06.14’ N	023° 40.15’ W
Janus Ø	7057E	70° 51.08’ N	021° 33.80’ W
Jens Munk Ø	6451E	64° 49.37’ N	040° 40.62’ W
Johan Petersen Bugt	6805E, 6851E	68° 47.30’ N	026° 17.01’ W
Johan Petersen Fjord	6551E	65° 52.23’ N	038° 15.91’ W
Johnstrup Nunatak	6402E	64° 36.33’ N	040° 44.88’ W
Jomfru Gletscher	7151E	72° 10.78’ N	027° 48.65’ W
Juragletscheren	6602E	66° 47.09’ N	037° 11.01’ W
Jyllandselv	7055E	70° 45.35’ N	023° 44.82’ W
Jytte Havn	7053E	71° 03.90’ N	025° 36.97’ W
Jâko Sund	6651E	67° 06.07’ N	033° 33.39’ W
K.J.V. Steenstrup Søndre Bræ / Suussuutip Apusiia	6604E	66° 31.53’ N	035° 08.07’ W
K.J.V.Steenstrup Nordre Bræ	6604E	66° 38.21’ N	034° 58.92’ W
Kaarali Gletscher	6552E	66° 08.75’ N	036° 49.62’ W
Kaasarip Nasaa / Storø	7002E, 7052E	70° 50.87’ N	027° 26.11’ W
Kakittat	6651E	67° 23.07’ N	033° 12.80’ W
Kanajoorartuut Kangerluat	6001E	60° 23.42’ N	043° 20.72’ W
Kaneertivit	6551E	65° 56.56’ N	038° 05.97’ W
Kangeq	6504E	65° 31.16’ N	036° 59.80’ W

Place name	Maps	Latitude	Longitude
Kangeq / Kap Skjold	6253E	63° 06.70’ N	041° 08.83’ W
Kangeq / Kap Steen Bille	6152E	62° 00.58’ N	042° 02.89’ W
Kangerajiip Apusiia / Colberger Heide	6352E	64° 04.67’ N	040° 44.67’ W
Kangerajik	6352E	64° 05.26’ N	040° 30.22’ W
Kangerajuk / Kap Ivar Huitfeldt	6001E	60° 15.57’ N	042° 59.18’ W
Kangerajuup Kujammut Kangerlua	6001E	60° 16.47’ N	043° 00.40’ W
Kangerdlugssuaq Tinde	6801E	68° 25.27’ N	032° 42.10’ W
Kangerluaraq	6052E	60° 35.35’ N	043° 00.81’ W
Kangerluk	6053E	60° 58.89’ N	042° 44.61’ W
Kangerluluk	6101E, 6102E	61° 05.12’ N	042° 44.64’ W
Kangerlussuaq	6751E, 6801E	68° 30.90’ N	032° 33.00’ W
Kangerlussuatsiaq	6001E	60° 27.63’ N	043° 19.38’ W
Kangerlussuatsiaq / Lindenow Fjord	6051E	60° 32.86’ N	043° 48.41’ W
Kangerlutsiaq	6001E	60° 22.73’ N	043° 06.69’ W
Kangerluup Imaa	6001E	60° 00.95’ N	043° 21.38’ W
Kangersik Kiatteq	7101E, 7102E, 7103E, 7151E	71° 54.54’ N	028° 09.27’ W
Kangerterajik	6605E	66° 46.67’ N	034° 03.77’ W
Kangerterajitta Ilinnera	7056E	71° 04.93’ N	022° 35.54’ W
Kangerterajiva	7007E, 7056E, 7104E	71° 18.96’ N	024° 45.07’ W
Kangertertivarmiit	7104E	71° 17.68’ N	025° 09.03’ W
Kangertikajik	6302E, 6303E, 6352E	63° 41.13’ N	040° 40.32’ W
Kangertittivaq	7005E, 7006E, 7007E	70° 19.77’ N	022° 15.95’ W
Kangertittivaq / Bernstorff Isfjord	6303E, 6351E	63° 44.75’ N	041° 21.79’ W
Kangertittivatsiaq	6554E, 6603E	66° 25.71’ N	035° 52.19’ W
Kangertivartikajik	6553E	65° 57.83’ N	036° 17.24’ W
Kangertivatsiaakajik / Hartz Vig	7008E	70° 23.58’ N	021° 45.76’ W
Kangertivatsiaakajik	7057E	70° 38.50’ N	021° 34.94’ W
Kangertivit Anginersaat	7057E	71° 04.80’ N	021° 58.64’ W
Kangikajiip Kangerterajiva	7004E	70° 21.05’ N	025° 12.12’ W
Kangikajik	6554E, 6651E, 7004E, 7007E, 7008E	70° 12.53’ N	021° 58.73’ W
Kangikajik / Kap Buchholz	6605E	66° 38.90’ N	034° 05.67’ W
Kangikajik / Kap Edward Holm	6702E	67° 49.96’ N	032° 10.73’ W
Kangikitsua	6151E	61° 35.08’ N	043° 02.02’ W
Kangingusakasik	6102E	61° 05.04’ N	042° 34.17’ W
Kap Barclay	6901E	69° 15.95’ N	024° 33.08’ W
Kap Brewster	7007E, 7008E	70° 11.63’ N	021° 59.96’ W
Kap Ewart	6901E, 6902E	69° 20.17’ N	024° 26.53’ W
Kap Grivel	6804E, 6805E	68° 32.79’ N	027° 14.75’ W
Kap Herluf Trolle	6102E	61° 10.57’ N	042° 30.29’ W
Kap Hildebrandt	6605E	66° 47.50’ N	033° 52.29’ W
Kap J.A.D. Jensen	6753E, 6754E	68° 09.96’ N	029° 46.29’ W
Kap Jørn	7101E, 7102E	71° 36.03’ N	027° 25.23’ W
Kap Ravn	6803E, 6804E	68° 25.98’ N	028° 13.83’ W
Kap Beaupré	6852E	68° 52.66’ N	025° 37.47’ W

Place name	Maps	Latitude	Longitude
Kap Boswell	6702E	67° 53.21’ N	032° 02.98’ W
Kap Buddicom	7057E	71° 05.09’ N	021° 36.96’ W
Kap Cort Adelaer	6152E	61° 49.34’ N	041° 59.66’ W
Kap Coster	6852E	68° 57.60’ N	025° 26.73’ W
Kap Daniel Rantzau	6152E	61° 46.98’ N	042° 02.30’ W
Kap Daussy	6805E	68° 39.77’ N	026° 47.37’ W
Kap Deichmann	6751E	68° 02.76’ N	031° 56.12’ W
Kap Discord / Kangeq	6053E	60° 53.19’ N	042° 33.25’ W
Kap Garde	6754E	68° 16.30’ N	029° 14.36’ W
Kap Graham	6955E	69° 56.02’ N	022° 30.32’ W
Kap Greg	7057E	70° 56.42’ N	021° 30.77’ W
Kap Gudbrand Torlaksen	6453E	65° 14.11’ N	039° 36.94’ W
Kap Hammer	6752E	68° 04.35’ N	031° 32.82’ W
Kap Hartz	6754E	68° 15.30’ N	029° 19.01’ W
Kap Hodgson	7008E, 7057E	70° 33.24’ N	021° 24.23’ W
Kap Hooker	7006E	70° 25.53’ N	023° 16.67’ W
Kap Hope	7007E	70° 26.27’ N	022° 17.82’ W
Kap Irminger	6752E	68° 04.10’ N	030° 50.90’ W
Kap J.C. Jacobsen	6753E	68° 04.80’ N	030° 22.53’ W
Kap Johnstrup	6804E	68° 27.89’ N	027° 57.63’ W
Kap Langenæs	6302E	63° 18.23’ N	041° 03.71’ W
Kap Leslie	7004E	70° 39.19’ N	025° 12.11’ W
Kap Lister	7008E	70° 29.13’ N	021° 29.49’ W
Kap Molkte / Kangeq	6303E	63° 29.65’ N	040° 40.71’ W
Kap Møsting	6303E	63° 41.09’ N	040° 27.36’ W
Kap Nansen	6754E	68° 13.35’ N	029° 21.06’ W
Kap Niels Juel / Kangeq	6302E	63° 11.89’ N	041° 00.00’ W
Kap Normann	6754E	68° 19.99’ N	028° 55.44’ W
Kap Poul Løvenørn / Umiiviip Kiammut Kangera	6402E	64° 28.09’ N	040° 04.48’ W
Kap Rink	6803E	68° 22.38’ N	028° 34.56’ W
Kap Ryder	6852E	69° 05.68’ N	024° 58.91’ W
Kap S.M. Jørgensen	6605E	66° 45.67’ N	033° 53.60’ W
Kap Savary	6805E	68° 36.36’ N	026° 59.72’ W
Kap Stephensen	6803E	68° 25.38’ N	028° 26.19’ W
Kap Stevenson	7004E	70° 24.93’ N	025° 09.50’ W
Kap Swainson	7008E	70° 24.62’ N	021° 40.12’ W
Kap Tobin	7007E	70° 24.51’ N	022° 01.75’ W
Kap Torfæus	6402E, 6452E	64° 43.02’ N	040° 20.66’ W
Kap Tupinier	6805E	68° 40.93’ N	026° 23.86’ W
Kap Tycho Brahe / Niaqernaartik	6503E	65° 36.84’ N	038° 08.69’ W
Kap Vedel	6804E	68° 30.02’ N	027° 33.63’ W
Kap Walløe / Kangersivasik	6052E, 6053E	60° 32.78’ N	042° 48.26’ W
Kap Wandel / Arerpeertalik	6555E	66° 17.98’ N	034° 48.48’ W
Kattertooq	6253E, 6301E, 6402E, 6451E	64° 47.63’ N	040° 47.69’ W
Kattilersarpik	6301E	63° 31.57’ N	041° 43.67’ W
Kattilersorpia / Glacier de France	6603E	66° 32.01’ N	036° 15.29’ W
Kialiip Imaa / Skrækkensbugt	6651E	66° 55.84’ N	033° 43.91’ W

Place name	Maps	Latitude	Longitude
Kiatak	6402E	64° 20.70’ N	040° 32.28’ W
Kiittaajik	6504E, 6552E	65° 51.17’ N	037° 04.99’ W
Kista Dan Gletscher	6951E	69° 56.05’ N	027° 46.88’ W
Kitak	6502E	65° 32.26’ N	038° 46.82’ W
Kitsissit Oqqorsiit	6505E	65° 34.83’ N	036° 36.35’ W
Kivioq Fjord	6754E, 6802E, 6803E	68° 21.68’ N	029° 04.88’ W
Kivioq Havn	6402E	64° 35.79’ N	040° 31.44’ W
Klinten	6954E, 6955E	70° 06.23’ N	023° 08.41’ W
Knighton Fjord	6901E	69° 21.17’ N	024° 34.48’ W
Knud Rasmussen Gletscher / Apuseeq	6553E	66° 13.70’ N	036° 14.46’ W
Knækket	6952E	70° 16.27’ N	026° 41.91’ W
Kobberpynt	7001E	70° 30.86’ N	028° 16.21’ W
Kolding Fjord	7057E	70° 42.72’ N	021° 38.92’ W
Kong Dan Halvø	6253E	63° 04.39’ N	041° 40.55’ W
Kong Dan Halvø	6301E	63° 08.81’ N	041° 56.62’ W
Kong Skjold Halvø	6301E	63° 14.07’ N	041° 43.13’ W
Kraemer Bugt	6751E	68° 11.43’ N	031° 54.19’ W
Kraemer Ø	6751E	68° 11.65’ N	031° 48.28’ W
Kristian Gletscher	6603E	66° 45.86’ N	036° 20.89’ W
Krogen	6952E	70° 16.61’ N	027° 04.80’ W
Kronborg Gletscher	6803E	68° 44.08’ N	028° 40.33’ W
Kulusuk	6504E	65° 34.53’ N	037° 13.85’ W
Kulusuk / Gerner Ø	6402E	64° 19.26’ N	040° 21.86’ W
Kuplen	6451E	64° 44.83’ N	040° 53.00’ W
Kuugaarmiut Qeqertaat	6001E	60° 25.45’ N	043° 11.92’ W
Kuummiit	6504E, 6552E	65° 52.14’ N	037° 03.79’ W
Kuutsit	6053E	60° 41.47’ N	042° 42.27’ W
Kuutsit Kangerluat	6052E, 6053E	60° 42.07’ N	042° 45.66’ W
Kvadderbugt	6751E	68° 10.20’ N	032° 09.70’ W
Lancaster Bugt	7101E	71° 34.60’ N	027° 56.04’ W
Langenæs	7001E	70° 33.83’ N	028° 14.78’ W
Leeds Bugt	7101E	71° 36.65’ N	027° 39.00’ W
Leicester Bugt	7151E	71° 56.22’ N	027° 57.26’ W
Leif Ø	6505E, 6553E	65° 52.14’ N	036° 19.44’ W
Levynitfjeld	6952E	69° 56.60’ N	027° 20.43’ W
Lillefjord	7057E	70° 37.90’ N	021° 35.69’ W
Lilloise Bjerge	6803E	68° 31.69’ N	028° 47.73’ W
Liverpool Land	7057E	70° 46.21’ N	022° 04.31’ W
Lommen	6302E	63° 29.13’ N	041° 28.43’ W
Lysalfbjerg	6351E	63° 43.70’ N	041° 29.19’ W
Magga Dan Gletscher	6952E	69° 55.39’ N	027° 06.04’ W
Maligissat	6202E	62° 16.73’ N	042° 11.24’ W
Mandehoved	6451E	64° 57.05’ N	040° 57.86’ W
Maniisilertarpia	6551E, 6601E	66° 20.13’ N	037° 55.63’ W
Maniitsoq	6202E	62° 32.57’ N	042° 03.28’ W
Manne Havn	6001E	60° 28.36’ N	043° 05.45’ W
Mariager Fjord	7057E	70° 59.49’ N	021° 50.04’ W
Marie Havn	6504E, 6552E	65° 50.98’ N	037° 08.54’ W
Martin Karlsen Bugt	7102E	71° 30.53’ N	027° 10.24’ W

Place name	Maps	Latitude	Longitude
Midgårdsgletscher	6602E	66° 28.70’ N	036° 36.21’ W
Miki Fjord	6752E	68° 07.37’ N	031° 28.31’ W
Milaat	6651E	67° 11.48’ N	033° 27.92’ W
Milne Land	7002E, 7003E, 7004E, 7053E	70° 51.44’ N	025° 53.66’ W
Mjølner	6302E	63° 26.49’ N	041° 12.18’ W
Mogens Heinesen Fjord	6202E	62° 19.18’ N	042° 13.60’ W
Mogens Heinesen Fjord	6201E	62° 27.44’ N	042° 45.86’ W
Moræneø / Quujuutilik	6554E	65° 59.35’ N	035° 43.53’ W
Mudderbugt	6751E	68° 17.61’ N	032° 11.90’ W
Mudderbugten	7004E	70° 34.00’ N	025° 43.98’ W
Mælkevejen	6351E	63° 40.28’ N	041° 46.93’ W
Mørkepynt	6301E, 6302E	63° 26.29’ N	041° 38.74’ W
Naajanngivit	6504E	65° 29.72’ N	037° 11.54’ W
Naajat	6001E	60° 03.28’ N	043° 06.19’ W
Naajat Kangerluat	6001E	60° 02.47’ N	043° 04.46’ W
Naajatsaat	6505E	65° 46.01’ N	036° 38.07’ W
Nakkarpik	6505E	65° 46.00’ N	036° 30.51’ W
Nakkehoved	7057E	70° 49.70’ N	021° 38.36’ W
Nannut Qeqertaat	7054E	71° 10.06’ N	025° 08.97’ W
Nannut Qeqertaat / Bjørneøer	7053E	71° 08.56’ N	025° 31.61’ W
Nansen Fjord	6753E, 6802E	68° 25.07’ N	029° 55.68’ W
Nanuuseq	6001E	60° 27.53’ N	043° 03.88’ W
Napasorsuup Kangerlua	6151E, 6152E	61° 43.96’ N	042° 12.54’ W
Napparsimalikajiip Ikaasaa	6401E	64° 18.30’ N	041° 11.36’ W
Narsaarti	6502E	65° 35.58’ N	038° 41.80’ W
Nasaasaarsuasik	6001E	60° 18.39’ N	043° 01.58’ W
Nasippiip Kangertiva	6555E	66° 20.59’ N	034° 43.81’ W
Nasippik	6555E	66° 21.35’ N	034° 47.44’ W
Nathorst Land	7102E, 7151E	72° 15.97’ N	028° 10.02’ W
Nattittiit Kangertivat / Fylla Vig	6303E	63° 29.53’ N	040° 49.54’ W
Nattivit	6503E	65° 38.76’ N	038° 29.04’ W
Nattivit Kangertivat	6502E	65° 39.15’ N	038° 39.54’ W
Nattivit Kangertivat	6503E	65° 34.76’ N	038° 29.42’ W
Nattoralik	6001E, 6052E	60° 32.37’ N	043° 05.13’ W
Nattoralik Fjord	6052E	60° 31.61’ N	043° 05.04’ W
Navfalik Fjord	6252E	62° 52.09’ N	042° 20.12’ W
Neptunus Halvø	6401E	64° 14.05’ N	041° 29.03’ W
Nerlerit Inaat / Constable Pynt	7056E	70° 45.65’ N	022° 40.97’ W
Nertiit Kangersivat	6951E	70° 06.13’ N	028° 02.35’ W
Nertiit Kangersivat / Gåsefjord	6952E, 6953E	70° 14.94’ N	026° 16.02’ W
Niflheim	6601E	66° 25.69’ N	038° 03.97’ W
Nigertuluk	6554E, 6604E	66° 23.79’ N	035° 09.14’ W
Nigertuluk	6554E	66° 20.54’ N	035° 10.70’ W
Nilakkaajiip Kangertiva	6651E	67° 01.97’ N	033° 50.29’ W
Ningerti	6552E, 6602E	66° 25.65’ N	036° 46.86’ W
Nordbugten	7102E	71° 34.38’ N	026° 25.18’ W
Nordfjord	6801E	68° 36.15’ N	032° 30.42’ W
Nordfjord Plateau	6801E	68° 45.40’ N	032° 28.81’ W

Place name	Maps	Latitude	Longitude
Nordfjord Gletscher	6801E	68° 43.64’ N	032° 39.11’ W
Nordostbugt	7104E	71° 18.73’ N	024° 42.58’ W
Nordvestfjord	7101E, 7151E	71° 55.17’ N	028° 08.70’ W
Nordvestfjord	7102E, 7103E	71° 29.80’ N	025° 42.60’ W
Noret	6052E	60° 31.95’ N	043° 12.76’ W
Nunap Isua	6753E	68° 06.98’ N	030° 08.59’ W
Nunatup Tunua	6001E	60° 07.92’ N	043° 06.17’ W
Nuua	7008E	70° 25.24’ N	021° 42.48’ W
Nuugaalik	6052E	60° 51.95’ N	043° 01.26’ W
Nuugaalik / Dødemand-spynten	6651E	67° 13.74’ N	033° 18.54’ W
Nuugaalip Kangertiva	6651E	67° 13.46’ N	033° 34.26’ W
Nuugaatsiakajik	6501E	65° 38.24’ N	039° 35.18’ W
Nuuk	6053E, 6103E, 6551E, 6552E	66° 15.04’ N	037° 38.84’ W
Nytårsøerne	6651E	66° 57.06’ N	033° 31.33’ W
Nyø	6651E	67° 07.47’ N	033° 31.92’ W
Nørre Skjoldungesund	6302E	63° 20.13’ N	041° 15.03’ W
Nørrearm	6051E	60° 37.66’ N	043° 39.94’ W
Nørrefjord	7056E, 7057E	71° 06.00’ N	022° 06.62’ W
Odin Land	6351E, 6352E	63° 48.65’ N	040° 50.85’ W
Orsaajiit	6501E	65° 18.21’ N	039° 32.43’ W
Paarnakajiit	6551E	66° 04.96’ N	037° 41.32’ W
Paattorpik	6503E	65° 33.54’ N	037° 49.61’ W
Paatusoq	6052E, 6053E, 6151E	61° 35.20’ N	042° 24.84’ W
Pamiattik	6451E	65° 04.80’ N	040° 42.59’ W
Paris Gletscher	6602E	66° 49.12’ N	036° 48.98’ W
Pattuul aajivit	6702E	67° 35.57’ N	032° 32.01’ W
Pattuulaajivit Ikertivaat	6701E	67° 31.21’ N	033° 04.20’ W
Peary Nunatak	6451E	64° 45.34’ N	041° 10.19’ W
Peder Oxe Bugt	6402E	64° 32.76’ N	040° 21.04’ W
Peder Skram Øer	6452E	64° 49.66’ N	040° 22.69’ W
Peer Vig	6052E	60° 29.67’ N	043° 26.21’ W
Pikiitsi	6551E	65° 56.36’ N	037° 47.41’ W
Pikiitsiitaa / Ole Rømer Ø	6452E	64° 56.68’ N	040° 17.11’ W
Pikiitsip Kangertivata / Puiaqattua	6451E	64° 56.28’ N	041° 03.35’ W
Pikiitsip Kiammut / Kangertiva	6452E	65° 08.22’ N	040° 35.94’ W
Pikiulit	6452E	65° 01.72’ N	040° 18.22’ W
Pilagpik	6605E	66° 53.32’ N	033° 56.56’ W
Polaric Gletscher	6751E	67° 58.57’ N	032° 25.83’ W
Pourquoi-Pas Gletscher	6603E	66° 38.96’ N	035° 54.61’ W
Proppen	7051E	70° 57.75’ N	028° 29.69’ W
Pros Mund Ø	6402E	64° 34.28’ N	040° 15.87’ W
Pueratsi	6651E	66° 56.64’ N	033° 58.70’ W
Puiaartikajik	6352E	64° 07.05’ N	041° 00.52’ W
Puisortoq	6152E	61° 57.79’ N	042° 16.20’ W
Puisortup Kangerlua	6152E	61° 53.67’ N	042° 17.62’ W
Pukkitsivakajiip Akinnarteqi-taa / Kap Dundee	6955E	69° 44.53’ N	023° 03.36’ W

Place name	Maps	Latitude	Longitude
Pukkitsivakajik / Manby Halvø	6955E	69° 48.61’ N	023° 02.02’ W
Pukukkat Kangertivat	6502E	65° 41.67’ N	039° 13.09’ W
Pulaqqaviip Ikaasaa	6301E	63° 29.31’ N	041° 49.32’ W
Pungoq	6253E	62° 50.37’ N	041° 36.47’ W
Putoqartikajik	6402E	64° 20.97’ N	040° 08.72’ W
Putugua	6452E	64° 52.09’ N	040° 24.93’ W
Qajartalik	6453E	65° 13.08’ N	039° 35.41’ W
Qasinngortooq	6202E	62° 22.64’ N	042° 04.87’ W
Qasinngortoq	6053E	60° 48.47’ N	042° 43.74’ W
Qasinngortuup Kangertiva	6201E, 6202E	62° 26.71’ N	042° 14.49’ W
Qassialik	6102E	61° 15.46’ N	042° 45.87’ W
Qassit	6052E	60° 37.11’ N	042° 55.49’ W
Qattaq	6401E	64° 21.57’ N	041° 24.50’ W
Qattunaap Kangertiva	6553E, 6554E	66° 03.99’ N	035° 50.15’ W
Qeerpik	6253E	63° 07.90’ N	041° 12.73’ W
Qeertartiip Saaliaqitaa	6452E	65° 00.88’ N	039° 52.14’ W
Qeertartivaq	6401E, 6452E	65° 02.79’ N	039° 53.73’ W
Qeertartivaq / Otto Rud Øer	6152E, 6202E	62° 05.83’ N	042° 05.19’ W
Qeertartivatsaap Kangertiva	6551E	65° 52.49’ N	038° 14.33’ W
Qeertartivatsiaq	6551E	65° 51.30’ N	038° 04.04’ W
Qeqertannguaq	6303E	63° 31.99’ N	040° 36.10’ W
Qeqertarsuaq	6152E	61° 37.75’ N	042° 13.51’ W
Qernertuarsuit	6504E	65° 42.34’ N	037° 20.87’ W
Qiianarteq	6553E	65° 54.22’ N	036° 36.27’ W
Qilivit	6505E	65° 46.95’ N	036° 13.63’ W
Qimiitaa	6303E	63° 36.70’ N	040° 33.52’ W
Qingalik	6252E	62° 43.63’ N	041° 48.74’ W
Qinngarnalik	6505E	65° 39.23’ N	036° 44.11’ W
Qinngertivaq	6552E	66° 00.92’ N	037° 09.11’ W
Qipinnguaq	6103E, 6152E	61° 33.92’ N	042° 16.42’ W
Qipputalik	6252E	62° 37.93’ N	042° 05.21’ W
Qittaaq	6501E	65° 19.48’ N	039° 27.89’ W
Qulleq	6103E	61° 32.19’ N	042° 11.61’ W
Qunaranaaq / Kap Tordenskjold	6103E	61° 23.72’ N	042° 19.57’ W
Quseertaliip Kangertiva	6352E	63° 56.69’ N	040° 40.84’ W
Qutdlît Sund	6103E	61° 32.32’ N	042° 20.12’ W
Quujuutilik	6553E, 6554E	65° 57.49’ N	035° 49.60’ W
Ran Sund	6253E	63° 02.36’ N	041° 40.75’ W
Randers Fjord	7057E	70° 58.12’ N	021° 45.01’ W
Rathborne Ø	7057E	70° 38.41’ N	021° 23.36’ W
Ravn Fjord	6803E	68° 27.32’ N	028° 27.64’ W
Ravna Nunatak	6451E	64° 43.39’ N	041° 07.04’ W
Ravnenæs	7057E	70° 59.37’ N	021° 39.77’ W
Renland	7052E, 7053E, 7102E, 7103E	71° 20.25’ N	025° 54.37’ W
Renodde	7001E	70° 29.92’ N	028° 15.83’ W
Rensund	7003E	70° 33.64’ N	026° 17.99’ W
Rimfaxe	6301E	63° 18.31’ N	042° 22.13’ W
Roar Halvø	6302E	63° 14.43’ N	041° 16.65’ W
Rolige Bræ	7001E	70° 35.02’ N	028° 35.91’ W

Place name	Maps	Latitude	Longitude
Rosenborg Gletscher	6802E	68° 38.72’ N	029° 25.79’ W
Rosenvinge Bugt	7007E	70° 27.20’ N	022° 05.42’ W
Roslin Gletscher	7104E	71° 45.24’ N	024° 37.65’ W
Ruinnæsset	6301E, 6302E	63° 31.14’ N	041° 40.02’ W
Ryberg Fjord	6753E	68° 13.92’ N	030° 33.50’ W
Rypefjord	7051E	71° 04.87’ N	027° 47.11’ W
Rytterknægten	6552E, 6553E	66° 09.34’ N	036° 44.00’ W
Rødebjerg	6553E	66° 21.09’ N	036° 24.99’ W
Rødefjord	7002E	70° 42.61’ N	027° 54.11’ W
Rødepynt	7002E, 7051E	70° 52.00’ N	027° 51.50’ W
Rødeø	7002E	70° 28.85’ N	028° 04.72’ W
Rømer Fjord	6902E, 6954E	69° 43.00’ N	023° 37.93’ W
Sadelfjeldet	6401E	64° 22.92’ N	041° 29.33’ W
Sammileq	6504E	65° 42.53’ N	037° 28.98’ W
Sammileq	6503E, 6551E, 6553E	65° 56.49’ N	036° 14.13’ W
Sammilik	6554E	66° 16.69’ N	035° 44.24’ W
Sandvigen	6052E	60° 31.21’ N	043° 15.34’ W
Sandodden	7004E	70° 32.86’ N	025° 46.74’ W
Sannaviip Kangertiva	6303E	63° 35.20’ N	040° 46.19’ W
Saqqisikuik / Skjoldungen	6301E, 6302E	63° 18.03’ N	041° 25.92’ W
Sarpap Kimmut Ikaasaajiva	6303E	63° 36.95’ N	040° 51.34’ W
Sarpap Kuua	6452E	65° 02.61’ N	040° 26.35’ W
Sarpap Imiilaa	6252E	62° 44.90’ N	042° 01.76’ W
Sarpaq	6302E, 6955E	69° 55.52’ N	022° 48.06’ W
Sattiit	6452E, 6453E	64° 57.00’ N	039° 46.39’ W
Savary Fjord	6804E	68° 36.57’ N	027° 16.57’ W
Savoia Halvø	6955E	70° 02.27’ N	022° 28.78’ W
Schuchert Flod	7104E	71° 24.54’ N	024° 28.38’ W
Schweizerland	6601E, 6602E	66° 31.06’ N	037° 08.21’ W
Scoresby Sund	7005E, 7006E, 7007E	70° 17.95’ N	022° 17.57’ W
Seeraq	6554E	66° 18.53’ N	035° 29.41’ W
Sermiligaaq	6553E	65° 56.98’ N	036° 25.49’ W
Sermilik	6503E, 6551E, 6552E	66° 13.06’ N	037° 28.94’ W
Sermilik Research Station	6503E	65° 40.75’ N	037° 51.91’ W
Sikivijivitsiva	6651E	67° 16.35’ N	033° 26.65’ W
Sikuijivitteq	6201E, 6252E	63° 01.05’ N	042° 07.24’ W
Sikuijivittip Apusiia	6201E	62° 09.72’ N	042° 28.60’ W
Simiilaq	6555E	66° 16.78’ N	034° 51.89’ W
Sipportooq	6503E	65° 37.32’ N	038° 26.72’ W
Sivinganeq	6503E, 6651E	67° 03.86’ N	033° 23.00’ W
Sjællandselv	7006E	70° 39.73’ N	023° 40.98’ W
Skaktfjord	6601E	66° 22.84’ N	037° 49.27’ W
Skillebugt	7053E	71° 13.32’ N	025° 39.07’ W
Skirner Bjerge	6251E	63° 02.23’ N	042° 41.48’ W
Skjoldnæs	6451E	64° 50.82’ N	040° 55.61’ W
Skottepasset	6954E	69° 49.88’ N	023° 30.56’ W
Skærgården	6751E, 6752E	68° 09.83’ N	031° 40.34’ W
Skærgårdshalvø	6751E	68° 07.84’ N	031° 46.67’ W
Sleipner	6351E	63° 53.62’ N	041° 20.24’ W
Sneglen	6001E	60° 25.92’ N	042° 59.63’ W

Place name	Maps	Latitude	Longitude
Snesund	7002E	70° 46.15’ N	027° 21.18’ W
Snippen	7057E	70° 46.98’ N	021° 35.65’ W
Sortehest	7151E	72° 22.13’ N	028° 37.42’ W
Sorteø	7002E	70° 40.38’ N	027° 43.52’ W
Sortvig	6052E	60° 33.33’ N	042° 54.27’ W
Spurvebugt	7004E	70° 31.07’ N	025° 55.83’ W
Spækpynten	6751E	68° 15.94’ N	032° 00.46’ W
Stauning Alper	7103E, 7104E	71° 44.78’ N	024° 54.35’ W
Stejlpynt	7003E	70° 26.93’ N	026° 56.98’ W
Steno Bræ	6954E	69° 49.75’ N	023° 49.62’ W
Stenø Ilittiilaq	6554E	66° 01.35’ N	035° 34.70’ W
Stephensen Fjord	6803E	68° 24.37’ N	028° 33.73’ W
Stoklund Fjord	6551E	65° 54.65’ N	038° 04.26’ W
Storbræ	6851E	68° 54.02’ N	026° 11.74’ W
Storebjørn	6351E	63° 41.12’ N	041° 39.16’ W
Storefjord	7057E	71° 05.71’ N	021° 47.17’ W
Stormpynt	7103E	71° 26.34’ N	025° 28.18’ W
Storø / Sarterniit	6554E	66° 12.85’ N	035° 31.35’ W
Strathclyde Pynt	6954E	69° 44.21’ N	023° 33.99’ W
Strømbugt	7002E	70° 31.00’ N	028° 00.17’ W
Strømø	6753E	68° 05.57’ N	030° 36.21’ W
Stærkodder Vig	6301E, 6302E	63° 15.19’ N	041° 37.06’ W
Sulussuut	7054E	71° 01.52’ N	025° 21.02’ W
Sulussuut Kiatteq	6605E	66° 32.68’ N	034° 29.20’ W
Sulussuutikajik / Steward Ø	6955E	69° 54.02’ N	022° 51.17’ W
Suukertip Kangertiva	6551E	66° 01.55’ N	037° 52.84’ W
Suunikajik	6502E, 6751E	67° 59.31’ N	032° 05.08’ W
Suussuutip Apusiia	6554E	66° 14.21’ N	035° 11.84’ W
Sverdrup Sund	6401E	64° 15.36’ N	041° 04.63’ W
Sydbræ	6953E	70° 05.88’ N	026° 20.97’ W
Sydkap	7054E, 7104E	71° 17.18’ N	025° 09.17’ W
Syenitbugt	6102E	61° 06.10’ N	042° 52.45’ W
Sødalen	6752E	68° 11.12’ N	031° 20.76’ W
Søkongen Ø	6753E	68° 12.97’ N	029° 53.77’ W
Søkongen Bugt	6805E	68° 40.98’ N	026° 36.27’ W
Sønderfjord	7057E	71° 03.67’ N	021° 53.40’ W
Søndre Skjoldungesund	6301E, 6302E	63° 13.85’ N	041° 29.57’ W
Søren Nordbye Øer	6402E	64° 38.72’ N	040° 12.80’ W
Taateraat Kangerluat	6102E	61° 13.89’ N	042° 34.81’ W
Tajarnikajiip Kangertiva	6251E	62° 46.86’ N	042° 32.29’ W
Tangebugt	7057E	70° 57.53’ N	021° 40.47’ W
Tasiilaartik	6551E	66° 04.81’ N	037° 58.95’ W
Tasiilap Attertikajia	6605E	66° 36.55’ N	034° 19.12’ W
Tasiilap Kangertiva Oqqorseq	6605E	66° 38.50’ N	034° 27.05’ W
Tasiilap Karra / Kap Gustav Holm	6605E	66° 33.42’ N	034° 15.84’ W
Tasiilaq	6504E, 6551E, 6552E, 6605E	66° 34.21’ N	034° 24.59’ W
Ternebugt	6152E	61° 40.26’ N	042° 18.14’ W
Terrasseodde	7005E	70° 17.71’ N	024° 45.06’ W
Terrassevig	7005E	70° 18.77’ N	024° 50.90’ W

Place name	Maps	Latitude	Longitude
Th. Sørensen Land	7051E, 7101E	71° 26.21’ N	028° 16.31’ W
Thor Havn	6103E	61° 31.21’ N	042° 15.46’ W
Thor Land	6302E	63° 36.23’ N	041° 13.16’ W
Thrym Gletscher	6301E	63° 32.70’ N	041° 51.47’ W
Tiilerilaaq	6551E	65° 52.84’ N	037° 49.38’ W
Tikivippik	6553E	65° 54.12’ N	035° 58.76’ W
Timmiarmiit	6252E	62° 44.79’ N	042° 15.84’ W
Timmiarmiit Kangerlua	6251E	62° 41.35’ N	042° 57.07’ W
Timmiarmiit Tunoqquttariaat	6252E	62° 47.11’ N	042° 06.53’ W
Timmiarmiut	6202E	62° 31.69’ N	042° 14.02’ W
Timmiartalik	6352E	63° 58.93’ N	040° 32.35’ W
Tiniteqilaaq	6505E	65° 44.06’ N	036° 39.90’ W
Tippaarpik	6504E	65° 40.86’ N	036° 57.70’ W
Tittaq	6502E	65° 31.09’ N	038° 39.14’ W
Toqu	6502E	65° 32.91’ N	039° 15.61’ W
Toqulineq	6001E	60° 04.62’ N	043° 02.57’ W
Torsukattak	6401E, 6402E, 6504E, 6751E	68° 15.87’ N	031° 45.12’ W
Torsukattaq	6503E	65° 40.09’ N	038° 12.50’ W
Torvgletscher	6954E	70° 03.83’ N	023° 18.26’ W
Trefoldigheden Ø	6401E	64° 16.44’ N	041° 15.25’ W
Tukingaleq	6651E	67° 00.43’ N	033° 37.28’ W
Tungoortoq	6503E	65° 36.74’ N	038° 23.49’ W
Tunu	6504E, 6552E	65° 55.57’ N	036° 48.53’ W
Tunua	6001E, 6152E	61° 47.75’ N	042° 14.66’ W
Tupikajik	6252E, 6554E	66° 09.69’ N	035° 27.81’ W
Turner Sund	6954E, 6955E	69° 45.39’ N	023° 18.43’ W
Tuttilik	6555E	66° 19.17’ N	034° 54.24’ W
Tuttut Nunaat	7052E, 7053E, 7102E, 7103E	71° 20.99’ N	025° 54.30’ W
Tvehavn	6252E	62° 47.86’ N	042° 18.57’ W
Tyskit Nunaat	7055E	71° 03.15’ N	024° 10.41’ W
Uigertertivit	6505E	65° 44.41’ N	036° 05.92’ W
Uigerti	6505E	65° 43.83’ N	036° 16.41’ W
Uingaleq	6605E	66° 52.52’ N	033° 52.16’ W
Uippak	6253E	63° 04.16’ N	041° 25.84’ W
Ujuaakajiip Kangertiva	7002E, 7003E	70° 29.47’ N	026° 48.93’ W
Ujuaakajiip Nunaata Akia / Gåsepynt	7003E	70° 21.82’ N	026° 13.36’ W
Ukaleqarteq	7057E	70° 43.13’ N	021° 30.63’ W
Ukiiverajiip Kangertiva / Lemon Bugt	6402E	64° 41.22’ N	040° 25.96’ W
Ulveodde	7056E	70° 51.37’ N	022° 25.41’ W
Umiiviip Kangera / Lynæs	6402E	64° 25.25’ N	040° 06.34’ W
Umiiviip Kangertiva / Gyldenløve Fjord	6352E, 6401E	64° 13.76’ N	041° 17.56’ W
Umiiviitaa	6402E	64° 19.41’ N	040° 10.58’ W
Umiivik	6401E, 6402E	64° 15.05’ N	040° 30.64’ W
Unartertaqartikajip Orqungmut Kangertiva	6902E	69° 33.34’ N	024° 06.92’ W
Upernattivik	6401E	64° 14.35’ N	040° 52.32’ W
Urbjerget	6801E	68° 49.46’ N	032° 32.98’ W
Uttental Sund	6751E	68° 13.93’ N	031° 44.47’ W
Uttivik	6401E	64° 16.17’ N	041° 06.66’ W

Place name	Maps	Latitude	Longitude
Uttorsiutit	6202E	62° 30.70’ N	042° 12.47’ W
Uttorsiutit Tunuat	6202E	62° 31.91’ N	042° 19.50’ W
Uummanaarsuk	6102E	61° 14.88’ N	042° 28.85’ W
Uummannaarsuk	6102E, 6152E	61° 46.31’ N	042° 14.27’ W
Uummannap Kangertiva	6301E	63° 09.67’ N	042° 07.12’ W
Uummannap Kangertiva	6252E, 6253E	63° 00.78’ N	041° 30.02’ W
Uummannaq / Griffenfeld Ø	6253E	62° 58.05’ N	041° 31.71’ W
Uunarteq	6452E, 7007E	70° 25.03’ N	022° 01.94’ W
Uunartertaqarteq	6902E	69° 34.46’ N	023° 47.33’ W
Uunartit	6701E	67° 27.04’ N	033° 11.40’ W
Vedel Fjord	6804E	68° 33.48’ N	028° 00.33’ W
Vejle Fjord	7057E	70° 45.97’ N	021° 39.89’ W
Vend-om	6253E, 6302E	63° 08.65’ N	041° 29.29’ W
Vestfjord	7001E	70° 28.79’ N	028° 38.87’ W
Vestre Borggletscher	6954E	70° 03.72’ N	023° 50.75’ W
Vikingebugt	7004E	70° 19.58’ N	025° 11.51’ W
Volquart Boon Kyst	6954E, 6955E	70° 06.38’ N	022° 49.97’ W
Watkins Bjerge	6802E	68° 49.25’ N	029° 31.74’ W
Wiedemann Fjord	6803E	68° 30.72’ N	028° 19.18’ W
de Reste Bugt	6851E, 6852E	68° 56.64’ N	025° 37.93’ W
d´Aunay Bugt	6852E	69° 00.16’ N	025° 30.22’ W
Ilimanángip nunâ	7004E	70° 39.70’ N	025° 10.20’ W
Ægir Bugt	6352E	63° 47.59’ N	040° 33.37’ W
Øfjord	7052E, 7053E	71° 02.69’ N	025° 58.45’ W
Ørsted Ø	6452E, 6453E	65° 04.69’ N	039° 48.40’ W

14 Appendix E: Anchoring sites

This appendix lists all anchoring sites displayed on the physical environment and logistics maps in Chapter 8. The table is organized by map number, and if a particular anchoring site is located in the overlap zone between several maps, it is repeated in the table for each map.

The anchoring sites originate from several sources (see column "Sources" in table below):

- East Greenland (EGL) Pilot: Danish Geodata Agency (2015): Greenland Pilot – Sailing Directions for East Greenland. 1st Edition, 2015 (Updated 16th August 2019). https://eng.gst.dk/media/2919625/greenland-pilot-sailing_directions-for-east-greenland_1st-edition_updated-to-skr-32-2019.pdf
- Greenland (GL) Harbour Pilot: Danish Geodata Agency: Greenland Harbour Pilot – Information about cities, settlements and stations (continously updated webpage; last consulted Apr 20th 2021). https://www.gronlandskehavnelods.dk/?&lang=ENG
- G250R/GTK: The Topographic Map of Greenland 1:250.000, digital map in raster (G250R) and vector format (GTK). Copyright Asiaq – Greenland Survey, Nuuk.
- SL Ross: Anchoring sites identified by SL Ross Environmental Research Ltd. as part of their contribution to the physical environment and logistics section of this report.

Analog nautical charts from the Danish Geodata Agency were also systematically consulted, but contained very few anchoring sites, and none that were not already covered by the other sources.

When plotting the coordinates of anchoring sites given in the East Greenland Pilot, it was evi-dent that the geographic precision was limited (most sites are given only to the precision of whole minutes). However, in most cases, it was possible to refine the position of the site from the description provided in the East Greenland Pilot, and many sites were therefore moved short distances to positions better fitting the description. This is the reason why the table contains both the original coordinates provided in the East Greenland Pilot (columns "Lat (source)" and "Lon (source)"), and the refined coordinates we use on the physical environ-ment and logistics maps (columns "Lat (map)" and "Lon (map)").

DCE and GINR take no responsibility for the anchoring sites, neither in terms of their exact location, nor in terms of their suitability. We urge users of the atlas only to view the listed an-choring sites as an indication, and to consult the detailed information in original sources if planning to use a site.

Map	Name (DK)	Name (GRL)	Lat (source)	Lon (source)	Sources	Lat (map)	Lon (map)
6001E	Aluk Avalleq				G250R/GTK	60° 08.5044 N	043° 04.1080 W
6001E	Aluk Tunorleq				G250R/GTK	60° 08.4382 N	043° 05.7874 W
6001E	Kissarsiitilik				G250R/GTK	60° 22.4694 N	043° 09.8160 W
6001E	Manne Havn				G250R/GTK	60° 28.6436 N	043° 08.3885 W
6001E	Prins Christian Sund Vejrstation	Ikerasassuaq	60° 03’ N	043° 12’ W	EGL Pilot, GL Harbour Pilot	60° 03.4845 N	043° 10.5515 W
6001E	Qugdlugissat Qeqertâ				WGL Pilot	60° 04.5381 N	043° 12.8956 W
6052E	Grydevig				G250R/GTK	60° 35.5262 N	042° 56.7701 W
6052E	Peer Vig				G250R/GTK	60° 30.2913 N	043° 25.5834 W
6052E	Sandvigen				G250R/GTK	60° 31.0521 N	043° 16.8287 W
6053E	Kuutsit Kangerluat				G250R/GTK	60° 42.1480 N	042° 47.3990 W
6102E	Avaqqat Kangerluat		61° 16’ N	042° 38’ W	EGL Pilot	61° 18.0251 N	042° 54.6064 W
6103E	Issortooq		61° 27’ N	042° 26’ W	EGL Pilot	61° 26.8284 N	042° 26.6006 W
6103E	Kap Tordenskjold	Qunaranaaq			SL Ross	61° 24.2662 N	042° 23.5388 W
6103E	Thor havn				SL Ross	61° 32.3313 N	042° 16.8504 W
6152E	Kap Cort Adelaer				SL Ross	61° 50.3546 N	042° 06.0581 W
6152E	Kap Daniel Rantzau	Kangeq	61° 48’ N	042° 08’ W	EGL Pilot	61° 47.1444 N	042° 10.5089 W
6152E	Kusanartoq Havn		61° 48’ N	042° 15’ W	EGL Pilot	61° 48.1491 N	042° 13.1140 W
6202E	Qasinngortooq		62° 23’ N	042° 06’ W	EGL Pilot	62° 23.0889 N	042° 09.0657 W
6202E	Qasinngortuup Immikkoortukajaa		62° 25’ N	042° 10’ W	EGL Pilot	62° 24.7585 N	042° 12.7466 W
6202E	Timmiarmiut		62° 32’ N	042° 10’ W	EGL Pilot, SL Ross	62° 31.6895 N	042° 10.5541 W
6202E	Timmiarmiut (SL Ross)				SL Ross	62° 32.6453 N	042° 13.1683 W
6202E	Uttorsiutit Tunuat		62° 28’ N	042° 15’ W	EGL Pilot	62° 30.3280 N	042° 18.5795 W
6251E	Timmiarmiit		62° 40’ N	042° 17’ W	EGL Pilot	62° 40.2204 N	042° 23.2930 W
6251E	Timmiarmiit Kangertivata Puiaqattua				SL Ross	62° 36.5182 N	042° 41.9634 W
6252E	Annat Fjord		63° 04’ N	041° 55’ W	EGL Pilot	63° 05.0154 N	041° 54.6303 W
6252E	Sarpaq		62° 47’ N	042° 20’ W	EGL Pilot	62° 47.9514 N	042° 20.7478 W
6252E	Timmiarmiit		62° 40’ N	042° 17’ W	EGL Pilot	62° 40.2204 N	042° 23.2930 W
6253E	Ebba Havn		63° 00’ N	041° 28’ W	EGL Pilot	62° 59.9338 N	041° 30.3147 W
6253E	Griffenfeld Ø	Uummannaq	62° 54’ N	041° 31’ W	EGL Pilot	62° 54.1759 N	041° 34.8530 W
6253E	Imikajik		62° 59’ N	041° 40’ W	EGL Pilot	62° 59.0254 N	041° 40.9343 W
6253E	Ran sund				SL Ross	63° 01.9607 N	041° 41.0241 W
6301E	Stærkodder Vig	Qusiit Kangertivat	63° 15’ N	041° 35’ W	EGL Pilot	63° 14.9999 N	041° 34.9999 W
6302E	Caroline Amalie Havn	Silasiorpiip Kangertiva	63° 11’ N	041° 19’ W	EGL Pilot	63° 11.0644 N	041° 19.6731 W
6302E	Finnsbu		63° 23’ N	041° 18’ W	EGL Pilot	63° 22.5305 N	041° 16.4658 W
6302E	Fylla Vig				G250R/GTK	63° 29.9389 N	040° 51.7654 W
6302E	Graah Havn		63° 22’ N	041° 09’ W	EGL Pilot	63° 21.6993 N	041° 07.9694 W
6302E	Lommen	Kangertiva Kiatteq	63° 31’ N	041° 30’ W	EGL Pilot	63° 30.8894 N	041° 29.7674 W
6302E	Skjoldungen	Saqqisikuik	63° 13.0’ N	041° 24.0’ W	EGL Pilot, GL Harbour Pilot	63° 12.8172 N	041° 20.0563 W
6302E	Stærkodder Vig	Qusiit Kangertivat	63° 15’ N	041° 35’ W	EGL Pilot	63° 14.9999 N	041° 34.9999 W
6302E	Tiniteqilaarmiit		63° 23’ N	041° 10’ W	EGL Pilot	63° 22.6365 N	041° 08.3167 W
6302E	Yrsa Fjord	Torsukataa			SL Ross	63° 14.7086 N	041° 13.3105 W
6303E	Fylla Vig				G250R/GTK	63° 29.9389 N	040° 51.7654 W
6402E	Ikaasaartik				SL Ross	64° 21.6644 N	040° 20.5744 W
6452E	Ittip Kangertiva		65° 05’ N	040° 18’ W	EGL Pilot	65° 01.1117 N	040° 17.7452 W
6452E	Ittip Kangertiva (SL Ross)				SL Ross	65° 04.4445 N	040° 20.4964 W
6452E	NV for Ole Rømer Ø	NV for Pikiitsiitaa	65° 02.5’ N	040° 28’ W	EGL Pilot	65° 03.1913 N	040° 28.6911 W
6453E	Hornemann Ø	Atilaat	65° 10’ N	039° 43’ W	EGL Pilot	65° 10.1970 N	039° 42.9566 W

Map	Name (DK)	Name (GRL)	Lat (source)	Lon (source)	Sources	Lat (map)	Lon (map)
6501E	Dannebrog Ø		65° 15.6’ N	039° 36’ W	EGL Pilot, SL Ross	65° 18.1641 N	039° 35.2239 W
6502E	Isortoq		65° 32’ N	038° 58’ W	EGL Pilot, GL Harbour Pilot	65° 32.4371 N	038° 56.6142 W
6502E	Kitak		65° 33’ N	038° 47’ W	EGL Pilot, SL Ross	65° 33.6455 N	038° 46.6566 W
6502E	Orsuiattivaq		65° 30’ N	038° 53’ W	EGL Pilot	65° 29.6752 N	038° 54.2201 W
6502E	Suunikajik		65° 28.5’ N	039° 10’ W	EGL Pilot	65° 28.8765 N	039° 10.2615 W
6503E	Ikkatteq		65° 38’ N	037° 57’ W	EGL Pilot, GL Harbour Pilot	65° 38.2234 N	037° 56.6128 W
6503E	Isip Ilua		65° 38’ N	038° 22’ W	EGL Pilot	65° 38.7217 N	038° 16.8111 W
6503E	Johan Petersen Fjord	Qeertartivatsaap Kangertiva	65° 48.3’ N	038° 06’ W	EGL Pilot	65° 48.6176 N	038° 04.5568 W
6503E	Torsukattak		65° 38’ N	038° 15’ W	EGL Pilot, SL Ross	65° 38.4817 N	038° 14.5970 W
6504E	Kulusuk		65° 34.3’ N	037° 11’ W	EGL Pilot, GL Harbour Pilot	65° 34.7368 N	037° 10.6051 W
6504E	Kulusuk airport	Kulusuk Mittarfik	65° 34.6’ N	037° 08.7’ W	EGL Pilot, GL Harbour Pilot	65° 35.0697 N	037° 08.3541 W
6504E	Kuummiut		65° 51.5’ N	037° 00.5’ W	EGL Pilot, GL Harbour Pilot	65° 51.7135 N	037° 00.3518 W
6504E	Marie Havn	Alingaat	65° 51’ N	037° 08’ W	EGL Pilot	65° 51.6267 N	037° 08.1649 W
6504E	Qernertivartivit		65° 42.5’ N	037° 17.5’ W	EGL Pilot	65° 42.7807 N	037° 17.5599 W
6504E	Sammileq				SL Ross	65° 42.4599 N	037° 26.9845 W
6504E	Tasiilaq		65° 37’ N	037° 38’ W	EGL Pilot, G250R/GTK, SL Ross, GL Harbour Pilot	65° 37.0102 N	037° 37.3480 W
6504E	Tinitsiivik				SL Ross	65° 52.0277 N	036° 56.1269 W
6504E	Tittingaleq		65° 33’ N	037° 13’ W	EGL Pilot	65° 33.7057 N	037° 12.5615 W
6505E	Tinitsiivik				SL Ross	65° 52.0277 N	036° 56.1269 W
6551E	Innartiip Kangertiva		66° 00’ N	037° 45’ W	EGL Pilot	66° 00.4100 N	037° 44.4376 W
6551E	Johan Petersen Fjord	Qeertartivatsaap Kangertiva	65° 48.3’ N	038° 06’ W	EGL Pilot	65° 48.6176 N	038° 04.5568 W
6551E	Paarnakajiit		66° 05’ N	037° 37’ W	EGL Pilot	66° 05.2144 N	037° 37.8146 W
6551E	Tasiilaajik		66° 10.5’ N	037° 47’ W	EGL Pilot	66° 10.5784 N	037° 48.7804 W
6551E	Tiniteqilaaq		65° 53’ N	037° 47’ W	EGL Pilot, GL Harbour Pilot	65° 53.0691 N	037° 45.4813 W
6551E	Umiattuartivit		65° 54’ N	038° 00’ W	EGL Pilot	65° 54.4349 N	037° 59.2745 W
6552E	Kuummiut		65° 51.5’ N	037° 00.5’ W	EGL Pilot, GL Harbour Pilot	65° 51.7135 N	037° 00.3518 W
6552E	Marie Havn	Alingaat	65° 51’ N	037° 08’ W	EGL Pilot	65° 51.6267 N	037° 08.1649 W
6552E	Tinitsiivik				SL Ross	65° 52.0277 N	036° 56.1269 W
6553E	Sermiligaaq		65° 54’ N	036° 22’ W	EGL Pilot, GL Harbour Pilot	65° 54.6167 N	036° 23.5732 W
6554E	Storø	Saartermiit	66° 10’ N	035° 32’ W	EGL Pilot	66° 10.1106 N	035° 32.6111 W
6605E	Tasiilap Attertikajia		66° 36.5’ N	034° 21’ W	EGL Pilot	66° 36.8515 N	034° 20.1192 W
6702E	Aputiteq				G250R/GTK	67° 47.5636 N	032° 17.8462 W
6751E	Uttental Sund		68° 10’ N	031° 47’ W	EGL Pilot	68° 11.0379 N	031° 42.0440 W
6752E	Miki Fjord		68° 06’ N	031° 24’ W	EGL Pilot, SL Ross	68° 09.4673 N	031° 30.2717 W
6752E	Sødalen				G250R/GTK, SL Ross	68° 09.5784 N	031° 22.4076 W
6753E	J.A.D. Jensen Fjord		68° 10’ N	030° 02’ W	EGL Pilot, SL Ross	68° 15.8993 N	029° 57.7639 W
6803E	Wiedemann Fjord		68° 27’ N	028° 12’ W	EGL Pilot	68° 28.4542 N	028° 11.2409 W
6804E	Wiedemann Fjord		68° 27’ N	028° 12’ W	EGL Pilot	68° 28.4542 N	028° 11.2409 W

Map	Name (DK)	Name (GRL)	Lat (source)	Lon (source)	Sources	Lat (map)	Lon (map)
6805E	Søkongen Bugt		68° 41' N	026° 31' W	EGL Pilot	68° 42.5775 N	026° 33.6814 W
6851E	d'Aunay Bugt		69° 04' N	025° 34' W	EGL Pilot, SL Ross	69° 05.2781 N	025° 38.7285 W
6852E	d'Aunay Bugt		69° 04' N	025° 34' W	EGL Pilot, SL Ross	69° 05.2781 N	025° 38.7285 W
6852E	Høst Havn		69° 16' N	024° 47' W	EGL Pilot, SL Ross	69° 14.5619 N	024° 49.1808 W
6901E	Høst Havn		69° 16' N	024° 47' W	EGL Pilot, SL Ross	69° 14.5619 N	024° 49.1808 W
6901E	Knighton Fjord		69° 23' N	024° 30' W	EGL Pilot	69° 22.7666 N	024° 30.2840 W
6902E	Kap Dalton	Ittertivaa	69° 26' N	024° 09' W	EGL Pilot	69° 26.0887 N	024° 05.2352 W
6902E	Rømer Fjord		69° 38' N	023° 38' W	EGL Pilot	69° 39.5492 N	023° 32.5605 W
6951E	Ankervig				G250R/GTK	70° 21.8358 N	028° 09.2788 W
6954E	Rømer Fjord		69° 38' N	023° 38' W	EGL Pilot	69° 39.5492 N	023° 32.5605 W
6955E	Turner Sund	Immikkeertikajiip Ikaasakajia	69° 45' N	023° 17' W	EGL Pilot	69° 45.4358 N	023° 15.7075 W
7002E	Ankervig				G250R/GTK	70° 21.8358 N	028° 09.2788 W
7002E	N-side of Fønfjord	N-siden af Ujuaakajiip Kangertiva	70° 26' N	027° 50' W	EGL Pilot	70° 24.9332 N	027° 49.8536 W
7002E	W-side of Rødefjord		70° 43.5' N	028° 01' W	EGL Pilot	70° 42.2660 N	027° 57.2115 W
7003E	Danmark Ø	Ujuaakajiip Nunaa	70° 32.4' N	026° 15.1' W	EGL Pilot	70° 32.5240 N	026° 17.0812 W
7003E	Hekla Havn		70° 27' N	026° 15' W	EGL Pilot	70° 27.6425 N	026° 10.2845 W
7003E	N-side of Fønfjord	N-siden af Ujuaakajiip Kangertiva	70° 32' N	026° 58' W	EGL Pilot	70° 30.7140 N	026° 56.4508 W
7003E	W-side of Danmark Ø	Ved W-siden af Ujuaakajiip Nunaa	70° 31' N	026° 24' W	EGL Pilot	70° 31.0547 N	026° 23.7369 W
7004E	Charcot Havn		70° 48' N	025° 20' W	EGL Pilot, G250R/GTK	70° 46.8205 N	025° 23.8033 W
7004E	Mudderbugt		70° 35' N	025° 50' W	EGL Pilot, G250R/GTK	70° 34.3090 N	025° 49.2695 W
7005E	Vandreblokken		70° 40' N	024° 05' W	EGL Pilot	70° 40.0000 N	024° 05.0000 W
7007E	Amdrup Havn	Ittoqqortoormiit Kimmut Kanger-tivat	70° 28' N	021° 58' W	EGL Pilot	70° 28.4967 N	021° 55.1930 W
7007E	Hvalrosbugt	Ittoqqortoormiit Qinngerajivat	70° 29' N	022° 05' W	EGL Pilot	70° 29.6945 N	022° 02.2968 W
7007E	Kap Hope	Ittaajimmiut	70° 27.5' N	022° 22' W	EGL Pilot, GL Harbour Pilot	70° 27.4285 N	022° 22.6583 W
7007E	Kap Tobin	Uunarteq	70° 24,5´N	021° 58,0´W	EGL Pilot, GL Harbour Pilot	70° 25.3495 N	022° 00.0839 W
7007E	Scoresbysund	Ittoqqortoormiit	70° 28' N	021° 58' W	EGL Pilot, GL Harbour Pilot	70° 28.7679 N	021° 59.6851 W
7007E	Thala Vig	Uunarterajiip Kangerterajiva	70° 25' N	021° 55' W	EGL Pilot	70° 25.0000 N	021° 55.0000 W
7008E	Hartz Vig	Kangertivatsi-aakajik	70° 26' N	021° 48' W	EGL Pilot	70° 25.9999 N	021° 48.0000 W
7008E	Thala Vig	Uunarterajiip Kangerterajiva	70° 25' N	021° 55' W	EGL Pilot	70° 25.0000 N	021° 55.0000 W
7051E	E-side of Rødefjord		71° 05.4' N	027° 43' W	EGL Pilot	71° 04.7137 N	027° 44.6450 W
7051E	Ternevigene				G250R/GTK	70° 57.1330 N	028° 06.2693 W
7053E	Jytte Havn, Bjørneøer	Nannut Qeqertaat	71° 04.5' N	025° 38' W	EGL Pilot	71° 04.7844 N	025° 38.9635 W
7054E	Charcot Havn		70° 48' N	025° 20' W	EGL Pilot, G250R/GTK	70° 46.8205 N	025° 23.8033 W
7054E	Nordostbugt	Kangerterajiva	71° 14' N	024° 37' W	EGL Pilot, SL Ross	71° 13.9999 N	024° 37.0000 W
7054E	Sydkap	Suuninnguaa	71° 17' N	025° 03' W	EGL Pilot	71° 16.8193 N	025° 05.0916 W

Map	Name (DK)	Name (GRL)	Lat (source)	Lon (source)	Sources	Lat (map)	Lon (map)
7056E	Constable Pynt	Nerlerit Inaat	70° 44,0´N N	022° 38,0´W W	SL Ross, GL Harbour Pilot	70° 43.8267 N	022° 37.4381 W
7056E	Fame Øer		70° 50’ N	022° 30’ W	EGL Pilot	70° 50.0347 N	022° 29.5416 W
7056E	Hurry Inlet	Kangerterajiva			SL Ross	70° 46.6240 N	022° 32.1404 W
7102E	Martin Karlsen Bugt				G250R/GTK	71° 28.8963 N	027° 13.6843 W
7102E	Nordbugten	Immikkeertaata Kangertiva	71° 38’ N	026° 27’ W	EGL Pilot	71° 37.0420 N	026° 27.6066 W
7103E	Rivejernet				G250R/GTK, SL Ross	71° 33.0403 N	025° 51.8937 W
7104E	Nordostbugt	Kangerterajiva	71° 14’ N	024° 37’ W	EGL Pilot, SL Ross	71° 13.9999 N	024° 37.0000 W
7104E	N-side of Immikkeertikajik		71° 17.5’ N	025° 01’ W	EGL Pilot, SL Ross	71° 17.5580 N	024° 59.4298 W
7104E	E-side of Nordvestfjord		71° 18.5’ N	025° 05’ W	EGL Pilot	71° 18.3645 N	025° 06.1297 W
7104E	Sydkap	Suuninnguaa	71° 17’ N	025° 03’ W	EGL Pilot	71° 16.8193 N	025° 05.0916 W

15 Appendix F: Landing sites

This appendix lists all landing sites for air planes/helicopters displayed on the physical environment and logistics maps in Chapter 8. The table is organized by map number, and if a par-ticular landing site is located in the overlap zone between several maps, it is repeated in the table for each map.

The landing sites are divided into several different types (see column "Type"):

- Civil airport (facilities for both planes and helicopters)
- Military airport (facilities for both planes and helicopters)
- Gravel strip (rough strip appropriate for e.g. Twin Otter type planes with tundra wheels)
- Skiway (skiway on snow appropriate for e.g. Twin Otter type planes with skis)
- Heliport (marked helipad with facilities)
- Helipad (marked helipad without facilities)
- Tele site helipad (helicopter landing site regularly used by Tele Greenland for net-work maintenance)
- Spot landing (helicopter landing site used on one or several occasions in relation to e.g. mineral exploration)

All sites with a value in the column named "Id" are kindly provided by Air Greenland, who uses these numbers to identify the sites. For these sites, the information in all columns stems directly from Air Greenland. "GPS" indicates whether the coordinates of the site are meas-ured by GPS. "Length (m)" gives the approx. length of gravel strips in meters. "C-130" indi-cates whether Lockheed C-130 Hercules planes can land at the site. "Hut" indicates if huts are present at the site, typically old hunter's cabins. "Description" gives a short account of the site.

All sites without a value in the "Id" column are compiled by GINR, drawing on information from e.g. Tele Greenland.

DCE and GINR take no responsibility for the landing sites, neither in terms of their exact loca-tion, nor in terms of their suitability. We urge users of the atlas only to view the listed landings sites as an indication, and to consult appropriate authorities (e.g. Air Greenland) if planning to use a site.

Map	Id	Name	Type	Latitude	Longitude	GPS	Length (m)	C-130	Hut	Description
6001E		Ikerasaarsuaq	Spot landing	60° 3.4317’ N	43° 9.5817’ W					Prins Christiansund located at 263 ft
6103E		Qutdleq/Qulleq	Spot landing	61° 32.6883’ N	42° 14.6317’ W					Old Loran Station located at 351 ft
6202E		Timmiarmiut	Spot landing	62° 31.7533’ N	42° 12.065’ W					Old weather station
6301E	s92	Kagssortoq	Gravel strip	63° 14.54’ N	42° 1.8’ W	No	220			Precise GPS position NOT obtained. Hard, grown gravel strip, inside fjord
6302E		Skjoldungen	Spot landing	63° 13’ N	41° 23.3333’ W					(No information)
6502E		Isortoq	Helipad	65° 32.795’ N	38° 58.3117’ W					Settlement helipad
6503E		KTYC	Tele site helipad	65° 39.0167’ N	38° 11.1333’ W					Tele-Post Greenland site Niaqernaartik
6503E		UNOQ	Tele site helipad	65° 37.55’ N	37° 49.1667’ W					Tele-Post Greenland site Uungortoq
6504E	s91	Ammassalik Ø	Gravel strip	65° 44’ N	37° 33’ W	No	300			Hard rather rough gravel strip. Between high mountains
6504E		DYE4	Tele site helipad	65° 31.8’ N	37° 11.4’ W					Tele-Post Greenland site Kiinneq
6504E		Kulusuk	Civil airport	65° 34.4167’ N	37° 7.4167’ W		1000			Kulusuk airport gravel
6504E		Kuummiut	Helipad	65° 51.4983’ N	37° 0.4983’ W					Settlement helipad
6504E		PIFJ	Tele site helipad	65° 44.4’ N	37° 2.5833’ W					Tele-Post Greenland site Pingelsfjled
6504E		Tasiilaq	Heliport	65° 36.6967’ N	37° 37.1767’ W					Town helipad
6505E		T300	Tele site helipad	65° 49.2’ N	36° 38.6333’ W					Tele-Post Greenland site Qiianarteq
6551E		Tiniteqilaaq	Helipad	65° 52.9983’ N	37° 46.0317’ W					Settlement helipad
6552E	s90	Ikateq	Gravel strip	65° 56.2’ N	36° 41.03’ W	Yes	1500	Yes	No	Even and good gravel strip. Old US-strip
6552E		Kuummiut	Helipad	65° 51.4983’ N	37° 0.4983’ W					Settlement helipad
6553E	s90	Ikateq	Gravel strip	65° 56.2’ N	36° 41.03’ W	Yes	1500	Yes	No	Even and good gravel strip. Old US-strip
6553E		Sermiligaaq	Helipad	65° 54.2333’ N	36° 22.4633’ W					Settlement helipad
6554E	s89	Tuktilik	Gravel strip	66° 22.08’ N	35° 7.5’ W	Yes	250			Rather heavy, gravel + sand strip. Side slope
6601E	s88	Skaktfjord	Gravel strip	66° 25.48’ N	37° 45.48’ W	No	120			Rough, waves, gravel strip
6752E	s85	Sødalen	Gravel strip	68° 12.18’ N	31° 23.08’ W	Yes	640		Yes	Gravel strip, hills near both ends, narrow valley
6951E	s80	Hjørnedal	Gravel strip	70° 21’ N	28° 9.3’ W	No	300			Grown gravel strip. Narrow valley. Narrow in flight
7007E		Ittoqqortoormiit	Heliport	70° 29.352’ N	21° 58.164’ W					Village helipad
7007E	s71	Jættedal	Gravel strip	70° 31’ N	22° 50’ W	No	600	Yes		Grown, hard graval strip. Has been landed with C-130
7007E	s72	Kap Tobin	Gravel strip	70° 26.5’ N	21° 57.2’ W	Yes	250			Very rough gravel. Big stone in middle of strip – painted white
7007E		PUKU	Tele site helipad	70° 30.8’ N	22° 15.3’ W					Tele-Post Greenland site Pukukkiarfik
7053E	s68	Lomsø	Gravel strip	70° 53.4’ N	25° 36’ W	Yes	600			Rather even, clay strip. Alt. Pos. 7148.0 N 2416,3 W
7054E	s69	Milne Land	Gravel strip	70° 50.42’ N	25° 23’ W	No	300			Moss grown, good strip
7055E	s67	Trailercamp	Gravel strip	71° 5.36’ N	23° 20.3’ W	No	450			Hard earth strip, waves on N end, canyon with S end
7056E	s70	Constable Pynt	Civil airport	70° 43.6’ N	22° 39.6’ W	Yes			Yes	
7104E	s66	Gurreholm Dal	Gravel strip	71° 23.36’ N	24° 39.18’ W	No	300			Hard, graval strip in the mouth of Gurreholm valley
7104E	s64	Karstryggen	Gravel strip	71° 32.3’ N	24° 29.2’ W	No	250			Hard and even graval strip west of Schuchert Dal

ENVIRONMENTAL OIL SPILL SENSITIVITY ATLAS FOR SOUTHEAST GREENLAND (56°-71° N)

This oil spill sensitivity atlas covers shoreline and the off-shore areas of East Greenland between 56° N and 71° N. The coastal zone is divided into 406 shoreline segments and the offshore zone into 17 areas. A sensitivity index value is calculated for each segment/area based on the occurrence of biological resources, human use, cultural heritage sites, protected areas and coast types/sea ice conditions. Based on the index value, each segment/area is subsequently ranked into one of four oil spill sensitivity classes. Besides this general ranking, a number of smaller, so-called "selected areas" are identified. They are of particular significance, they are especially vulnerable to oil spills, and they have a size making oil spill response operations possible. The shoreline sensitivity ranking is depicted on 80 maps (in scale 1:250,000), which also show the different occurrences contributing most to the sensitivity, and the selected areas. Coast types, logistical elements relevant for response operations, and proposed response methods along the coasts are shown on another 80 maps. The oil spill sensitivity of the offshore zone is depicted on eight maps, one for each season in the northern and southern part of the atlas area.

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