MONITORING THE VEGETATION RECOVERY IN ØSTERILD PLANTAGE 2017

Part 3

Technical Report from DCE – Danish Centre for Environment and Energy No. 118 2018

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Data sheet

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Abstract: The trees in a part of Østerild Plantage have been cut down to give room for a national test center. Before the afforestation DCE has performed a baseline monitoring in the summer of 2011. DCE has in summer 2017 re-monitored the recovery of the vegetation cover to elucidate the direction and the rate of succession in 100 monitoring sites. The results from the re-monitoring are presented in the report.

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Summary

The overall objective of the monitoring program running from 2011 to 2021 is to document the direction of the recovery of open dune habitats after the clear-cutting of the dune plantations in the National Test Centre facility established at Østerild in 2011. Aarhus University, Danish Centre for Environment and Energy (DCE), has developed the monitoring program in 2011.

Within the framework of the monitoring program, as a first phase, the vegetation composition and the soil condition prior to the clear-cutting of the dune plantations (baseline monitoring) was recorded. The next phase involved a systematic recording of the development of the vegetation composition and soil conditions (post-construction monitoring) during the first 10 years after the clear-cutting in order to follow the changes from the baseline conditions towards recovery of open dune habitats. The establishment of the project's 12 monitoring sites and the 100 monitoring plots followed a stratified random design in order to span the different times of planting of the different conifer stands and the applied regeneration measures. The baseline condition (forest type), the planned post-cutting treatments of the litter layer and the hydrology, the expected management regimes, the distance to appropriate seed sources and the topography were important parameters for the stratification.

Conifers are the dominant tree species in the Østerild area including the Østerild Plantage itself and the neighbouring Hjardemål Plantage in the north, which are both afforested plantations located in state-owned areas. The introduced coniferous species *Picea sitchensis* (Sitka Spruce), *Pinus contorta* (Lodgepole Pine) and *Pinus mugo* (Mountain Pine) together with the native *Pinus sylvestris* (Scots Pine) were the main conifers present in the afforested areas where the National Test Centre facility for wind turbines was established and inaugurated in 2012. Before the clear-cutting, the assumption was that the starting conditions would have a major impact on the succession following deforestation. Thus, the twelve monitoring sites were established in stands of three of the coniferous species. Hundred monitoring plots were established in the monitoring sites of which 20 were laid down in the *P. mugo*, 30 in the *P. sylvestris* and 50 in the *P. sitchensis* stands.

Various post-cutting treatments of hydrology and accumulated soil organic matter were planned in order to facilitate the recovery of the vegetation cover of grey dunes (habitat type 2130), dune heaths (habitat type 2140) and humid dune slacks (habitat type 2190). One of the aims of the monitoring program was to assess the effect of these treatments on the rate and direction of vegetation development towards the target communities. Unfortunately, not all the planned treatments were accomplished and 35 new monitoring plots were therefore established in 2017 in clear-cut areas not previously surveyed. Five of them were placed close to the main unpaved field road, partly covering the verge.

Prior to afforestation in the late 1800 and in the beginning of the 20th century, the dune areas in the Østerild area were characterised by a high-level, presumably fluctuating, water table. Consequently, moist and wet habitats were widespread in the area.

Therefore, successful regeneration of moist dune heaths (habitat type 2140) and humid dune slacks (habitat type 2190) required recovery of the original

hydrological regime. Thus, one of the implemented initiatives was to close drainage ditches and allow temporary pools and shallow waterbodies to develop or expand. One of the aims of the monitoring program was to follow the succession in dry and moist dune habitats, including areas with seasonal flooding.

In August 2017, DCE carried out a survey of the 65 monitoring plots established in 2011 and of the 35 new plots established in 2017. The composition and vegetation structure of the plant species were investigated using a pinpoint frame (0.5 * 0.5 m^2) and a documentation circle with a radius of 5 m in each of the 100 monitoring plots, with the pinpoint frame as the centre. All vascular plant species, bryophytes and lichens were recorded. Besides, the total area of coverage of bryophytes, lichens, bare soil and sand, the amount of dead wood and the free water surface in the 5 m circles were estimated and the general inclination of the monitoring plot was measured. A digital photo was taken of all of the 100 monitoring plots. All vascular plant species and some characteristic bryophytes and lichens were determined in the field. The remaining bryophytes and lichens were collected for determination in the laboratory. Specialists subsequently confirmed the determination of the collected specimens. The names of the species, the collected data and the digital photos were compiled in the annexes of this report.

During the fieldwork in 2017, 165 taxa were recorded in the 100 monitoring plots – 87 dicots and 38 monocots, including 16 grasses and 11 sedges and rushes, respectively. Gymnosperms contributed with 5 species, and ferns and fern allies with 7 species. The cryptogam flora included 17 determinable taxa of bryophytes, 4 hepatics, and 7 lichen taxa.

Of the 65 monitoring plots previously surveyed, the most species-poor plot was found in the former *Pinus mugo* stand and contained 4 taxa. The highest number of species, 38, was recorded in a monitoring plot in the former *Picea sitchensis* stand. Among the new 2017 plots, the minimum and maximum species numbers were 9 and 26, respectively. In the five plots established at the unpaved main field road, the species number ranged between 22 and 40.

The dwarf shrub *Calluna vulgaris* was the most abundant species, being recorded in 92% of the monitoring plots followed by the grasses *Avenella flexuosa* and *Molinia caerulea* with abundances of 89% and 85%, respectively. *Hypochaeris radicata, Holcus lanatus, Carex arenaria* and *Rumex acetosella* were also abundant and appeared in 73%, 64%, 59% and 59% of the plots, respectively. Another 7 taxa, *Erica tetralix, Hypnum cupressiforme/H. jutlandicum, Juncus effusus, Agrostis capillaris, Dicranum scoparium and Pleurozium schreberi,* were recorded in more than 50% of the plots.

The quoted species are also the most widespread as they were recorded in all monitoring sites, except for *Carex arenaria,* which was not found in any of the five plots, including the verge of the main unpaved field road. However, the influence of the field road is obvious as some species either were the most frequent or only recorded in the vegetation cover in the verge next to the road.

The clear-cutting of trees in the project area has led to exposure of the bottom layer. The improved light penetration to the bottom layer has facilitated the spread of vascular plants, bryophytes and lichens to the former afforested areas. Especially dwarf shrubs like *Calluna vulgaris, Empetrum nigrum, Erica tetralix and Vaccinium uliginosum* and a number of prominent grass species such

as *Agrostis capillaris, Avenella flexuosa, Holcus lanatus and Molinia caerulea* have benefitted from the improved light conditions. No invasive alien species have so far been recorded, although clear-cutting in other parts of Denmark has been observed to lead to such species invasion.

The altered water regime has created new not previously present habitats in the project area. These newly formed habitats have become home to species that have not been recorded in the Østerild area before. Some of the species are less frequent in Denmark and depend on fluctuating water coverage, changing moistness, nutrient-poor conditions and open vegetation cover. Examples are *Drosera rotundifolia, Lycopodiella inundata, Eleocharis multicaulis* and *Potamogeton polygonifolius*. Besides, the clubmoss *Lycopodium clavatum* has appeared in two monitoring plots in the former *Pinus mugo* stand in the Hjardemål Klitplantage. The latter species was not recorded in the previous surveys in 2011, 2013 and 2015 in the *P. mugo* monitoring sites.

The primary objective of the clear-cutting of the former afforested areas in the project area was to establish the National Test Centre giving the opportunity to direct the vegetation succession on areas not directly affected by the establishment of the wind turbine facilities towards the target communities – dry and wet heathland and dune slacks. Secondly, the project aims to improve the diversity of natural species compared with the situation before the deforestation of the project area by creating suitable habitats for light-preferring and low growing species, species demanding nutrient-poor conditions and species depending on a fluctuating water table and changing moistness. The results of the 2017 survey of the 100 monitoring plots indicate that the vegetation succession fulfils the aim of the entire vegetation recovery project. The conclusion is preliminary, however, as a more in-depth analysis of the all the gathered vegetation data will be performed after the completion of the project in 2021.

Resume

Det danske Folketing vedtog i 2011, at der skulle etableres et nationalt testcenter for afprøvning af store vindmøller. Valget fald på Thy, hvor dele af de statsejede Østerild Plantage og Hjardemål Plantage indgik i planerne. For at kunne opføre testcenteret skulle træerne i dele af plantageområderne fældes. Det drejede sig om nåletræsområder beplantet med den hjemmehørende skov-fyr (*Pinus sylvestris*) samt de indførte bjerg-fyr (*Pinus mugo*) og sitka-gran (*Picea sitchensis*). Træerne i de udpegede plantageområder blev fældet i juli og august 2011.

Plantageområderne administreres af Naturstyrelsen Thy, der er interesseret i at følge vegetationsudviklingen på de ryddede arealer, som ikke direkte er indgået i de arealer, der benyttes af vindmøller med tilhørende telemaster og til anlæg af forbindelsesvejen til de tekniske installationer. Ved at gennemføre forskellige tiltag i form af genindførsel af græsning, ændring af grundvandsstanden og etablering af lavvandede, til- og afløbsløse vandhuller samt forskellige typer af behandling af førnelaget ønsker Naturstyrelsen af undersøge muligheder for, at tidligere tiders klitlandskab kan genskabes på de arealer, der er blevet afskovet.

Det Nationale Center for Miljø og Energi under Aarhus Universitet (DCE) har i 2011 efter aftale med Naturstyrelsen udarbejdet et overvågningsprogram. Det overordnede formål med programt er at dokumentere vegetationsdækkets succession mod lysåbne og mere artsrige klitnaturtyper efter rydningen af nåletræsbevoksninger i det nationale testcenter. Overvågningsprogrammet omfatter en registrering af jordbundsforhold, vegetationens struktur og artssammensætning, før træerne fældes (baseline overvågning), og en systematisk registrering af ændringerne gennem de første 10 år af successionen mod lysåbne klit-naturtyper (post-construction overvågning).

I 2011 blev 12 overvågningsstationer udpeget og 100 prøvefelter udlagt. Disse var stratificeret tilfældigt med henblik på at dække variationen i udgangspunktet for vegetationsudviklingen og de behandlinger, der er skitseret i implementeringsplanen. Stratificeringen omfatter udgangspunktet (skovtype), de planlagte behandlinger af førne og hydrologi, forventet pleje og drift af den lysåbne klitnatur, afstand til egnede spredningskilder og topografi. Udgangspunktet antages at have en stor betydning for successionen efter skovrydningen, og overvågningsstationerne omfatter derfor bevoksninger med sitka-gran, bjerg-fyr og skov-fyr.

Koordinaterne for de 100 prøvefelter var forlods blevet uploadet i en GPS. Ved hjælp af GPS'en blev prøvefelterne fastlagt i felten. Det ene hjørne af en pinpoint ramme blev anbragt så præcist som muligt i centrum af prøvefeltet. Dette hjørne blev defineret af rammens sydvestlige hjørne og dens sider blev orienteret ved hjælp af et kompas efter verdenshjørnerne. En snor på fem meter blev trukket mod syd, hvorfra der blev taget et digitalt foto af prøvefeltet med pinpoint rammen i centrum i en passende afstand fra enden af 5 m snoren.

Rammen måler 0,5 x 0,5 m^2 og rummer 16 analysepunkter markeret ved krydsningspunkterne for to gange fire udspændte tråde. Vegetationsanalysen startede i punktet tættest på rammens nordvestlige hjørne. Næste punkt var krydsningspunktet mod øst og så fremdeles, indtil det 16. punkt i rammens

sydøstlige hjørne var nået. En slank, stiv metalpind blev ført gennem vegetationsdækket og alle levende plantedele af karplanter, mosser og laver, der blev berørt pinden, blev artsbestemt og noteret på feltskemaet. Blev ingen plantedele berørt, blev det noteret, om underlaget var bar jord, bart sand, førne, dødt ved eller åbent vand. Arealet under rammen blev dernæst afsøgt for supplerende arter, der blev noteret særskilt på feltskemaet.

Den gennemsnitlige vegetationshøjde måles i hvert af rammens fire hjørner startende i det nordvestlige og sluttende i det sydøstlige efter retningslinjerne i den tekniske anvisning for overvågning af terrestriske naturtyper (Fredshavn et al. 2011). Rammens og dermed underlagets hældning centralt i prøvefeltet måles ved hjælp vinkelmåleren i kompasset ved at anbringe dette på rammens overside og aflæse vinklen.

Dernæst gennemtraves 5 m-cirklen i radierende baner med uret. Alle arter, der ikke allerede er blevet registreret indenfor pinpoint-rammen artsbestemmes og noteres særskilt på feltskemaet. Under gennemtravningen vurderes fladedækningen af mosser, laver, dødt ved, nøgen jord, nøgent sand og åbent vand. Alle karplanter er sammen med karakteristiske mosser og laver blevet artsbestemt i felten, mens ubestemte mosser og laver er blevet indsamlet til efterfølgende artsbestemmelse og konfirmation af specialister. Feltarbejdets resultater er samlet i bilag 1-5 bagerst i rapporten.

I 2017 er 65 af de oprindelig 100 prøvefelter blevet analyseret. Som følge af manglende opfølgning på nogle af de oprindeligt planlagte plejetiltag er 35 nye prøvefelter blevet udlagt og analyseret. De blev fordelt med to gange femten prøvefelter i to ryddede områder, hvor der førhen har stået henholdsvis bjerg-fyr, skov-fyr og sitka-gran samt fem langs hovedtilførselsvejen til møllerne, så 5 m cirklen dækkede vejkanten for at belyse anlægget af vejens indflydelse på vegetationsudviklingen og dens artsbidrag.

165 taxa er blevet registreret ved feltarbejdet i 2017 i de 100 prøvefelter. Heraf repræsenterer 125 taxa dækfrøede karplanter fordelt på 87 taxa af tokimbladede og 38 enkimbladede. Sidstnævnte omfatter 16 arter af græs, 11 halvgræsarter og 11 siv- og frytlearter. Der er registreret 5 nåletræsarter, mens karsporeplanterne udgør 7 arter. Der er registreret 17 arter af mosser, 4 levermosser og 7 laver af de arter, det har været muligt at bestemme.

Blandt de 65 prøvefelter, der indgik i overvågningen i 2011, er det mest artsfattig prøvefelt med 4 taxa placeret i den tidligere beplantning af bjerg-fyr i Hjardemål Plantage. Det mest artsrige felt med 38 taxa befinder sig i en tidligere beplantning med sitka-gran på Østerild Plantages areal. Blandt de 30 nye prøvefelter udlagt i 2017 er det minimale og maksimale antal taxa henholdsvis 9 og 26. I de fem felter, der inkluderer vejsiden, er minimum og maksimum på henholdsvis 22 og 40.

Dværgbusken hedelyng (*Calluna vulgaris*) er hyppigst, idet arten er registreret i 92 % af prøvefelterne. Næst hyppigst er græsserne bølget bunke (*Avenella flexuosa*) og blåtop (*Molinia caerulea*) med forekomst i henholdsvis 89 % og 85 % af prøvefelterne. Andre hyppige arter er almindelig kongepen (*Hypochaeris radicata*), fløjlsgræs (*Holcus lanatus*), sand-star (*Carex arenaria*) og rødknæ (*Rumex acetosella*) forekommende i 73 %, 64 %, 59 % og 59 % af felterne. Hertil kommer syv arter, klokkelyng (*Erica tetralix*), cypresmos (*Hypnum cupressi-*

forme/H. jutlandicum), lyse-siv (*Juncus effusus*), almindelig hvene (*Agrostis capillaris*), Kost-kløvtand (*Dicranum scoparium*) og trind fyrremos (*Pleurozium schreberi*), der er registreret i mere end 50 % af prøvefelterne.

De nævnte arter er samtidig de mest udbredte, da de alle på nær sand-star er blevet registreret i alle prøvefelter. Sand-star er ikke blevet registreret i nogen af de fem prøvefelter langs hovedtilkørselsvejen. På den anden side sætter vejens tilstedeværelse sit aftryk på artssammensætningen, da der i de fem prøvefelter er registreret arter, som er mest udbredt eller kun forekommer her.

Renafdriften af skovtræerne har medført, at de tidligere plantageområders bundlag er blevet blottet. Det har bevirket, at en række karplanter, mosser og laver har spredt sig til den blottede jordbund som følge af den øgede mængde lys. Det er i første række dværgbuske som hedelyng, revling, klokkelyng og mose-bølle, ligesom et par markante græsser, almindelig hvene, bølget bunke, fløjlsgræs og blåtop har draget fordel af rydningen og de deraf følgende lysåbne betingelser og den i mange tilfælde blottede mineral bund. Der er ikke registreret nogen betydende bestande af fremmede, invasive arter, som i andre områder i Danmark profiteres af renafdrifter.

De ændrede hydrologiske forhold har skabt nye habitater, der ikke har forekommet, da skovdækket var fremherskende. De nydannede levesteder har skabt grobund for en række arter, der er mindre hyppige i de øvrige mere næringsrige dele af Danmark. De begunstiges af det vekslende vanddække, ændringer af jordbundens fugtighedsforhold, de næringsfattige jordbundsforhold og det lysåbne vegetationsdække. Det drejer sig blandt andet om rundbladet soldug (*Drosera rotundifolia*), liden ulvefod (*Lycopodiella inundata*), mangestænglet sumpstrå (*Eleocharis multicaulis*) og aflangbladet vandaks (*Potamogeton polygonifolius*). I det tidligere bjerg-fyr område i Hjardemål Plantage er almindelig ulvefod (*Lycopodium clavatum*) dukket op. Arten er ikke blevet registreret ved nogle af de tre tidligere undersøgelser af vegetationen i bjerg-fyr området.

Formålet med renafdriften af de tidligere nåletræsbeplantede områder er ud over etableringen af det nationale vindmølle testcenter at forsøge at genskabe de lysåbne klitnaturtyper ved hjælp af den naturlige vegetations udvikling på de arealer, der ikke direkte er omfattet af opførelsen af vindmøller og de dertil knyttede tekniske installationer og vejanlæg. Samtidig er der et ønske om en forøgelse af diversiteten af naturligt forekommende arter, der er afhængige af et fluktuerende grundvandslag og ændret jordbunds fugtighed i forhold til, da områderne var trædækkede. Resultaterne af 2017 undersøgelserne af prøvefelterne tyder på, at retningen af vegetationsudviklingen går mod at opfylde genopretningsprojektets målsætning. Denne konklusion er foreløbig og må afvente en mere grundlæggende analyse af den samlede mængde af vegetationsdata, når den samlede overvågningsperiode afsluttes i 2021.

1 Objective

The overall objective of the botanical monitoring program launched in 2011 is to describe the direction of the vegetation succession and to gain evidence of the rate of vegetation recovery in the project area of the National Test Centre facility at Østerild in the Thy region in Northern Jutland. The National Test Centre was established in parts of the state-owned plantations Østerild Plantage and Hjardemål Plantage, formerly afforested with various species of conifer trees. The deforested area excluding the areas with wind turbines, telecommunication masts and other infrastructure is termed *the project area* in the present report. The planting of conifers in the Østerild area has begun almost 130 years ago with the primary purpose of preventing sand drift and, secondarily, for producing timber and firewood.

After the clear-cutting of a part of the dune plantation, the Danish Nature Agency in Thy introduced different types of management of the deforested areas like grazing, closing of ditches in order to raise the ground water level and establishment of waterbodies. The aim was to restore open habitat types such as grey dune, dry dune heath and humid dune slacks by permitting the natural vegetation cover to regenerate from the remaining seed bank and by dispersal of diaspores from neighbouring open habitats.

In 2011, Aarhus University, Danish Centre for Environment and Energy (DCE), designed a botanical monitoring program for the dual purpose of assessing and quantifying the importance of site conditions and post-construction treatments for successful development towards natural dune communities and generating evidence-based knowledge.

The state of the vegetation composition and the soil conditions prior to the deforestation in 2011 served as baseline conditions against which vegetation development were assessed. Baseline monitoring took place before the clear-cutting of the dune plantation in 2011 (Nygaard et al. 2011). Hundred monitoring plots were randomly established to cover the different conifer forest types and changing in water regime, the present topography and the planned management actions. The placement of the plots was launched to ensure the usefulness of the documentation of the direction of vegetation succession and to gained evidence of the vegetation recovery after clear-cuttings in the order to evaluate the regeneration potential of future conversions of plantations to dune habitats in Danish coastal areas.

In 2013 and 2015, 20 monitoring plots were investigated in the northernmost dune area in Hjardemål Plantage, which was formerly afforested with *Pinus mugo* (Wind 2013, 2016).

According to the original monitoring program, the 100 monitoring plots should have been investigated in 2017. However, only 65 of the original plots were investigated in 2017 as the need for clear-cutting of the original plantation was lesser than expected and because some of planned management actions had not been performed. To compensate for the missing plots, 30 new monitoring plots were set up randomly in areas formerly afforested with *Picea sitchensis, Pinus mugo and P. sylvestris.* Besides, to examine the influence on the vegetation composition of the main unpaved field road built to get access to

the wind turbines, five plots were established here, including the verges. The latter plots are termed *the five verge plots* in the rest of the text.

1.1 Target communities

Depending on the local topography and hydrology the clear-cut areas are expected to develop towards various open dune communities, listed in Annex I of the Habitats Directive (EU 1992) (see Figure 1):

1. Fixed coastal dunes with herbaceous vegetation (*grey dune*) (habitat type 2130).
   This habitat consists of open and frequently disturbed vegetation on acidic, leached and nutrient poor sand with *Corynephorus canescens* as the most common vascular plant species along with *Carex arenaria, Ammophila arenaria* and *Jasione montana.* Occasionally, the vegetation is very rich in cryptogams, particularly *Cladonia* spp.

2. Decalcified fixed dunes with *Empetrum nigrum* (*dune heath*) (habitat type 2140).
   A relatively closed dwarf scrub vegetation cover where *Empetrum nigrum* and *Calluna vulgaris* has colonised the dry sandy areas. Dry dune heaths may contain a rich cryptogam flora, particularly *Cladonia* spp. The vegetation colonising moist or wet sandy areas is a closed dwarf scrub vegetation including *Vaccinium uliginosum, Empetrum nigrum, Erica tetralix, Calluna vulgaris, Vaccinium oxycoccos* and *Myrica gale.*

3. Humid dune slacks (habitat type 2190)
   Humid and seasonally flooded depressions with pioneer swards, fens and pools on acidic or calcareous sand. The vegetation encompasses many different plant communities depending on moisture, seasonal fluctuations in water level, pH, natural disturbances and management (Ejrnæs et al. 2006).

Figure 1. Target communities of natural vegetation recovery after clear-cutting of coniferous forest in dune landscapes. Left: Hilly dune landscape with grey dune (type 2130) and dry dune heath (in the northern part of the project area, type 2140); middle: wet dune heath with Calluna vulgaris, Molinia caerulea and Myrica gale (type 2140); right: humid dune slacks with Sphagnum sp., Trichophorum cespitosum and Narthecium ossifragum (western part of Tømmerby Kær, type 2190).

The monitoring program aims to follow the direction of succession in areas where the vegetation is assumed to develop towards the above-mentioned natural dune communities.

2 Site and plot selection

The monitoring program follows the effects of the most important site conditions on the rate and direction of vegetation development towards the target communities after the clear-cutting of parts of the dune plantations. The aim of the project is to direct the vegetation succession in order to re-establish the target communities described in chapter 1.1 in the area formerly afforested with dense conifer plantations, consisting mainly of *Picea sitchensis, Pinus sylvestris and P. mugo.*

The monitoring program includes 100 plots covering the expected variation in the development of the vegetation composition (see Nygaard et al. 2011). Prior to the initiation of baseline monitoring in 2011, the plots were positioned according to a stratified random approach relative to forest type, post-cutting treatment of trunks and litter layer, hydrology, future management regimes, distance to appropriate seed sources and topography.

As the implemented post-cutting treatments differed markedly from those planned in the design of the monitoring program, 35 of the 100 plots has been repositioned prior to the 2017 investigation.

The monitoring program is designed to follow and compare the vegetation development in both managed and unmanaged areas. Originally, 60 of the 100 monitoring plots have been placed in areas planned for livestock grazing, but so far only 10 plots are found in a monitoring site that is grazed (site 9).

In the Østerild area, a free-living stock of *Cervus elaphus* (red deer) and other species of grazing deer browse the vegetation un-limited. When the animals use the project area, they create gaps in the vegetation cover by treading and scraping the soil surface. Thus, the presence of a deer stock is as such an important parameter in the management of vegetation cover. However, as the purpose of the management program is to assess the change in the vegetation composition, it does not include the impact of free-living, grazing animals.

The National Test Centre area is located at a rather low altitude and on almost level ground. Topographical variation is found in the northern part of the project area, only, where a hilly dune landscape formerly covered with *Pinus mugo* forest occurs (see Nygaard et al. 2011).

2.1 Forest types

The monitoring sites were placed in coniferous forest stands with *Picea sitchensis*, *Pinus sylvestris,* or *P. mugo* prior to the afforestation. As indicated in the baseline report (Nygaard et al. 2011), the three conifer forest types differed markedly with respect to flora, topography and soil conditions.

- Approximately 40% (106 ha) of the area was originally covered with dense coniferous plantations dominated by the introduced spruce species *Picea sitchensis* and *P. omorica,* the pine *Pinus contorta* and the fir *Abies alba* afforested on former dune heathland. Plantations with *P. sitchensis,* a species that tolerates seasonally high groundwater levels, covered more than 30% of the sampling area. During the past decades, a thick layer of organic matter (needles, cones, twigs and branches) covering the forest floor had led

to soil accumulation of atmospheric nitrogen, while the vegetation cover consisted mostly of bryophytes, for instance *Hypnum cupressiforme* and *H. jutlandicum*.

- *Pinus sylvestris* forest covered originally another 40% of the afforested area. In less dense stands, the understorey consisted of a well-developed dwarf shrub vegetation with *Calluna vulgaris*, *Erica tetralix*, *Empetrum nigrum* and *Vaccinium uliginosum*.

- *Pinus mugo* stands covered originally 10% of afforested area (26 ha) and were restricted to the dry and hilly dune landscape in the northern part of the Østerild National Test Centre facility area. The plantation was less uniform and included not only *Picea sitchensis* stands but also patches with a relatively open forest canopy with scattered occurrence of lichens, bryophytes and dwarf shrubs (Figure 2).

Deciduous forests with *Quercus* sp., *Fagus sylvatica* and *Betula* sp. covered 6 % of the afforested area but were not included in the monitoring program.

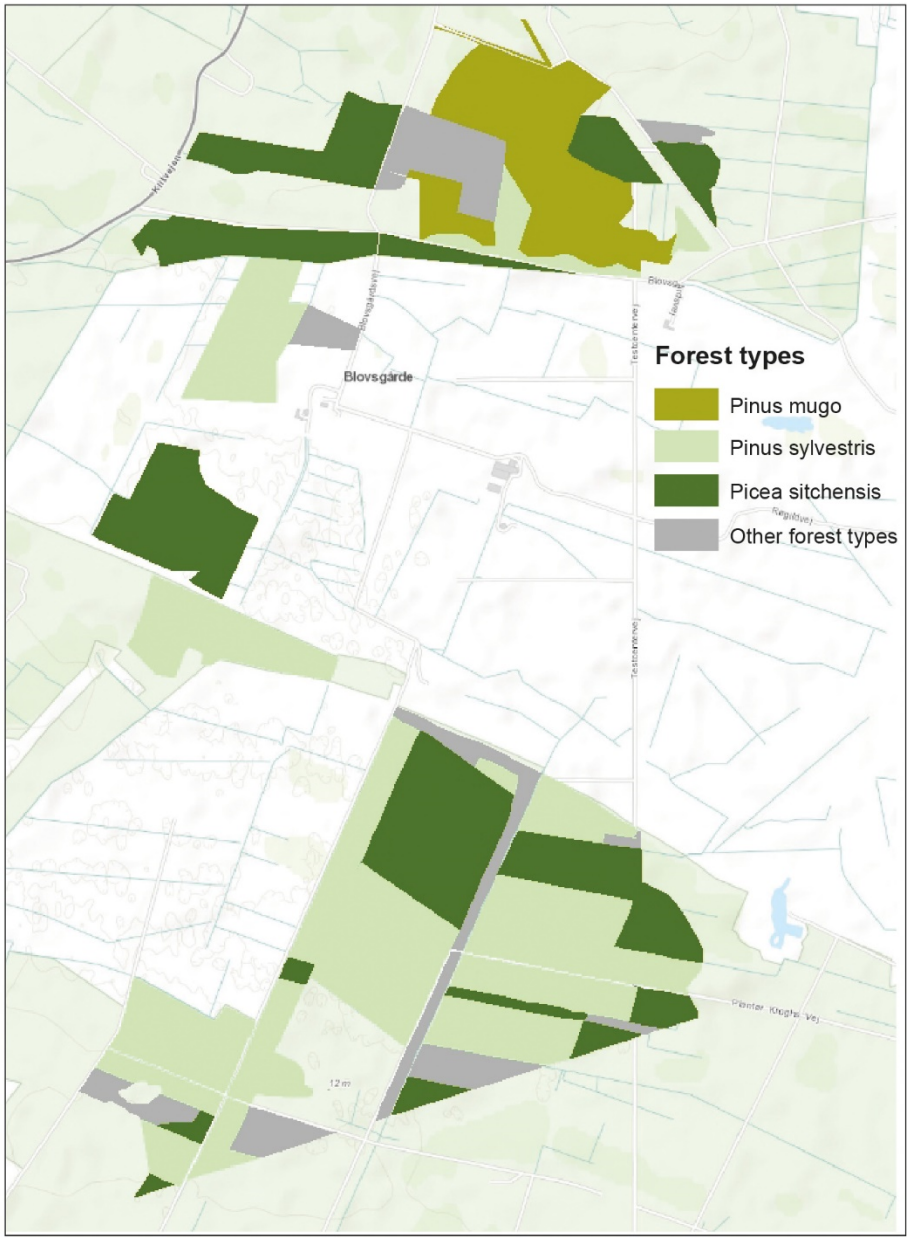


Figure 2. Pre-construction distribution of coniferous forest types in the Østerild National Test Centre facility area. The map shows coniferous forests that were clear-cut from July 2011 to November 2012. Based on GIS-maps from the Danish Nature Agency in Thy.

Originally, 20 monitoring plots were established in the northern *Pinus mugo* stand, 30 plots in three different *Pinus sylvestris* stands and 50 plots in two *Picea sitchensis* stands (Figure 9 and Table 1 in Nygaard et al. (2011)).

In 2017, 30 monitoring plots in the former *Pinus mugo* stands in the northern part of the project area were investigated. Twenty of these were monitored prior to deforestation in 2011 and subsequently two and four years after the clear-cutting (Wind 2013, 2016). In the former *Pinus sylvestris* stands, 25 plots were investigated of which 20 were included in the baseline monitoring in 2011. Finally, 45 plots in the former *Picea sitchensis* stands were analysed in 2017 of which 20 were monitored prior to the deforestation.

2.2 Post-cutting treatments

Coniferous litter is acidic and the decomposition rate is very slow, which leads to accumulation of semi-decomposed needles, cones and twigs on the forest floor. A thick litter layer in the coniferous forest may constitute a major constraint to a successful restoration of natural dune habitats (Sturgess & Atkinson 1993).

In traditional forest management, the tree trunks, representing the economic value, are removed, while tree stumps and the litter layer are left behind. If the aim is afforestation, new trees are planted between the stumps in the accumulated litter layer. If the aim is restoration of natural habitat types, the tree stumps and the litter layer have to be removed in order to expose the underlying mineral soil.

In the original implementation plan (By- og Landskabsstyrelsen 2010), four different post-cutting treatments of the tree stumps and the litter layer were suggested in order to study cost-effective restoration of open habitat types developing in the clear-cut plantation areas. The four treatments are: 1) sod cutting and removal of litter, 2) sod cutting and burning on site, 3) burning and 4) small-scale soil disturbance as well as areas with untreated stumps and litter. When the monitoring program was designed in 2011, the post-cutting treatments of tree stumps and litter layer were expected to include burning in parts of the *Pinus mugo* stand in the hilly landscape in the north and burning, sod cutting and ploughing as well as an untreated control area in a *Picea sitchensis* stand (site 6 in Figure 5).

The treatments implemented after deforestation differed markedly from the original plan and included stump crushing (158 ha), stump removal (56 ha) and depth milling (12 ha). Only the *Pinus mugo* stands, a very small part of a *Picea sitchensis* stand (Null parcel in Figure 3) and the *Pinus sylvestris* stands in the western part of the project area were left without post-cutting treatments. Consequently, 35 of the 100 monitoring plots were repositioned prior to the 2017 monitoring in order to reflect the implemented treatments.

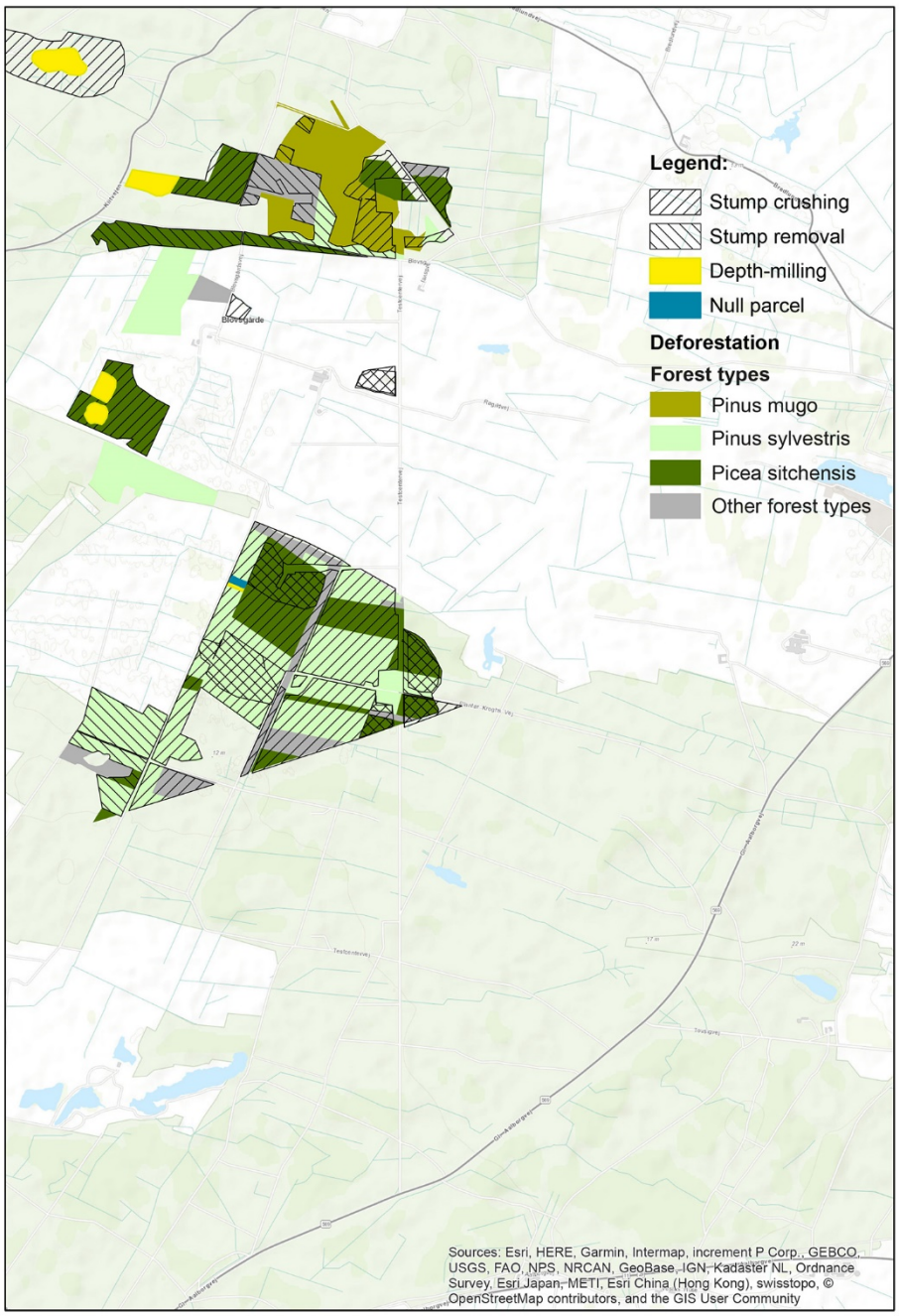


Figure 3. Implemented post-cutting treatments of trunks and litter in the Østerild National Test Centre facility. Based on GIS-maps from the Danish Nature Agency in Thy.

2.3 Hydrology

The Østerild area is former sea bottom, shaped by land uplift and shifting sand. Prior to afforestation in the late 1800s, the dune areas in the Østerild Plantage and the Hjardemål Plantage were characterised by a high and presumably fluctuating water table. Consequently, moist and wet habitats were widespread in the area (Miljøministeriet 2009). Because of intensive drainage prior to afforestation, dune slacks with nutrient-poor wet heathland (habitat type 2140) and mire vegetation (habitat type 2190) were restricted to a few poorly drained open areas.

Successful development towards a natural flora associated with moist dune heaths (habitat type 2140) and humid dune slacks (habitat type 2190) requires adequate regeneration of the hydrological regime. Thus, restoration of a more

natural hydrology, mainly by closing drainage ditches and excavations (Figure 4), will allow temporary pools and shallow lakes to develop or expand (By- og Landskabsstyrelsen 2010).

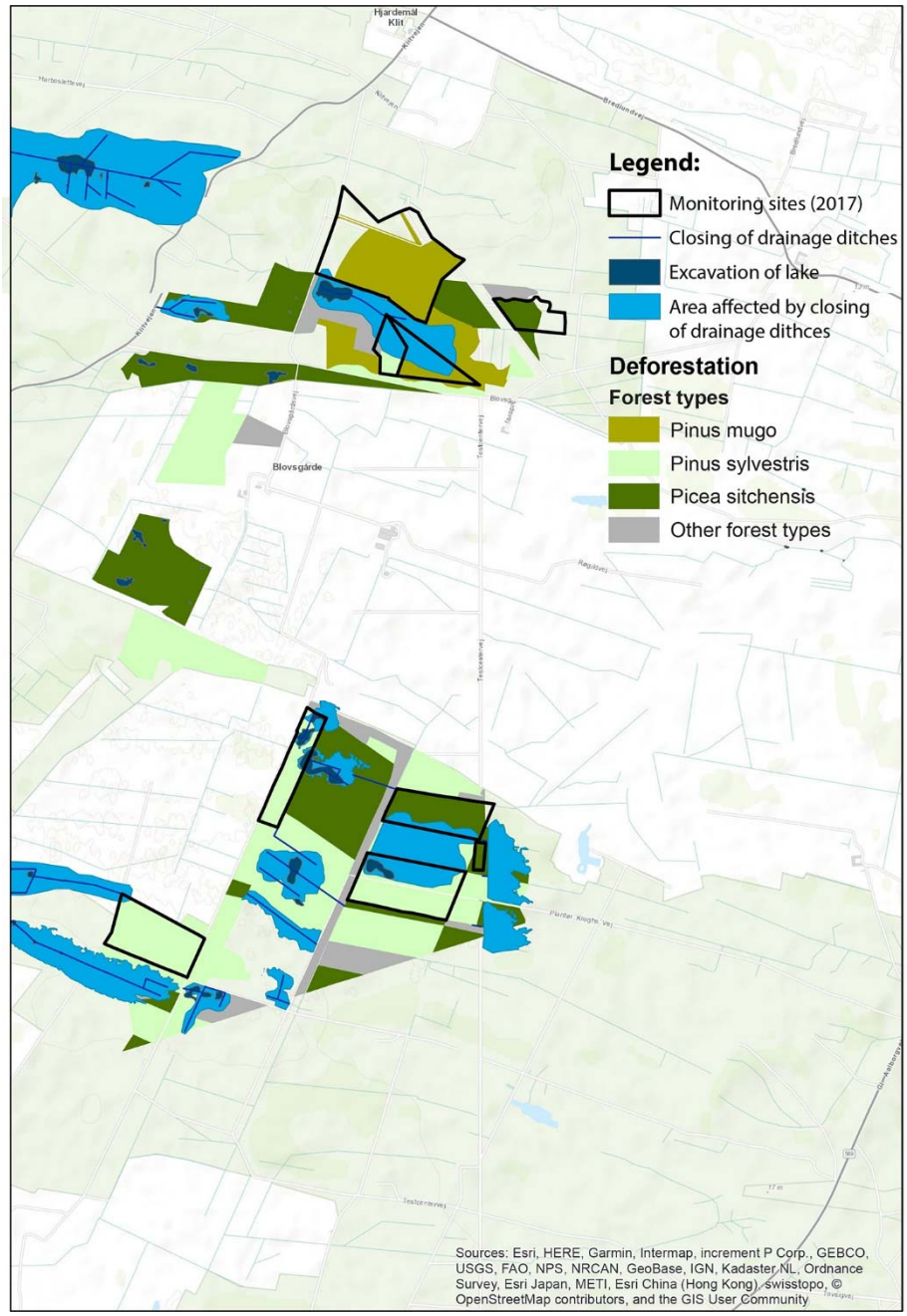


Figure 4. Implemented excavations of lakes and closure of drainage ditches in the test area and areas expected to be influenced by a higher groundwater level. Based on GIS-maps from the Danish Nature Agency in Thy.

The monitoring program aims to follow the development in dry, moist and wet dune habitats as well as seasonally flooded areas. Accordingly, originally 60 monitoring plots were established in unaltered dry areas and 40 plots in areas expected to encompass a hydrological gradient from dry to moist or wet conditions (Table 1).

In 2017, investigation of 14 monitoring plots in the planned wetland was performed in site 6 and 8, the remaining 51 monitoring plots being located in dry areas exhibiting no alterations (Table 1).

Table 1. The nine monitoring sites and their baseline condition (forest type), age of forest stand, post-cutting treatments regarding moisture regime (planned wetlands), grazing and litter layer and number of plots. The site numbers from the previous monitoring reports are shown in brackets in the first column. * hilly dune area with great variation in topography.

Site number (previous number)	Baseline condition (forest type)	Age of stand	Post-cutting treatments			Number of plots			
			Moisture	Grazing	Litter	2011	2013	2015	2017
1 (1+2)	*Pinus mugo* forest	1937	Dry *	No	No treatment	20	20	20	20
4 (new)		1936	Dry-moist	No	No treatment	0			5
					Stump crushing	0			5
2 (6)	*Picea sitchensis* forest	1983	Dry	No	Stump crushing	5			5
6 (7+8)		1972	Dry-moist	No	Stump crushing	20			20
7 (new)		1963	Dry		Stump crushing	0			5
3 (new)	*Pinus sylvestris* forest	1936	Dry-moist	No	Stump removal	0			5
5 (new)		2009	Dry	No	No treatment	0			5
					Stump crushing	0			5
					Stump removal	0			5
8 (11+12)		1963	Dry	No	Stump crushing	5			5
			Moist-wet			5			5
9 (9+10)		1964	Dry	Yes	Stump removal	10			10
Total						*65*	*20*	*20*	*100*

2.4 Monitoring sites

Twelve monitoring sites has been appointed prior to the clear-cutting of the selected forest stands in 2011. Three has been excluded from deforestation after the baseline monitoring (sites 3-5 in Figure 9 in Nygaard et al. 2011) and are no longer included in the monitoring program.

To ensure a good representation of the implemented post-cutting treatments (Figure 5, Table 1), DCE designated four new monitoring sites – no. 3, 4, 5 and 7. One of the new sites, no. 7, was established on the western side of the main unpaved field road of the National Test Centre facility in order to document the effect of the increasing acidity caused by road dust.

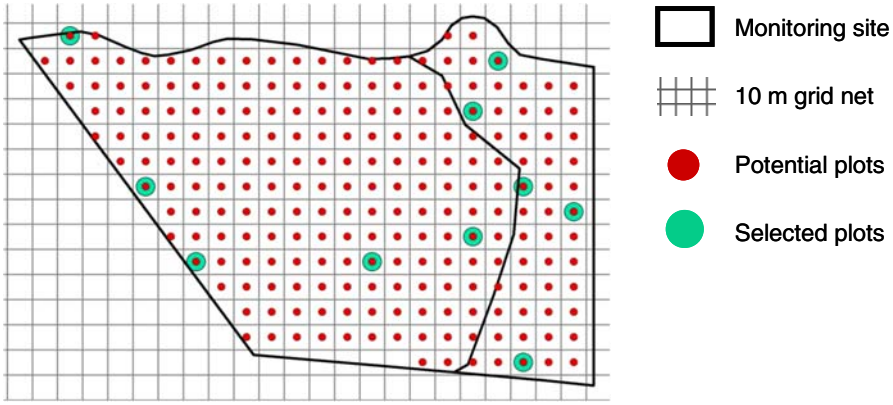
2.5 Monitoring plots

Prior to the monitoring, the monitoring plots were randomly selected among grid cells in the 10 m reference net (Figure 6) and marked as GPS waypoints. In each of the nine sites, vegetation composition was investigated in five to twenty randomly established plots (Table 1).

Dispersal limitation of target species was investigated by establishing a subset (two out of five) of the monitoring plots in the margins of restored sites in close vicinity to neighbouring open target habitat types. The aim with this location was to provide documentation of the rate and direction of vegetation development in areas with a high probability of an early dispersal of target species. The remaining three plots were placed randomly in the matrix interior of each monitoring site.

Figure 5A and 5B. The nine new monitoring sites and position of the 100 plots in the 2017 survey. Plots in sites 1, 2, 6, 8 and 9 were included in the baseline monitoring in 2011, while sites 3, 4, 5 and 7 were investigated for the first time in 2017, i.e. six years after the deforestation. The scale of map A is smaller than the one of map B.

Figure 6. Selection of monitoring plots within site 1.



The GPS waypoints were used to locate the monitoring plots in 2013, 2015 and 2017. When the monitoring plots were located and marked in the field in the former *Pinus mugo* stand in 2013, digital pictures were taken in the direction south of the individual plots with the pinpoint frame in the centre of the image. The digital pictures proved to be a very useful tool supporting the GPS waypoints when finding the monitoring plots again in 2015 and 2017. GPS waypoints were used to locate the 45 monitoring plots that were surveyed in 2017. By using GPS and digitalised photos, a minor uncertainty in the rediscovery of the position of plots is accepted.

Various kinds of obstacles in the landscape led to the relocation of 17 plots from the original position and these were then re-coordinated using GPS. Either a part of or the entire original 5 m circle interfered with the field road system established after 2011 (monitoring plots no. 85, 87, 130, 131, 132 and 133) or with a functional ditch (plots no. 65, 66 and 67). A newly established impassable fence hindered access to two plots (plots no. 68 and 69); while five plots were moved in accordance with the inaccuracy of the GPS measurements and the digital photos taken, implying that the plots were established at approximately the same spot as in 2013 and 2015 (plots no. 86, 92, 93, 94 and 95). Finally, one plot (no. 13) was moved northward to the shore of the newly established shallow water body.

Basic information on the 100 analysed monitoring plots and the new coordinates for the moved monitoring plots are given in Appendix 1.

3 The monitoring in 2017

The investigation of the monitoring plots was carried out from 21 to 31 August 2017, six years after the clear-cutting of the plantations in July and August 2011.

3.1 Methods

The monitoring methods are by default based on the variables in the NOVANA program for terrestrial habitats (Fredshavn et al. 2011). In accordance with this, each monitoring plot consists of a core square of 0.5 * 0.5 m^2 (the pinpoint frame) and a circle with a radius of 5 m (78.5 m^2, the 5 m circle). The pinpoint frame is laid out with the broad sides oriented against the corners of the Earth by using a compass. The southwestern corner of the frame is defined by the GPS waypoint in question and is laid out as accurately as possible according to the GPS coordinates. The white string used for delimiting the 5 m circle is stretched towards the south. A digital picture is taken in the direction north from an appropriate point south of the 5 m limit, the picture covers the whole 5 m circle and has the pinpoint frame in its centre, although this is not always visible due to dense vegetation cover. Monitoring plot 92 is the only exception; here, the picture has been taken north of the 5 m circle as the pinpoint frame is placed on a north-facing slope. Picture numbers and dates are given in Appendix 1.

The pinpoint frame is divided by four strings stretched from one broad side to the opposite side in both directions, resulting in 16 points where the strings cross, i.e. 'crossover points'. The analysis of vegetation composition starts at the northwestern crossover point, followed by the neighbouring crossover point to the east, ending with the 16th crossover point in the southeastern corner. A pin is stuck vertical at each of the 16 crossover point to the surface of the soil. The parts of the vascular plant species touching the pin are determined in the field and recorded to species level, when possible. The most characteristic bryophytes and terricolous lichens (growing on the soil surface) are determined in the field, while undetermined specimens are brought back to the laboratory for identification. A few specimens are referred to either group level or termed 'undetermined'. The cryptogam flora constitutes a considerable and important part of the biodiversity in Danish dune areas wherefore identification on species level when possible has been focused.

If the pin does not touch any plant part on its way down through the vegetation cover, the underlying substrate, consisting of either dead wood, litter, soil or sand, is recorded. The entire area under the pinpoint frame is then examined for supplementary species that have not been touched by the pin, and these are recorded separately. Mean vegetation height is measured at the four corners of the pinpoint frame, starting at the inner side of the northwestern leg, ending at the southeastern corner of the frame. With a compass placed on the upper side of the pinpoint frame, the angle of the inclination is measured by using the arrow inside the compass house as an angle meter.

The examination of the 5 m circle is commenced to the south by walking along the 5 m white string. When the area along the string has been examined for additional species, the string is moved clockwise and the examination of the next area along the string begins. The search for additional species continues until all 78.5 m^2 of the 5 m circle have been examined. During the search for

additional species, the coverage of bryophytes, lichens, naked soil and sand, open water and dead wood is estimated (Table 2).

Table 2. The ecological parameters included in the monitoring program. * Soil content of organic matter and total nitrogen were measured in 2011 in two plots at each monitoring site. (X) measured for plot 92 only.

Monitoring variables	**Frame**	**Circle**	**Baseline**	**Post-construction**	
	(0.25 m²)	**(78.9 m²)**	**2011**	**2013-19**	**2021**
Vegetation composition					
Species abundances	X				
Vascular plant species at species level			X	X	X
Bryophytes at genus or species level			X	X	X
Lichens at species/group level			X	X	X
Species composition					
Vascular plant species at species level		X	X	X	X
Vegetation structure					
Mean vegetation height	X		X	X	X
Cover of dwarf shrubs		X	X	X	X
Cover of trees and bushes		X		X	X
Cover of dead wood				X	X
Cover of bryophytes		X	X	X	X
Cover of lichens		X	X	X	X
Canopy density		X	X	(X)	
Substrate					
Cover of open water	X	X	X	X	X
Cover of bare soil/sand	X	X	X	X	X
Cover of litter	X	X	X	X	X
Cover of dead wood	X	X		X	X
Litter depth		X	X		
Soil chemistry					
pH	X		X		X
Organic matter *	X		X		X
Total nitrogen *	X		X		X
Inclination of the frame and its direction	X	X	X	X	X

3.2 Results – vegetation

The vegetation and ecological data together with the digital pictures are presented in the appendices: Appendix 2 – the 20 monitoring plots in the former *Pinus mugo* stand, Appendix 3 – the 20 monitoring plots in the former *Pinus sylvestris* stand, Appendix 4 – the 25 monitoring plots in the former *Picea sitchensis* stand. The 35 new plots established in 2017 are presented as follows: Appendix 5 – the 5 monitoring plots in the former *P. sylvestris* stand, Appendix 6 – the 10 monitoring plots in the former *P. mugo* stand, Appendix 7 – the 15 plots in the former *P. sitchensis* stand, Appendix 8 – the five verge plots in the former *P. sitchensis* stand.

3.2.1 Species composition and richness

In the 100 monitoring plots, 165 taxa were recorded during the fieldwork in 2017. Eighty-seven dicots were found of which fanerophytes (trees and shrubs) included 12, chamaephytes (dwarf shrubs) 6 and therophytes (annuals) 20 taxa. With 38 taxa, monocots constituted the second largest fraction of the species composition, comprising 16 grasses, 11 sedges and 11 rushes. The

gymnosperms contributed with 5 species, while ferns and fern allies were represented by 7 species. The determinable part of the recorded cryptogam flora comprised 17 bryophyte, 4 hepatic and 7 lichen taxa. Indeterminable cryptogams were referred to *Bryopsida, Marchantiopsida, Bryophyte protonema* and *Cladonia* sp. and were not included in the analysis of the species data.

Species richness varied widely between the monitoring plots. As for the reinvestigated sites, the absolute minimum number of taxa in all the 100 monitoring plots, namely 4, was recorded in plot 97 in the former *Pinus mugo* stand, while the maximum of 27 taxa here was recorded in plot 87 (Appendix 2). Twelve taxa in plot 12 and 45 taxa in plot 17 were the minimum and maximum number of taxa registered in the former *Pinus sylvestris* stand. The latter is the highest number of species recorded in all the 100 monitoring plots (Appendix 3). In the former *Picea sitchensis* stand, the minimum number of 12 taxa was recorded in plot 46 and the maximum number of 38 in plot 70 (Appendix 4).

In the new plots established in 2017 in the former *Pinus sylvestris* stand, the minimum number of taxa, 15, was recorded in plot 104 and the highest number, 21, in plot 103 (Appendix 5). Likewise, in the former *Pinus mugo* stand and in the former *Picea sitchensis* stand, the minimum number of taxa, 9 and 16, were recorded in plot 110 and 122, while the highest number, 24 and 26, were recorded in plot 114 and 123, respectively (Appendix 6 & 7). In the five verge plots, the minimum number of 22 taxa was recorded in plot 130 and the maximum number, 40, in plot 134 (Appendix 8).

Table 3. The most abundant species in percent in the monitoring plots according to life form and plot category. PM = Pinus mugo. PSyl = Pinus sylvestris. PSit = Picea sitchensis.

Plot categories/former forest type	**PM**	**PSyl**	**PSit**	**New PM**	**New PSyl**	**New PSit**	**New verge**	**Total**
Site no.	1	8+9	2+6	4	3	5	7	
No. of plots	20	20	25	10	5	15	5	100
Fanerophytes (trees and shrubs)								
Myrica gale	0	70	4	30	0	0	20	19
Picia sitchensis	60	25	76	30	0	37	0	43
Quercus robur	35	20	8	20	0	33	0	20
Salix aurita	0	55	28	30	20	7	80	27
Chamaephytes (dwarf shrubs)								
Calluna vulgaris	85	85	96	90	100	100	100	92
Empetrum nigrum	60	35	0	70	80	13	0	32
Erica tetralix	5	65	88	50	20	67	80	56
Vaccinium uliginosum	40	45	28	80	40	47	0	41
Broadleaved herbs								
Cerastium fontanum subsp. vulgare	0	20	28	0	40	13	100	20
Chamaenerion angustifolium	25	30	52	30	80	80	20	44
Galium saxatile	40	25	28	50	80	73	0	40
Hypochaeris radicata	85	60	68	50	80	87	100	73
Lysimachia europaea	15	10	12	0	0	7	20	10
Potentilla erecta	5	65	36	30	0	53	100	39
Rumex acetosa	0	35	16	20	20	0	0	14
Rumex acetosella	45	55	68	40	60	67	100	59
Senecio sylvaticus	25	55	32	20	60	47	60	39

Plot categories/former forest type	PM	PSyl	PSit	New PM	New PSyl	New PSit	New verge	Total
Grasses and grass allies								
Agrostis capillaris	20	65	84	10	0	60	100	53
Agrostis vinealis	10	25	56	0	0	7	40	24
Avenella flexuosa	95	85	96	90	100	93	20	89
Carex arenaria	90	50	40	80	100	53	0	59
Carex echinata	5	20	50	0	0	13	60	23
Carex nigra	0	30	36	30	40	13	20	23
Carex pilulifera	0	40	40	0	0	27	40	24
Eriophorum angustifolium	5	5	44	0	0	40	20	20
Holcus lanatus	30	55	88	0	100	100	100	64
Juncus bulbosus	0	35	24	10	0	20	0	17
Juncus effusus	5	80	72	50	0	60	100	55
Juncus squarrosus	5	65	72	40	40	27	20	43
Luzula multiflora s.l.	10	20	20	20	20	40	20	21
Molinia caerulea	55	95	92	100	100	80	100	85
Ferns and fern allies								
Dryopteris carthusiana	50	65	36	30	60	73	0	49
Dryopteris dilatata	20	20	8	30	40	20	0	18
Polypodium vulgare	75	5	0	0	40	13	0	20
Bryophytes								
Campylopus introflexus	0	20	68	10	0	13	40	26
Dicranum scoparium	65	55	28	70	60	47	80	52
Hypnum cupressiforme/H. jutlandicum	70	60	76	10	20	40	40	55
Pleurozium schreberi	75	45	8	100	100	47	60	51
Polytrichum commune/Polycastrum formosum	0	15	16	20	20	20	100	18
Ptilidium ciliare	20	0	0	20	20	1	0	7
Scleropodium purum	10	10	12	100	80	67	20	32
Lichenes								
Cladonia chlorophaea aggr.	45	15	8	60	80	27	0	28
Cladonia portentosa	45	0	0	0	0	0	0	9
Cladonia sp. s.s.	55	0	4	40	40	33	0	23
Hypogymnia physodes	60	0	4	20	20	0	0	16

3.2.2 Species abundancy

The dwarf shrub *Calluna vulgaris* was the most abundant species, being recorded in 92% of the monitoring plots. The grasses *Avenella flexuosa* and *Molinia caerulea* were the second and third most abundant species recorded in 89% and 85% of the plots. Other abundant species were *Hypochaeris radicata, Holcus lanatus, Carex arenaria* and *Rumex acetosella,* which were recorded in 73%, 64%, 59% and 59% of the plots, respectively. Seven other taxa, *Erica tetralix, Hypnum cupressiforme/H. jutlandicum, Juncus effusus, Agrostis capillaris, Dicranum scoparium* and *Pleurozium schreberi,* were recorded in more than 50% of the plots. The mean number per plot was 12.3 species (Table 3).

The above-mentioned species were also the most widespread overall as they were found at all monitoring sites except for *Carex arenaria,* which did not occur

in any of the five verge plots. However, the influence of the unpaved field road is obvious as some species were either most frequent or found only in the vegetation cover on the verge next to the road. Monitoring plot 17 was an exception because the vegetation cover and the sward were scraped from a rampart with an exposed soil surface / with a naked soil surface (Table 3 & 4, Appendix 3).

Table 4. Species confined to or most abundant in percent in the verge plots (plots 130-134) according to life form and plot category. * The species is recorded in plot 17. PM = Pinus mugo. PSyl = Pinus sylvestris. PSit = Picea sitchensis.

Plot categories/former forest type	PM	PSyl	PSit	New PM	New PSyl	New PSit	New verge	Total
Site no.	1	8+9	2+6	4	3	5	7	
No. of plots	20	20	25	10	5	15	5	100
Broadleaved herbs								
Argentina anserina	0	5	0	0	0	0	80	5
Cirsium vulgare	0	5*	0	0	0	0	80	5
Medicago lupulina	0	5*	0	0	0	0	80	5
Plantago major	0	10*	8	0	0	7	100	10
Ranunculus repens	0	10*	0	0	0	0	100	7
Scorzoneroides autumnalis	0	20*	0	0	0	7	100	10
Trifolium repens	0	5*	0	0	0	0	80	5
Ferns and fern allies								
Equisetum arvensis	0	0	0	0	0	0	80	4

3.2.3 Species coverage

The maximum number of pin touches for a species is 1600 as there are 16 crossover points of the strings in the pinpoint frame. The pin may, when penetrating the vegetation cover, touch more species of vascular plants, bryophytes and lichens. When the crossover point is free of vegetation cover, the substrate touched by the pin is categorised as either dead wood, litter, naked soil, sand or free water surface.

In 2017, *Avenella flexuosa* had the highest mean coverage in the pinpoint frames, being recorded at 55% of the pins. The five road verge plots were an exception; here, *A. flexuosa* was only recorded as an additional species in the 5 m circle in plot 131. *Molinia caerulea* had the second highest mean coverage of 22%. Of other grasses and grass allies recorded at the pins in the pinpoint frames, *Agrostis capillaris* and *Holcus lanatus* had an average coverage of 5% and 9%, respectively, while *Carex arenaria* and *Juncus effusus*, *Carex echinata* and *Juncus squarrosus* had mean coverages of 10%, 4%, 2% and 1%, respectively.

Among the chamaephytes (dwarf shrubs), *Calluna vulgaris* had the highest mean coverage of 8%, followed by *Vaccinium uliginosum* with 4%. *Empetrum nigrum* and *Erica tetralix* had a mean coverage of 3% and 1%, respectively (Table 5).

The only fanerophyte (tree) recorded at the pins in the pinpoint frames was *Myrica gale* with an average of 1%. Besides, *M. gale* was recorded as a supplementary species in one pinpoint frame and as an additional species in four 5 m circles.

Table 5. The most frequent species in percent touched by the pins in the pinpoint frames in the 100 monitoring plots according to life form and plot category.

Plot categories/former forest type	PM	PSyl	PSit	New PM	New PSyl	New PSit	New verge	Average sum
Site no.	1	8+9	2+6	4	3	5	7	
No. of pins	320	320	400	160	80	240	80	
Fanerophytes (trees and shrubs)								
Myrica gale	0	3	0	5	0	0	0	1
Chamaephytes (dwarf shrubs)								
Calluna vulgaris	3	4	4	32	4	9	8	8
Empetrum nigrum	2	3	0	14	19	0	0	3
Erica tetralix	0	0	2	1	1	0	0	1
Vaccinium uliginosum	2	6	5	16	3	0	0	4
Broad-leaved herbs								
Galium saxatile	<1	<1	0	0	0	0		<1
Hypochaeris radicata	1	1	1	0	3	2	0	<1
Grasses and grass allies								
Agrostis capillaris	1	3	4	0	0	9	39	5
Avenella flexuosa	76	44	60	54	33	60	0	55
Carex arenaria	20	5	1	26	45	1	0	10
Carex echinata	0	0	7	0	0	0	6	2
Holcus lanatus	1	3	11	0	0	27	31	9
Juncus effuses	0	5	1	6	0	2	36	4
Juncus squarrosus	0	1	2	1	1	0	0	1
Molinia caerulea	0	39	25	16	14	27	31	22
Bryophytes								
Campylopus introflexus	0	0	7	0	0	0	0	2
Dicranum scoparium	1	1	2	0	0	0	5	1
Hypnum cupressiforme/ H. jutlandicum	2	3	4	0	0	4	1	3
Pleurozium schreberi	8	1	0	13	21	1	0	4
Polytrichum commune/ Polycastrum formosum	0	1	2	0	0	0	0	<1
Scleropodium purum	1	0	0	9	0	2	0	1

Galium saxatile and *Hypochaeris radicata* were the only two broad-leaved herbs recorded at the pins in the pinpoint frames. The two species formed only a minor part of the vegetation cover as their mean coverage was less than 1%.

Among the bryophytes, *Pleurozium schreberi* had the highest mean coverage of 4%, while *Hypnum cupressiforme/H. jutlandicum* had the second highest mean coverage with 3%. Of the other bryophytes, *Dicranum scoparium* and *Scleropodium purum* had a mean coverage of 1%, while the coverage of *Polytrichum* sp. s.l. was less than 1%. The invasive alien species *Campylopus introflexus* had a mean coverage of 1%, being recorded at the pins in the former *Picea sitchensis* stand only. Besides, *C. introflexus* was recorded as an additional species in the 5 m circles in most of the former forest types in the former *Pinus mugo* stand and in the new monitoring plots in the former *Pinus sylvestris* stand (Table 3 & 5, Appendix 2-8).

3.2.4 Remarkable species

One of the main actions taken to recover moist dune heathland in the project area is raising of the ground water table. To improve soil humidity, ditches in the project area have been closed and shallow waterbodies established by scraping off the uppermost layer of litter, thereby exposing the underlying, nutrient-poor sand. The waterbodies are fed by ground water and precipitation only and have no inflows except for fluxes of surface water from the surrounding areas. Besides, there are no outflows. Thus, the water surface fluctuates seasonally depending on the amount of precipitation and insolation and the height of the ground water level, creating moist and semi-moist lake shores and water evaporation on hot, dry days, a habitat type almost absent in the former and remaining plantation.

A number of low-growing species have established due to the change in growing conditions caused by the fluctuation in humidity and exposure of nutrient-poor sand. These species are vulnerable to overgrowing and are as such rare in Denmark in general especially in the more nutrient-rich part of the country. Examples are the carnivorous *Drosera rotundifolia,* the clubmoss *Lycopodiella inundata* and the freshwater species *Eleocharis multicaulis* and *Potamogeton polygonifolius.* All four species have been recorded in monitoring plot 13 located on the shore and in shallow water of the newly established waterbody.

The clubmoss *Lycopodium clavatum* was recorded in two neighbouring monitoring plots, 89 and 90, and in the dune area north of the latter in the former *Pinus mugo* stand in the hilly dune area in the northern-most sampling area (in monitoring site 1). The species was not observed in the two previous investigations of the area in 2013 and 2015 (Wind 2013, 2016) or in the baseline monitoring in 2011 (Nygaard et al. 2011).

The fern *Gymnocarpium dryopteris* was recorded in monitoring plots 117 and 119 in a former *Picea sitchensis* stand (in monitoring site 5) that was not surveyed in the baseline monitoring in 2011. Moreover, *Polygala serpyllifolia* was rediscovered in the former *Pinus sylvestris* stand where the species was recorded in 2011 (Nygaard et al. 2011).

4 Discussion

The establishment of the plantation in the Østerild area commenced relatively late compared with the afforestation of other coastal dune areas in Denmark. The primary aim of conifer planting was to hamper drift of sand. The afforestation of Østerild Plantage began in 1889 (Naturstyrelsen 2012), while the planting of trees in Hjardemål Plantage took place in the 1930s (Wind 1992). The present information on the vegetation composition in the plantation is scant and there is no available data on the state and composition of the vegetation cover before the afforestation of the Østerild area.

The establishment of the National Test Centre facility at Østerild involved clear-cutting of trees in the central part of Østerild Plantage and in the south-eastern part of Hjardemål Plantage. The general aim of the deforestation was to create space for the wind turbines and the establishment of a broad unpaved field road in order to secure access to wind turbines, tele communication masts and other facilities connected to the test centre.

The deforestation led to a reduction of the amount of tree species in the monitoring plots. The trees mostly occur as seedlings or young trees no higher than 1-2 m. A few original trees, especially *Pinus sylvestris*, are still present. The surroundings of plot 92 forms an exception as the *Pinus mugo* stand was not cleared, leaving the original trees with an open and withering canopy in 2017.

Dwarf shrubs are the most characteristic species group in both dry and wet dune heath. One of the major aims of the management of the project area is to increase the area covered by the two habitat types. The 2017 investigation proved that especially *Calluna vulgaris* was a frequent species, recorded in 92% of the monitoring plots. Other dwarf shrub species, *Empetrum nigrum, Erica tetralix* and *Vaccinium uliginosum*, were recorded in 32%, 55% and 41% of the monitoring plots, respectively, and thus constituted an important part of the vegetation cover. *Calluna* and *Empetrum* are characteristic of dry dune heath and the two other mentioned species of wet dune heath.

Grasses, rushes and sedges have benefited from the deforestation. Especially the grasses *Avenella flexuosa* and *Molinia caerulea* had spread in the former forest areas. The two grasses were recorded in 89% and 85% of the monitoring plots and were frequent in the pinpoint frames, too. *Agrostis capillaris* and *Holcus lanatus* were other dominant grasses species recorded in 53% and 64% of the monitoring plots. Among the rushes, *Juncus effusus* (55%) and *J. squarrosus* (43%) were abundant, and *Carex arenaria*, recorded in 59% of the monitoring plots, was by far the most widespread sedge. *A. flexuosa, A. capillaris, H. lanatus, J. squarrosus* and *C. arenaria* grow in dry habitats, while the remaining two species prefer habitats that are more humid.

Among the broad-leaved herbs, *Hypochaeris radicata* and *Rumex acetosella* had spread in 73% and 59% of the monitoring plots. Presence of *H. radicata* was recorded in a few pinpoint frames, while *R. acetosella* was found as a supplementary and additional species, only. Thus, the two species were widespread but did not occur in large, cohesive populations like the grasses and the dwarf shrubs.

The investigation of the 20 monitoring plots in the former *Pinus mugo* stand in 2013, 2015 and 2017 proved that the light-demanding dwarf shrub and herb vegetation had spread rapidly on the naked areas after the exposure. Likewise, light-demanding pioneer vegetation appeared within a few years in other parts of the project area. Thus, a vegetation cover consisting of different species and with a species composition depending on the degree of exposure and moisture, as well as on the management of the sites, has emerged in all the investigated monitoring plots.

The enhanced ground water level due to closing of ditches, the establishment of shallow waterbodies with fluctuating water surface levels and without in- and outflows as well as the exposure of nutrient-poor sandy surfaces have resulted in the creation of habitats not previously represented in the afforested area. This has led to the appearance of a number of new species in the Østerild plantation during the period of afforestation starting at the turn of the 20th century.

Most of the recorded vascular plant species in the monitoring plots belong to the natural vegetation cover of the Østerild area and are characteristic of dry and wet dune heaths and dune slacks. Accidental spread of invasive alien species on the newly exposed soil was a possibility after the clear-cutting of the plantations followed by removal of chopped trees, stumps and larger branches at some of the monitoring sites, with a subsequent release of nutrients. The invasive alien bryophyte *Campylopus introflexus* was indeed recorded in 26% of the monitoring plots, especially in the area of the former *Picea sitchensis* stands.

Invasion of conifer trees, especially *Picea sitchensis, Pinus mugo* and *P. sylvestris*, is a continuing threat as the three species are dominant in the remaining parts of Østerild Plantage and Hjardemål Plantage where they produce viable seeds that are able to spread to and germinate on the open areas of the project area. Conifer seedlings and minor trees were recorded in a few monitoring plots but were not a serious threat to the recovery of the target habitats. The shrubs *Rosa rugosa* and *Prunus serotina*, which both have proved to be aggressive in other dry coastal dune heath areas, were not recorded in any of the monitoring plots. Besides, modest populations or single plants of a few native herbal species, *Chamaenerion angustifolium, Galeopsis bifida* and *Senecio sylvatica*, which are able to spread rapidly and form large stands on exposed soil due to the release of nutrients, were recorded.

5 Conclusion

One hundred monitoring plots were investigated in August 2017. Of these, 65 were surveyed in the 2011 baseline monitoring, while 35 were surveyed for the first time in 2017. The reason for the change of the original monitoring program is that some of the intended management actions had not been accomplished. Accordingly, DCE decided to establish 35 new monitoring plots – 15 in a former *Picea sitchensis* stand, another 15 in a former *Pinus sylvestris* stand and 5 next to the main unpaved field road, the latter were established in a manner so that the 5 m documentary circle covered the verge in their entire width.

Following the clear-cutting of the former coniferous stands, a multitude of low-growing vascular plants, bryophytes and lichens have spread. Among the more prominent are dwarf shrubs that are characteristic of the target habitats – dry and wet heathland. Moreover, some species of grasses, rushes and sedges have become common and frequent, thus observed in more than 50% of the monitoring plots. Among the broad-leaved herbs, two species are occurring extensively in the project area.

After raising the ground water level through closure of ditches and establishment of shallow waterbodies by scraping off the litter layer and thereby exposing the bare sand, a number of vascular plant species demanding light conditions or with low nutrient requirements have occurred. In the more nutrient-rich parts of Denmark, these species are rare or missing and overgrowing vegetation may cause their disappearance.

Clear-cutting of a forest area and removal of the chopped trunks, branches and stumps may alter the composition of the soil where the trees have grown and lead to release of nutrients. In consequence, non-local native species and invasive alien species may spread on the deforested areas and compete strongly with the local flora. So far, only modest populations or single plants of invasive species have been recorded at Østerild. Nevertheless, the surrounding plantation holding *Picea sitchensis, Pinus mugo* and *P. sylvestris* is a continuous source of seeds that may spread to and invade the open habitats of the project area.

The 2017 investigation of the monitoring plots showed that a large number of species of vascular plants, bryophytes and lichens have spread and in some plots form dense vegetation swards in the project area. The spread of species has been rapid and started alongside with the clear-cutting of the stands and the removal of cut trees, trunks, branches and stumps. The establishment of wet and dry sites has created new habitats not present before and has improved the species diversity of vascular plants, bryophytes and lichens.

The major objective after the clear-cutting of the project area is to direct the vegetation succession on the areas unaffected by the National Test Centre facility towards the target communities – dry and wet heathland and dune slacks. Secondly, the project aims to improve the diversity of natural species compared with the situation before the deforestation of the project area by creating suitable habitats for light-favouring, low-growing species, species with a low nutrient demand and species depending on a fluctuating water

table and changing moistness. The results of the investigation of the 100 monitoring plots in 2017 indicate that the direction of the vegetation succession fulfils the project aim. This conclusion is preliminary, though, and a more in-depth analysis of all the gathered vegetation data will be performed after the completion of the project as a whole in 2021.

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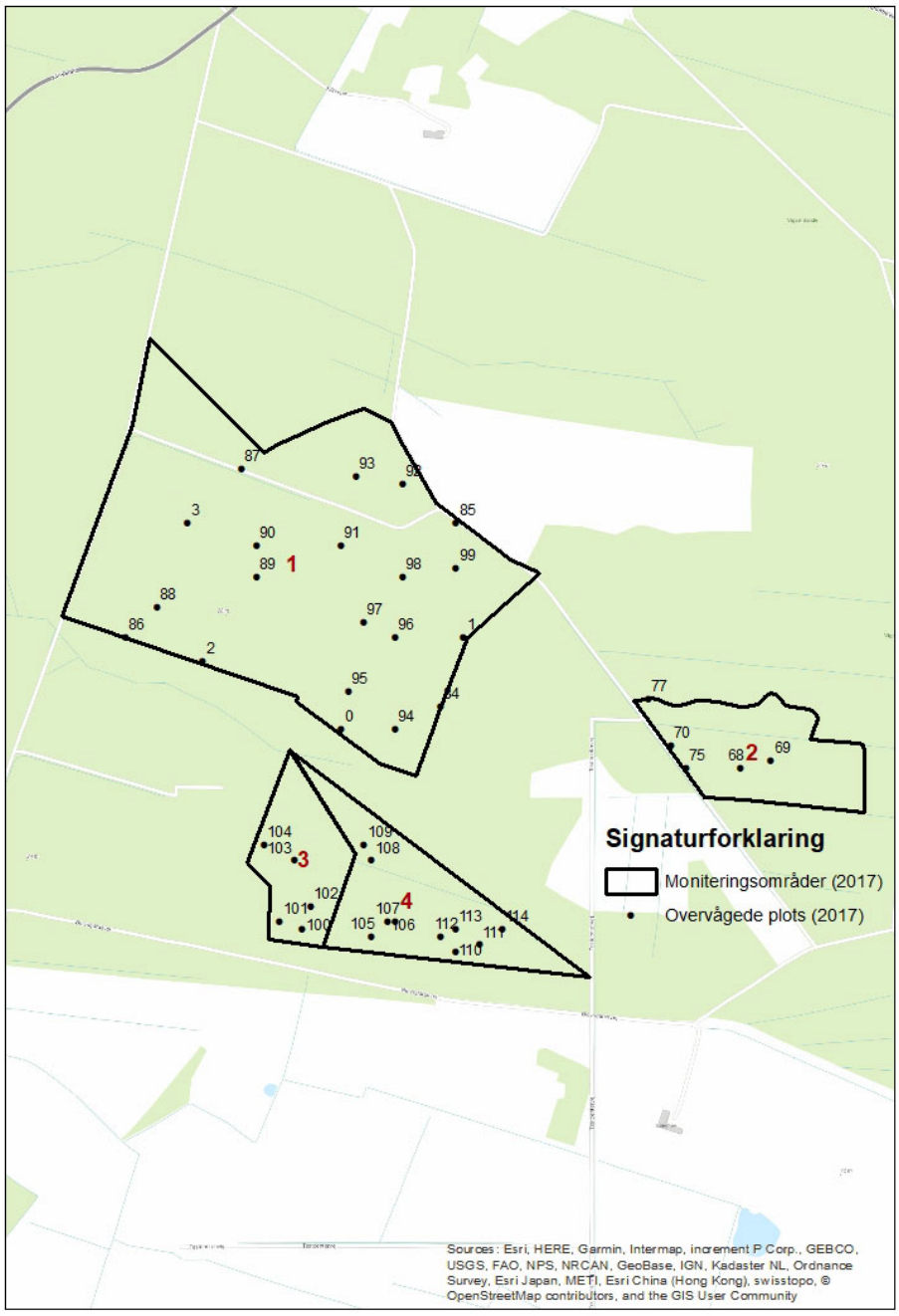
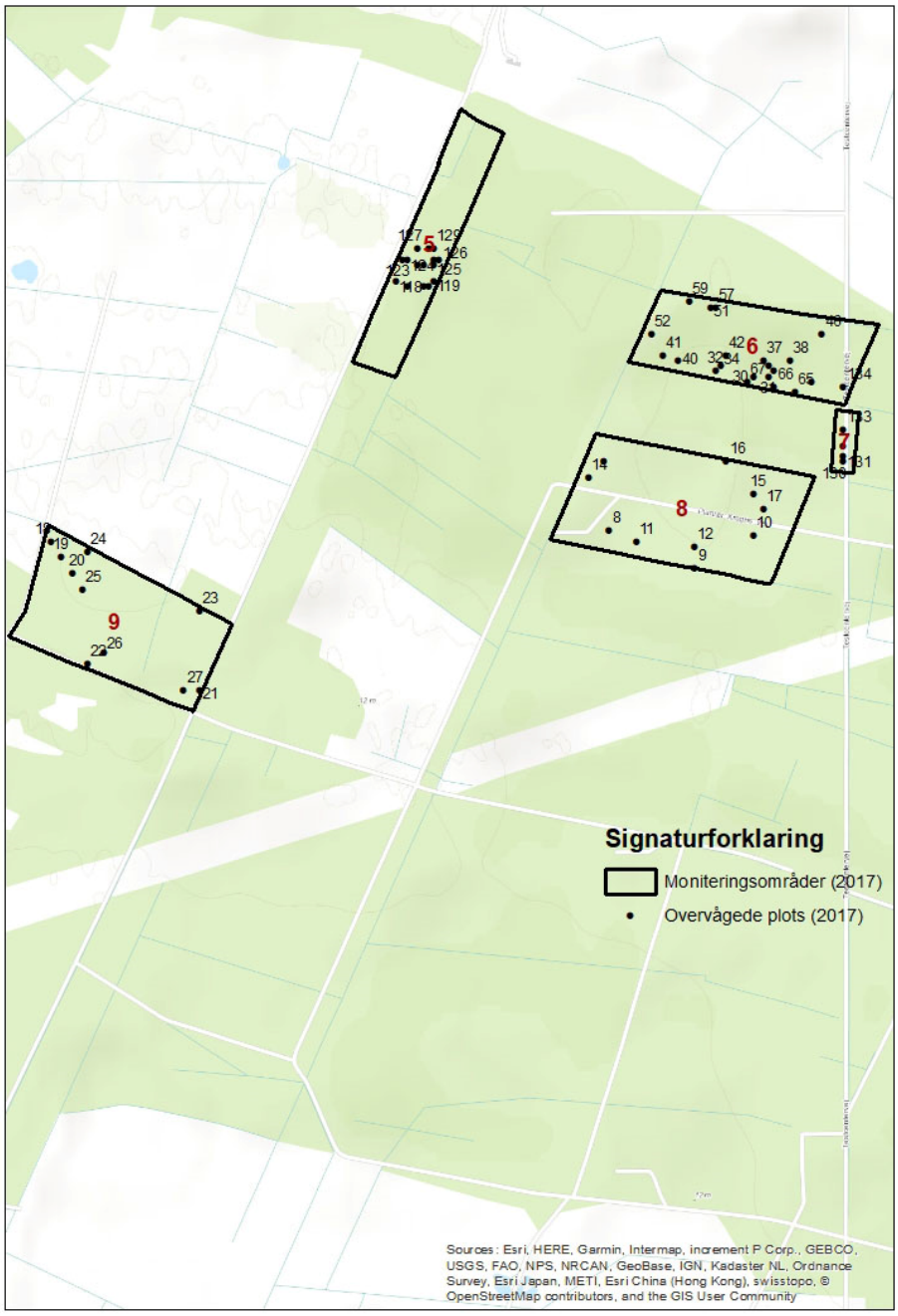
Appendix 1. Maps and overview of the investigated monitoring plots in 2017

The former canopy forming conifer species is indicated under each site number in the table. The position of the plots has not been corrected for those that have been moved.

Legends on maps: 'Moniteringsområde' – monitoring site, 'Overvågede plots' – monitoring plots surveyen in 2017.



Legends on maps: ‘Moniterings-område’ – monitoring site, ‘Over-vågede plots’ – monitoring plots surveyen in 2017.

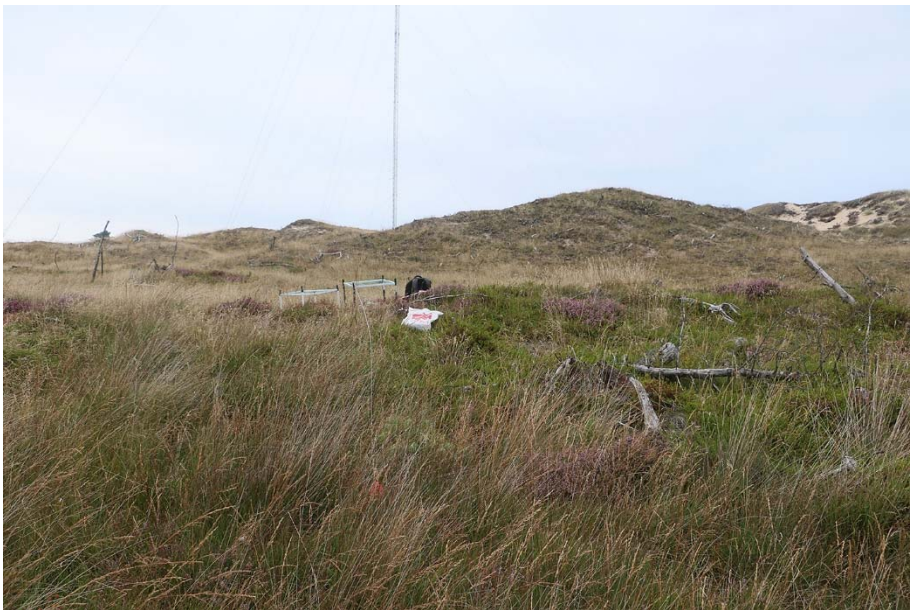


Site no.	Plot no.	Date	North	East	New plot no.	New north	New east	Picture no.
1	0	29-8	57°05.090'	8°52.759'				3987
Pinus mugo	1	24-8	57°05.154'	8°52.917'				3866
	2	24-8	57°05.138'	8°52.580'				3855
	3	24-8	57°05.235'	8°52.230'				3852
	84	30-8	57°05.106'	8°52.887'				3990
	85	24-8	57°05.235'	8°52.907'	198	57°05.232'	8°52.907'	3868
	86	24-8	57°05.154'	8°52.481'	194	57°05.165'	8°52.474'	3854
	87	24-8	57°05.273'	8°52.629'	192	57°05.265'	8°52.617'	3851
	88	24-8	57°05.176'	8°52.521'				3853
	89	24-8	57°05.197'	8°52.649'				3860
	90	24-8	57°05.219'	8°52.649'				3861
	91	24-8	57°05.219'	8°52.758'				3862
	92	29-8	57°05.262'	8°52.837'	202	57°05.261'	8°52.844'	3986
	93	29-8	57°05.267'	8°52.778'	201	57°05.270'	8°52.783'	3985
	94	30-8	57°05.090'	8°52.828'	205	57°05.090'	8°52.831'	3989
	95	29-8	57°05.117'	8°52.768'	204	57°05.118'	8°52.776'	3988
	96	24-8	57°05.154'	8°52.828'				3865
	97	24-8	57°05.165'	8°52.788'				3864
	98	24-8	57°05.197'	8°52.837'				3863
	99	24-8	57°05.203'	8°52.907'				3867
2	68	29-8	57°05.063'	8°53.273'	200	57°05.070'	8°53.226'	3981
Picea sitchensis	69	29-8	57°05.069'	8°53.313'	199	57°05.083'	8°53.222'	3980
	70	29-8	57°05.079'	8°53.184'				3983
	75	29-8	57°05.063'	8°53.204'				3982
	77	29-8	57°05.112'	8°53.114'				3984
3	100	30-8	57°04.949'	8°52.710'				4010
Pinus sylvestris	101	30-8	57°04.955'	8°52.680'				4011
	102	30-8	57°04.966'	8°52.719'				4009
	103	30-8	57°04.998'	8°52.699'				3993
	104	30-8	57°05.009'	8°52.660'				3994
4	105	30-8	57°04.944'	8°52.799'				4008
Pinus mugo	106	30-8	57°04.955'	8°52.818'				4007
	107	30-8	57°04.955'	8°52.828'				4006
	108	30-8	57°04.998'	8°52.798'				3992
	109	30-8	57°05.009'	8°52.789'				3993
	110	30-8	57°04.934'	8°52.908'				4003
	111	30-8	57°04.939	8°52.937'				3997
	112	30-8	57°04.944	8°52.888'				4005
	113	30-8	57°04.950'	8°52.908'				4004
	114	30-8	57°04.950	8°52.967'				3998
5	115	30-8	57°04.006'	8°52.267'				4021
Picea sitchensis	116	30-8	57°04.006'	8°52.297'				4012
	117	30-8	57°04.006'	8°52.307'				4013
	118	30-8	57°04.011'	8°52.248'				4014
	119	31-8	57°04.011'	8°52.317'				4035
	120	31-8	57°04.027'	8°52.287'				4027
	121	31-8	57°04.027'	8°52.297'				4028
	122	31-8	57°04.027'	8°52.317'				4034
	123	31-8	57°04.033'	8°52.257'				4025

Site no.	Plot no.	Date	North	East	New plot no.	New north	New east	Picture no.
	124	31-8	57°04.033’	8°52.267’				4026
	125	31-8	57°04.033’	8°52.317’				4032
	126	31-8	57°04.033’	8°52.327’				4033
	127	31-8	57°04.043’	8°52.287’				4029
	128	31-8	57°04.043’	8°52.307’				4030
	129	31-8	57°04.043’	8°52.317’				4031
6	29	25-8	57°03.910’	8°53.020’				3869
Picea sitchensis	30	23-8	57°03.915’	8°52.911’				3842
	31	23-8	57°03.915’	8°52.940’				3841
	32	23-8	57°03.920’	8°52.842’				3833
	34	23-8	57°03.925’	8°52.851’				3835
	35	23-8	57°03.926	8°52.940’				3839
	37	23-8	57°03.931’	8°52.940’				3837
	38	25-8	57°03.931’	8°52.980’				3870
	40	23-8	57°03.931’	8°52.772’				3832
	41	23-8	57°03.936’	8°52.743’				3827
	42	23-8	57°03.936’	8°52.861’				3836
	46	25-8	57°03.958	8°53.039’				3871
	51	23-8	57°03.985’	8°52.831’				3824
	52	23-8	57°03.958’	8°52.723’				3826
	57	23-8	57°03.985’	8°52.841’				3823
	59	23-8	57°03.990’	8°52.792’				3825
	62	23-8	57°03.920’	8°52.950’				3840
	65	23-8	57°03.899’	8°52.990’	191	57°03.903’	8°52.989’	3845
	66	23-8	57°03.904’	8°52.950’	190	57°03.910’	8°52.949’	3844
	67	23-8	57°03.909’	8°52.901’	189	57°03.913’	8°52.901’	3843
7	130	31-8	57°03.829’	8°53.079’	209	57°03.828’	8°53.072’	4040
Picea stichensis	131	31-8	57°03.834’	8°53.079’	208	57°03.834	8°53.070	4039
	132	31-8	57°03.845’	8°53.079’	207	57°03.844’	8°53.075	4038
	133	31-8	57°03.861’	8°53.079’	206	57°03.860	8°53’073’	4037
	134	31-8	57°03.904’	8°53.072’				
8	8	22-8	57°03.758’	8°52.644’				3815
PInus sylvestris	9	22-8	57°03.721’	8°52.803’				3818
	10	22-8	57°03.753’	8°52.911’				3822
	11	22-8	57°03.747’	8°52.694’				3816
	12	22-8	57°03.742’	8°52.803’				3817
	13	22-8	57°03.828’	8°52.634’	187	57°03.844’	8°52.640’	3814
	14	22-8	57°03.812’	8°52.604’				3813
	15	22-8	57°03.796’	8°52.911’				3819
	16	22-8	57°03.829’	8°52.862’				3820
	17	22-8	57°03.780’	8°52.931’				3821
9	18	21-8	57°03.746’	8°51.605’				3808
Pinus sylvestris	19	21-8	57°03.730’	8°51.625’				3809
	20	22-8	57°03.714’	8°51.645’				3810
	21	21-8	57°03.596’	8°51.883’				3803
	22	21-8	57°03.623’	8°51.675’				3807
	23	21-8	57°03.677	8°51.883’				3805
	24	22-8	57°03.736’	8°51.675’				3811
	25	22-8	57°03.698’	8°51.665’				3812
	26	21-8	57°03.633’	8°51.705’				3806
	27	21-8	57°03.596’	8°51.853’				3804

Appendix 2. Site no. 1, monitoring plot 0-3, 84-99

Monitoring plot 0. The active pin point frame is the one to the right at the bag and plastic bag, photo direction north. 29-08-2017.



Vegetation and ecological parameters in monitoring plot 0.

Height of vegetation in cm	2	2	0	0
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	10	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	5°	SW	< 1	< 1

Species recorded in monitoring plot 0. In the table, a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	11	-	-
Cladonia chlorophaea agg.		3	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	2	-	-
Calluna vulgaris	Heather	1	-	-
Carex arenaria	Sand Sedge	1	-	-
Dicranum scoparium	Broom Moss	1	-	-
Bryopsida	Mosses	1	-	-
	Dead wood	2	-	-
Carex echinata	Star Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia sp.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Empetrum nigrum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea abies	Norway Spruce	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polypodium vulgare	Polypodium	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 1. The pin point frame is located in the center, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 1.

Height of vegetation in cm	15	10	15	8
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0	-	< 1	< 1

Species recorded in monitoring plot 1. In the table a species is recorded the first time it is has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Carex arenaria	Sand Sedge	5	-	-
Calluna vulgaris	Heather	1	-	-
Ammophila arenaria	Marram	-	-	+
Cytisus scoparius	Broom	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Empetrum nigrum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polypodium vulgare	Polypody	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 2. The pin point frame is located in the center above the log, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 2.

Height of vegetation in cm	5	5	8	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	2	2	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	24º	S	1	< 1

Species recorded in monitoring plot 2. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	10	-	-
Carex arenaria	Sand Sedge	4	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	3	-	-
Cladonia chlorophaea agg.		1	-	-
	Litter	1	-	-
	Bare soil	1	-	-
Calluna vulgaris	Heather	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Polypodium vulgare	Polypody	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Bryopsida	Mosses	-	-	+

Monitoring plot 3. The pin point frame is located in the center of the picture on top of the ridge, photo direction north. 24-08-2017.

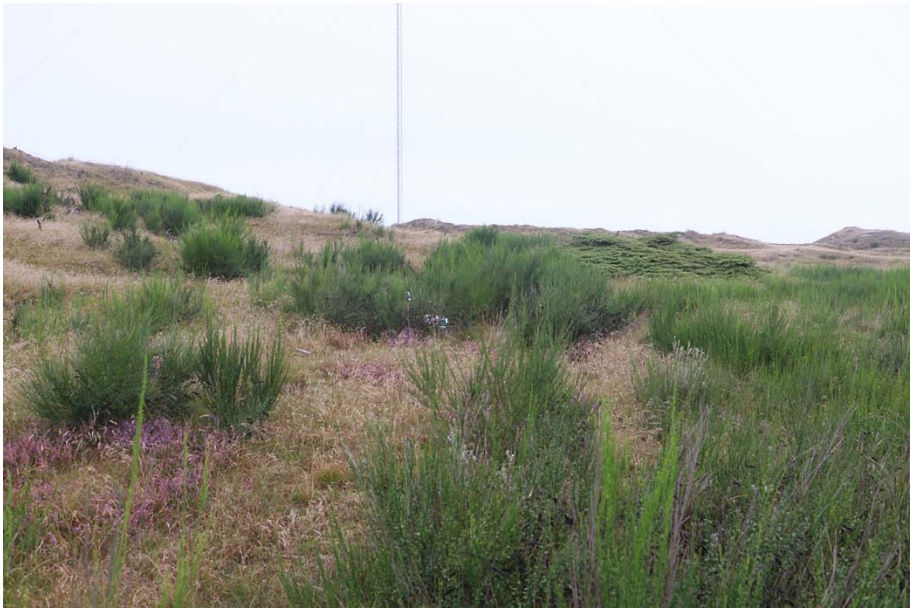
Vegetation and ecological parameters in monitoring plot 3.

Height of vegetation in cm	0	0	10	3
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	2	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	10°	S	< 1	< 1

Species recorded in monitoring plot 3. In the table a species is recorded the first time it is has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	8	-	-
Carex arenaria	Sand Sedge	3	-	-
	Litter	3	-	-
	Sand	3	-	-
Cladonia portentosa		-	+	-
Calluna vulgaris	Heather	-	-	+
Corynephorus canescens	Grey Hair-grass	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus sylvestris	Scots pine	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polypodium vulgare	Polypody	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Cladonia sp. s.s.		-	-	+
Lichenes	Lichens	-	-	+

Monitoring plot 84. The pin point frame is located in the center of the picture in front of the Broom shrub, photo direction north. 30-08-2017.



Vegetation and ecological parameters in monitoring plot 84.

Height of vegetation in cm	20	20	25	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	15	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	10°	S	< 1	< 1

Species recorded in monitoring plot 84. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	14	-	-
Calluna vulgaris	Heather	9	-	-
Carex arenaria	Sand Sedge	8	-	-
Cytisus scoparius	Broom	3	-	-
Scleropodium purum	Neat Feather-moss	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Salix repens subsp. *repens* var. *argentea*		-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp. s.s.		-	-	+

Monitoring plot 85. The pin point frame is located in the center of the picture, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 85.

Height of vegetation in cm	15	6	15	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	3	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	12	S	< 1	< 1

Species recorded in monitoring plot 85. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Empetrum nigum	Crowberry	5	-	-
Holcus lanatus	Yorkshire-fog	4	-	-
Carex arenaria	Sand Sedge	3	-	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cirsium arvense	Creeping Thistle	-	-	+
Conyza canadensis	Canadian Fleabane	-	-	+
Corynephorus canescens	Grey Hair-grass	-	-	+
Epilobium montanum	Broad-leaved Willowherb	-	-	+
Hypochaeris radicata	Cat’s-ear	-	-	+
Hypogymnia physodes		-	-	+
Jasione montana	Sheep's bit Scabious	-	-	+
Lotus corniculatus	Bird's-foot Trefoil	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosella	Sheep’s Sorrel	-	-	+
Senecio leucanthemifolius subsp. *vernalis*	Eastern Groundsel	-	-	+
Senecio viscosus	Sticky Groundsel	-	-	+
Bryopsida	Mosses	-	-	+

Monitoring plot 86. The pin point frame is located in the center of the picture on top of the ridge, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 86.

Height of vegetation in cm	3	0	15	1
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	3	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	16º	S	3	3

Species recorded in monitoring plot 86. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	13	-	-
	Litter	2	-	-
	Dead wood	1	-	-
Carex arenaria	Sand Sedge	-	+	-
Cladonia chlorophaea agg.		-	+	-
Cladonia macilenta ssp. floerkeana		-	+	-
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Cladonia portentosa		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 87. The pin point frame is located in the center of the picture on the slope, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 87.

Height of vegetation in cm	0	3	5	2
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	2	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	45º	NE	< 1	< 1

Species recorded in monitoring plot 87. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	12	-	-
Vaccinium uliginosum	Bog Bilberry	5	-	-
	Litter	3	-	-
Calluna vulgaris	Heather	-	+	-
Cladonia chlorophaea agg.		-	+	-
Hypnum cupressiforme/jutlandicum	Plait-moss	-	+	-
Ptilidium ciliare		-	+	-
Agrostis capillaris	Common Bent	-	-	+
Aira praecox	Early Hair-grass	-	-	+
Aulacomnium palustre		-	-	+
Carex arenaria	Sand Sedge	-	-	+
Cladonia portentosa		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Poa pratensis	Smooth Meadow Grass	-	-	+
Polypodium vulgare	Polypody	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Bryopsida	Mosses	-	-	+
Lichenes	Lichens	-	-	+

Monitoring plot 88. The pin point frame is located in the center of the picture in the small depression, photo direction northwest. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 88.

Height of vegetation in cm	5	12	3	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	10	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	15°	N	< 1	< 1

Species recorded in monitoring plot 88. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	14	-	-
Carex arenaria	Sand Sedge	1	-	-
	Litter	2	-	-
Chamaenerion angustifolium	Fireweed	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Polypodium vulgare	Polypody	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp. s.s.		-	-	+

Monitoring plot 89. The pin point frame is located on top of the slope, photo direction north. 24-08-2017.

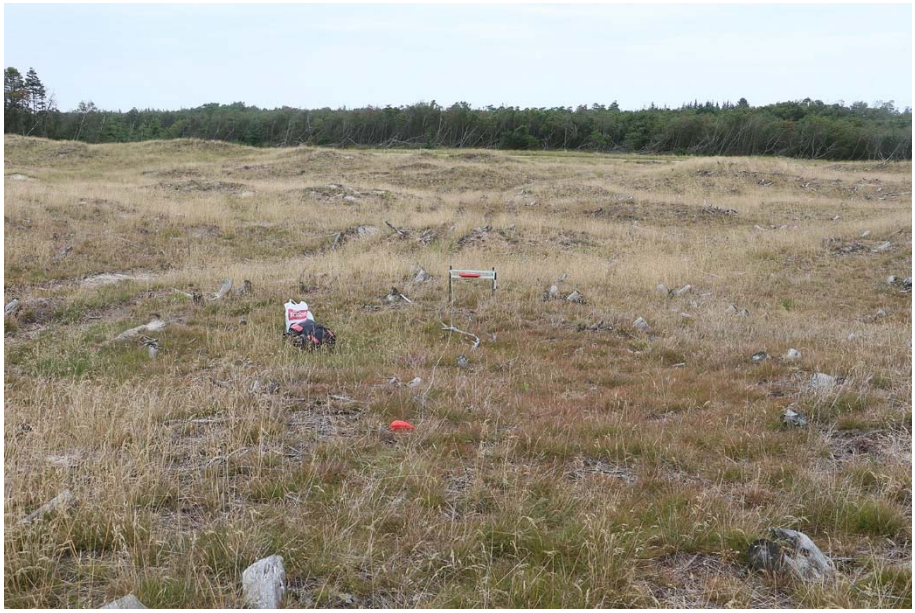
Vegetation and ecological parameters in monitoring plot 89.

Height of vegetation in cm	15	5	3	1
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	5	2	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	28º	N	5	2

Species recorded in monitoring plot 89. In the table a species is recorded the first time it is has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	4	-	-
Cladonia portentosa		-	+	-
Hypochaeris radicata	Cat's-ear	-	+	-
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypogymnia physodes		-	-	+
Lycopodium clavatum	Stag's-horn Clubmoss	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Polypodium vulgare	Polypody	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rhytidiadelphus triquetrus	Shaggy Moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+
Cladonia chlorophaea agg.		-	-	+

Monitoring plot 90. The pin point frame is located in the center of the picture, photo direction north. 24-08-2017.



Vegetation and ecological parameters in monitoring plot 90.

Height of vegetation in cm	12	5	4	0
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	3	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	4°	N	< 1	< 1

Species recorded in monitoring plot 90. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
	Litter	1	-	-
Betula pendula	Silver Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Cladonia portentosa		-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypogymnia physodes		-	-	+
Lycopodium clavatum	Stag's-horn Clubmoss	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+
Lichenes	Lichens	-	-	+

Monitoring plot 91. The pin point frame is located in the center of the picture to the right of the white plastic bag, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 91.

Height of vegetation in cm	4	1	0	12
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	3	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	2	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	12	W	3	< 1

Species recorded in monitoring plot 91. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	13	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	10	-	-
Hypogymnia physodes		2	-	-
Carex arenaria	Sand Sedge	1	-	-
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia macilenta ssp. floerkeana		-	-	+
Cladonia portentosa		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Ptilidium ciliare		-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 92. The pin point frame is located on the slope in the center of the picture, photo south. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 92.

Height of vegetation in cm	10	13	10	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	15	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	2	
Light penetration	N: 30	E: 60	S: 30	W: 21
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	30º	NE	5	< 1

Species recorded in monitoring plot 92. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	14	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	4	-	-
	Litter	1	-	-
Hypogymnia physodes		-	+	-
Pleurozium schreberi	Red-stemmed Feather-moss	-	+	-
Chamaenerion angustifolium	Fireweed	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Parmelia saxatilis		-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus contorta	Lodgepole Pine	-	-	+
Pinus mugo	Dwarf Mountain-pine	-	-	+
Polypodium vulgare	Polypody	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Lichenes	Lichens	-	-	+

Monitoring plot 93. The pin point frame is located in the center of the picture, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 93.

Height of vegetation in cm	12	8	11	18
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	5	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0	-	0	< 1
Remarks	The monitoring plot has been moved 8 m NE to a homogeneous sandy area.			

Species recorded in monitoring plot 93. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex arenaria	Sand Sedge	16	-	-
Lotus corniculatus	Bird's-foot Trefoil	6	-	-
Avenella flexuosa	Wavy Hair-grass	2	-	-
Agrostis capillaris	Common Bent	1	-	-
Agrostis vinealis	Brown Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Corynephorus canescens	Grey Hair-grass	-	-	+
Hypochaeris radicata	Cat’s-ear	-	-	+
Jasione montana	Sheep's bit Scabious	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Potentilla erecta	Tormentil	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Tussilago farfara	Coltsfoot	-	-	+
Cladonia sp. s.s.		-	-	+

Monitoring plot 94. The pin point frame is located in the center of the picture, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 94.

Height of vegetation in cm	0	9	5	7
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	3	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	15°	SW	< 1	< 1
Remarks	The sampling area has been moved 3 m E.			

Species recorded in monitoring plot 94. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Carex arenaria	Sand Sedge	9	-	-
Cladonia chlorophaea agg.		-	+	-
Hypochaeris radicata	Cat's-ear	-	+	-
Calluna vulgaris	Heather	-	-	+
Corynephorus canescens	Grey Hair-grass	-	-	+
Cytisus scoparius	Broom		-	+
Dicranum scoparium	Broom Moss	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Cladonia sp. s.s.		-	-	+

Monitoring plot 95. The pin point frame is located in the center of the picture, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 95.

Height of vegetation in cm	7	1	5	14
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0	-	< 1	< 1
Remarks	The sampling area has been moved 9 m NE.			

Species recorded in monitoring plot 95. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	13	-	-
Galium saxatile	Heath Bedstraw	1	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	1	-	-
Hypochaeris radicata	Cat's-ear	1	-	-
Cladonia chlorophaea agg.		1	-	-
Carex arenaria	Sand Sedge	-	+	-
Calluna vulgaris	Heather	-	-	+
Cladonia uncialis		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 96. The pin point frame is located in the center of the picture, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 96.

Height of vegetation in cm	10	10	5	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	25	N	< 1	< 1

Species recorded in monitoring plot 96. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	1	-	-
Calluna vulgaris	Heather	-	+	-
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia portentosa		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Cladonia chlorophaea agg.		-	-	+

Monitoring plot 97. The pin point frame is located in the center of the picture above the stump, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 97.

Height of vegetation in cm	0	0	30	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	0	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	40	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	6°	W	0	0

Species recorded in monitoring plot 97. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex arenaria	Sand Sedge	12	-	-
	Sand	4	-	-
Arrhenatherum elatius	False Oat-grass	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 98. The pin point frame is located in the center of the picture, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 98.

Height of vegetation in cm	0	5	5	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	5	< 1	2	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	2°	SW	1	1

Species recorded in monitoring plot 98. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
	Litter	8	-	-
Avenella flexuosa	Wavy Hair-grass	13	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	5	-	-
Cladonia portentosa		4	-	-
Dicranum scoparium	Broom Moss	1	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	1	-	-
	Litter	1	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Carex arenaria	Sand Sedge	-	-	+
Calluna vulgaris	Heather	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp. s.s.		-	-	+
Hypogymnia physodes		-	-	+
Polypodium vulgare	Polypody	-	-	+
Ptilidium ciliare		-	-	+
Quercus robur	Pedunculate Oak	-	-	+

Monitoring plot 99. The pin point frame is located in the center of the picture at the foot of the slope, photo direction north. 24-08-2017.

Vegetation and ecological parameters in monitoring plot 99.

Height of vegetation in cm	20	10	2	2
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	10	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	14º	N	1	5

Species recorded in monitoring plot 99. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	15	-	-
Hypnum jutlandicum	Heath Plait-moss	3	-	-
Cladonia portentosa		10	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	4	-	-
Carex arenaria	Sand Sedge	2	-	-
Picea sitchensis	Sitka Spruce	-	+	-
Agrostis vinealis	Brown Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia macilenta ssp. floerkeana		-	-	+
Chiloscyphus profundus		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Lophozia ventricosa		-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Peltigera sp.		-	-	+
Pinus mugo	Dwarf Mountain-pine	-	-	+
Ptilidium ciliare		-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Appendix 3. Site no. 8, monitoring plot 8-27

Monitoring plot 8. The pin point frame is located in the center of the picture at the end of the white string to the right of plastic bag but hidden in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 8.

Height of vegetation in cm	35	35	25	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 8. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Molinia caerulea	Purple Moor-grass	16	-	-
Avenella flexuosa	Wavy Hair-grass	6	-	-
Achillea millefolium	Yarrow	-	-	+
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Polytrichum juniperinum	Juniper Haircap	-	-	+
Potentilla erecta	Tormentil	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 9. The pin point frame is located in the center of the picture in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 9.

Height of vegetation in cm	6	30	10	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 9. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	10	-	-
Avenella flexuosa	Wavy Hair-grass	5	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	4	-	-
Juncus effusus	Common Rush	1	-	-
	Litter	1	-	-
Dryopteris carthusiana	Narrow Buckler-fern	-	+	-
Achillea ptarmica	Sneezewort	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex echinata	Star Sedge	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Holcus mollis	Creeping Soft-grass	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+

Monitoring plot 10. The pin point frame is located in the center of the picture at the end of the white string hidden in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 10.

Height of vegetation in cm	8	3	45	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	3	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	1	< 1

Species recorded in monitoring plot 10. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	10	-	-
Calluna vulgaris	Heather	5	-	-
Avenella flexuosa	Wavy Hair-grass	4	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	4	-	-
Dicranum scoparium	Broom Moss	3	-	-
Empetrum nigum	Crowberry	1	-	-
Luzula multiflora	Heath Wood-rush	1	-	-
	Bare soil	1	-	-
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Holcus mollis	Creeping Soft-grass	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+
Bryophyta, protonema		-	-	+

Monitoring plot 11. The pin point frame is located in the center of the picture in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 11.

Height of vegetation in cm	25	30	35	35
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 11. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	13	-	-
Molinia caerulea	Purple Moor-grass	6	-	-
	Bare soil	2	-	-
Agrostis vinealis	Brown Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus effusus	Common Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Polypodium vulgare	Polypodium	-	-	+
Polytrichum piliferum	Haircap Moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Bryophyta 11-2		-	-	+

Monitoring plot 12. The pin point frame is located in the center of the picture in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 12.

Height of vegetation in cm	16	20	35	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	16	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 12. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	16	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	5	-	-
Avenella flexuosa	Wavy Hair-grass	3	-	-
Myrica gale	Bog-myrtle	3	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Carex nigra	Common Sedge	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 13. The pin point frame is located in the center of the picture on the northern lake shore, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 13.

Height of vegetation in cm	10	5	6	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	8
	Bare soil	Bare sand	Dead wood	
Cover in m^2	26	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0
Remarks	The monitoring plot has been moved 30 m N to cover the vegetation cover on the lake shore.			

Species recorded in monitoring plot 13. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Juncus bulbosus	Bulbous Rush	16	-	-
Salix repens subsp. repens var. repens	Creeping Willow	3	-	-
Eleocharis multicaulis	Many-stalked Spike-rush	2	-	-
Molinia caerulea	Purple Moor-grass	1	-	-
Salix aurita	Eared Willow	1	-	-
Epilobium palustre	Marsh Willowherb	-	+	-
Gnaphalium uliginosum	Marsh Cudweed	-	+	-
Polytrichum commune	Common Haircap	-	+	-
Ranunculus flammula	Lesser Spearwort	-	+	-
Achillea ptarmica	Sneezewort	-	-	+
Agrostis capillaris	Common Bent	-	-	+
Bidens tripartite	Trifid Bur-marigold	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex oederi subsp. pulchella		-	-	+
Cirsium palustre	Marsh Thistle	-	-	+
Drosera rotundifolia	Round-leaved Sundew	-	-	+
Epilobium adenocaulon	American Willowherb	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Hydrocotyle vulgaris	Marsh Pennywort	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus anceps		-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Lycopodiella inundata	Marsh Clubmoss	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Plantago major	Greater Plantain	-	-	+
Potamogeton polygonifolius	Bog Pondweed	-	-	+
Salix aurita	Eared Willow	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 14. The pin point frame is located in the center of the picture at the end of the white string nearly hidden in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 14.

Height of vegetation in cm	30	30	25	35
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	26	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 14. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Agrostis capillaris	Common Bent	10	-	-
Carex nigra	Common Sedge	7	-	-
Juncus effusus	Common Rush	4	-	-
Juncus squarrosus	Heath Rush	2	-	-
Calluna vulgaris	Heather	1	-	-
Myrica gale	Bog-myrtle	1	-	-
Polytrichum commune	Common Haircap	1	-	-
Achillea ptarmica	Sneezewort	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Daucus carota subsp. carota	Wild Carrot	-	-	+
Juncus anceps		-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Spergula arvensis	Sea-spurreys	-	-	+
Teesdalia nudicaulis	Shepherd's Cress	-	-	+

Monitoring plot 15. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 15.

Height of vegetation in cm	10	4	0	0
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	1
	Bare soil	Bare sand	Dead wood	
Cover in m^2	36	0	0	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	15º	NW	0	0

Species recorded in monitoring plot 15. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
	Bare soil	12	-	-
Agrostis capillaris	Common Bent	1	-	-
Carex nigra	Common Sedge	1	-	-
Molinia caerulea	Purple Moor-grass	1	-	-
Spergula arvensis	Sea-spurreys	1	-	-
Agrostis gigantea	Black Bent	-	-	+
Argentina anserina	Silverweed	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Betula pendula	Silver Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex echinata	Star Sedge	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Persicaria hydropiper	Water-pebber	-	-	+
Persicaria lapathifolia subsp. pallida	Pale Persicaria	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 16. The pin point frame is located in the center of the picture in the dense vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 16.

Height of vegetation in cm	22	22	35	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	< 1
	Bare soil	Bare sand	Dead wood	
Cover in m^2	8	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 16. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	12	-	-
Juncus effusus	Common Rush	10	-	-
Molinia caerulea	Purple Moor-grass	7	-	-
Chiloscyphus latifolius		2	-	-
Dicranum scoparium	Broom Moss	1	-	-
Myrica gale	Bog-myrtle	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Polytrichum commune	Common Haircap	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 17. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 17.

Height of vegetation in cm	7	10	0	0
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	0	0	0	18
	Bare soil	Bare sand	Dead wood	
Cover in m^2	18	0	0	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 17. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
	Bare soil	7	-	-
Holcus lanatus	Yorkshire-fog	4	-	-
Agrostis vinealis	Brown Bent	2	-	-
Juncus conglomeratus	Compact Rush	2	-	-
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	1	-	-
Polygonum aviculare	Knotgrass	-	+	-
Senecio sylvaticus	Heath Groundsel	-	+	-
Achillea ptarmica	Sneezewort	-	-	+
Agrostis capillaris	Common Bent	-	-	+
Bidens tripartita	Trifid Bur-marigold	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Cirsium palustre	Marsh Thistle	-	-	+
Cirsium vulgare	Spear Thistle	-	-	+
Epilobium adenocaulon	American Willowherb	-	-	+
Epilobium hirsutum	Great Willowherb	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Gnaphalium uliginosum	Marsh Cudweed	-	-	+
Holcus mollis	Creeping Soft-grass	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus bufonius	Toad Rush	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus filiformis	Thread Rush	-	-	+
Lysimachia arvensis	Scarlet Pimpernel	-	-	+
Matricaria dicoidea	Pineappleweed	-	-	+
Medicago lupulina	Black Medick	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Persicaria lapathifolia subsp. pallida	Pale Persicaria	-	-	+
Plantago major	Greater Plantain	-	-	+
Poa annua	Annual Meadow-grass	-	-	+
Potentilla erecta	Tormentil	-	-	+
Ranunculus flammula	Lesser Spearwort	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Rumex crispus	Curled Duck	-	-	+
Sagina nodosa	Knotted Pearlwort	-	-	+
Sagina procumbens	Procumbent Pearlwort	-	-	+
Salix cinerea	Grey Willow	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Spergula arvensis	Sea-spurreys	-	-	+
Stellaria media	Common Chickweed	-	-	+
Trifolium pratense	Red Clover	-	-	+
Trifolium repens	White Clover	-	-	+
Viola palustris	Marsh Violet	-	-	+
Bryophyta, protonema		-	-	+

Monitoring plot 18. The pin point frame is located in the center of the picture at the end of the white string hidden behind the scrub, photo direction north. 21-08-2017.

Vegetation and ecological parameters in monitoring plot 18.

Height of vegetation in cm	7	20	5	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	26	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 18. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	10	-	-
Molinia caerulea	Purple Moor-grass	8	-	-
Carex arenaria	Sand Sedge	2	-	-
	Dead wood	1	-	-
	Litter	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix cinerea	Grey Willow	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 19. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 21-08-2017.

Vegetation and ecological parameters in monitoring plot 19.

Height of vegetation in cm	6	6	7	0
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	5	1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 19. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	7	-	-
Molinia caerulea	Purple Moor-grass	6	-	-
Carex arenaria	Sand Sedge	3	-	-
Dryopteris carthusiana	Narrow Buckler-fern	1	-	-
	Litter	1	-	-
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme	Cypress-leaved Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 20. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 20.

Height of vegetation in cm	13	10	15	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	10	30	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 20. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	16	-	-
Avenella flexuosa	Wavy Hair-grass	8	-	-
Myrica gale	Bog-myrtle	6	-	-
Erica tetralix	Cross-leaved Heath	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Salix aurita	Eared Willow	-	-	+

Monitoring plot 21. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 21-08-2017.

Vegetation and ecological parameters in monitoring plot 21.

Height of vegetation in cm	7	8	10	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	3	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 21. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	11	-	-
Avenella flexuosa	Wavy Hair-grass	9	-	-
Carex arenaria	Sand Sedge	2	-	-
	Dead wood	1	-	-
	Litter	1	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Senecio sylvaticus	Heath Groundsel	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Anthriscus sylvestris	Cow Parsley	-	-	+
Betula pubescens	Downy Birch	-	-	+
Bidens tripartita	Trifid Bur-marigold	-	-	+
Calluna vulgaris	Heather	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Cytisus scoparius	Broom	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Juncus effusus	Common Rush	-	-	+
Lycopus europaeus	Gypsywort	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Poa pratensis	Smooth Meadow Grass	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Sorbus intermedia	Swedish Whitebeam	-	-	+
Stellaria media	Common Chickweed	-	-	+

Monitoring plot 22. The pin point frame is located to the left of the center of the picture in the open vegetation cover, photo direction north. 21-08-2017.

Vegetation and ecological parameters in monitoring plot 22.

Height of vegetation in cm	5	6	8	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	40	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 22. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Vaccinium uliginosum	Bog Bilberry	6	-	-
Molinia caerulea	Purple Moor-grass	4	-	-
Carex arenaria	Sand Sedge	3	-	-
Calluna vulgaris	Heather	2	-	-
Holcus lanatus	Yorkshire-fog	-	+	-
Hypochaeris radicata	Cat's-ear	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cirsium palustre	Marsh Thistle	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+

Monitoring plot 23. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 21-08-2017.

Vegetation and ecological parameters in monitoring plot 23.

Height of vegetation in cm	10	15	10	12
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	52	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 23. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Vaccinium uliginosum	Bog Bilberry	13	-	-
Avenella flexuosa	Wavy Hair-grass	12	-	-
Molinia caerulea	Purple Moor-grass	11	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	2	-	-
Calluna vulgaris	Heather	1	-	-
Carex arenaria	Sand Sedge	1	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Dactylis glomeratus	Cock's-foot	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Epilobium montanum	Broad-leaved Willowherb	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Trichophorum cespitosum subsp. germanicum	Deergrass	-	-	+

Monitoring plot 24. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 24.

Height of vegetation in cm	17	0	13	8
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	2	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 24. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	13	-	-
Avenella flexuosa	Wavy Hair-grass	6	-	-
	Litter	2	-	-
Agrostis vinealis	Brown Bent	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polygala serpyllifolia	Heath Milkwort	-	-	+
Potentilla erecta	Tormentil	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+

Monitoring plot 25. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 22-08-2017.

Vegetation and ecological parameters in monitoring plot 25.

Height of vegetation in cm	5	5	2	4
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	8°	SE	< 1	< 1

Species recorded in monitoring plot 25. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Galium saxatile	Heath Bedstraw	1	-	-
	Litter	1	-	-
Carex arenaria	Sand Sedge	-	+	-
Hypnum cupressiforme/jutlandicum	Plait-moss	-	+	-
Calluna vulgaris	Heather	-	-	+
Carex nigra	Common Sedge	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rhytidiadelphus squarrosus	Springy Tuff-moss	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 26. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 21-08-2017.

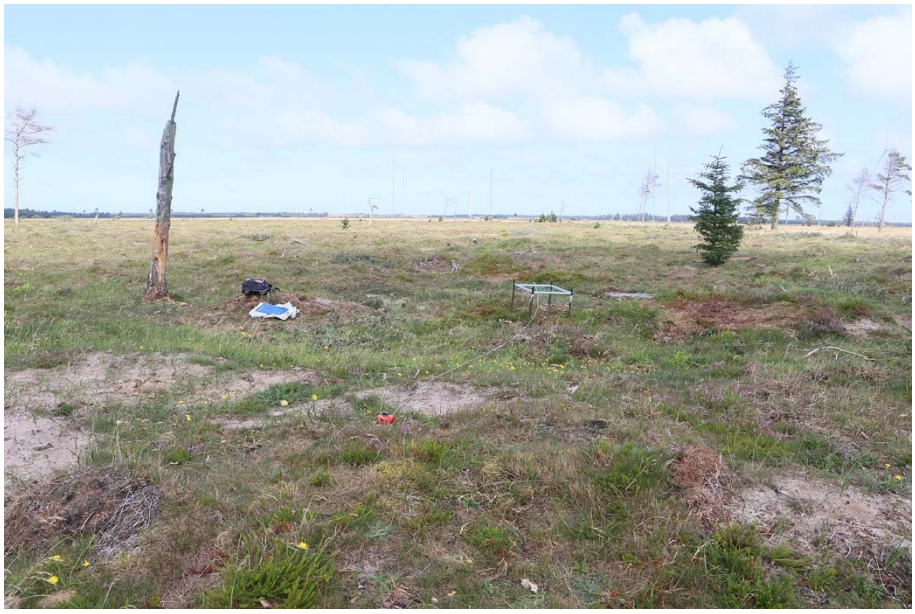
Vegetation and ecological parameters in monitoring plot 26.

Height of vegetation in cm	12	0	6	8
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	39	1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	4	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	SE	< 1	0

Species recorded in monitoring plot 26. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	7	-	-
Carex arenaria	Sand Sedge	4	-	-
Hypochaeris radicata	Cat's-ear	1	-	-
	Dead wood	1	-	-
	Sand	1	-	-
Calluna vulgaris	Heather	-	+	-
Campylopus inflexus	Heath Star-moss	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 27. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 21-08-2017.



Vegetation and ecological parameters in monitoring plot 27.

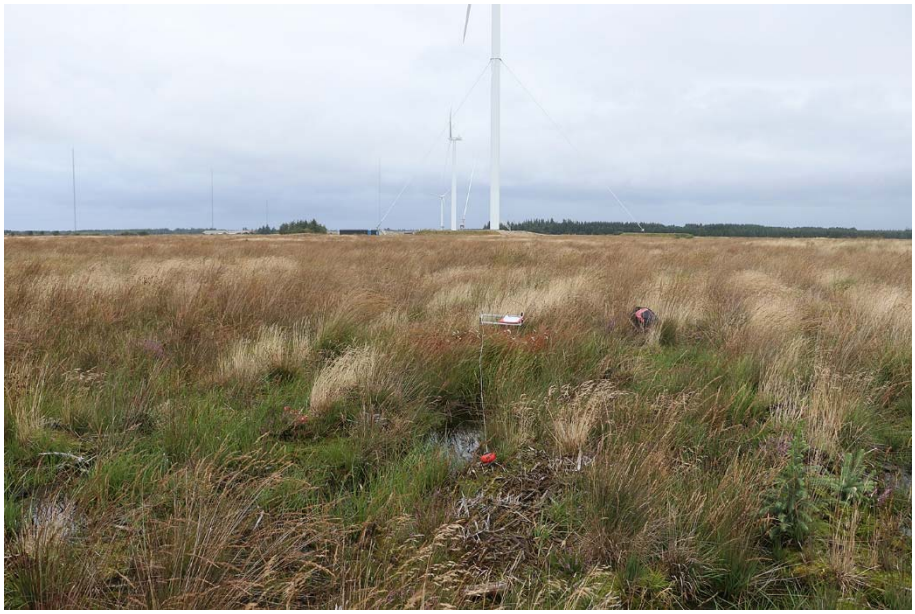
Height of vegetation in cm	5	3	5	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	5	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	7°	SE	1	0

Species recorded in monitoring plot 27. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Empetrum nigum	Crowberry	10	-	-
Avenella flexuosa	Wavy Hair-grass	9	-	-
Scleropodium purum	Neat Feather-moss	1	-	-
	Litter	2	-	-
Carex arenaria	Sand Sedge	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Appendix 4. Site no. 2, monitoring plot 68-77, site no. 6, monitoring plot 29-67

Monitoring plot 29. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 25-08-2017.



Vegetation and ecological parameters in monitoring plot 29.

Height of vegetation in cm	10	50	20	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	2
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	3	0

Species recorded in monitoring plot 29. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Carex canescens	Grey Sedge	5	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	4	-	-
Holcus lanatus	Yorkshire-fog	4	-	-
Juncus squarrosus	Heath Rush	3	-	-
Molinia caerulea	Purple Moor-grass	3	-	-
Avenella flexuosa	Wavy Hair-grass	1	-	-
Erica tetralix	Cross-leaved Heath	1	-	-
Eriophorum angustifolium	Common Cottongrass	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Hypnum curessiforme	Cypress-leaved Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus filiformis	Thread Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Polytrichum commune	Common Haircap	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+

Monitoring plot 30. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 30.

Height of vegetation in cm	8	18	0	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	1
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	3	0

Species recorded in monitoring plot 30. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex echinata	Star Sedge	12	-	-
Molinia caerulea	Purple Moor-grass	8	-	-
Campylopus inflexus	Heath Star-moss	4	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	2	-	-
	Litter	1	-	-
Calluna vulgaris	Heather	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Poa pratensis	Smooth Meadow Grass	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 31. The pin point frame is located in the center of the picture in the semi-open vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 31.

Height of vegetation in cm	20	3	45	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	0	0	3
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	5	0

Species recorded in monitoring plot 31. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex echinata	Star Sedge	12	-	-
Molinia caerulea	Purple Moor-grass	9	-	-
Juncus effusus	Common Rush	4	-	-
Campylopus inflexus	Heath Star-moss	4	-	-
Eriophorum angustifolium	Common Cottongrass	3	-	-
Dicranum scoparium	Broom Moss	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Polytrichastrum formosum	Bank Haircap	-	-	+
Salix aurita	Eared Willow	-	-	+

Monitoring plot 32. The pin point frame is located in the center of the picture at the end of the white string in the dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 32.

Height of vegetation in cm	20	20	25	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	1	0

Species recorded in monitoring plot 32. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	14	-	-
Holcus lanatus	Yorkshire-fog	5	-	-
Dicranum scoparium	Broom Moss	4	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	4	-	-
Aira praecox	Early Hair-grass	-	+	-
Calluna vulgaris	Heather	-	+	-
Hypochaeris radicata	Cat's-ear	-	+	-
Rumex acetosella	Sheep's Sorrel	-	+	-
Agrostis vinealis	Brown Bent	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+
Bryopsida 32		-	-	+

Monitoring plot 34. The pin point frame is located in the center of the picture in the dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 34.

Height of vegetation in cm	5	5	4	0
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	3	0

Species recorded in monitoring plot 34. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Carex pilulifera	Pill Sedge	-	+	-
Holcus lanatus	Yorkshire-fog	-	+	-
Molinia caerulea	Purple Moor-grass	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Betula pendula	Silver Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Polytrichum juniperinum	Juniper Haircap	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 35. The pin point frame is located in the center of the picture at the end of the white string hidden in the dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 35.

Height of vegetation in cm	30	30	40	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 35. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Molinia caerulea	Purple Moor-grass	6	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex echinata	Star Sedge	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Salix aurita	Eared Willow	-	-	+

Monitoring plot 37. The pin point frame is located in the center of the picture at the end of the white string hidden in the dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 37.

Height of vegetation in cm	28	27	7	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	2	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	5	0

Species recorded in monitoring plot 37. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	14	-	-
Calluna vulgaris	Heather	4	-	-
Erica tetralix	Cross-leaved Heath	1	-	-
Campylopus inflexus	Heath Star-moss	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Cytisus scoparius	Broom	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 38. The pin point frame is located in the center of the picture at the end of the white string nearly hidden in the dense vegetation cover, photo direction north. 25-08-2017.

Vegetation and ecological parameters in monitoring plot 38.

Height of vegetation in cm	25	25	5	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	2	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	2	0

Species recorded in monitoring plot 38. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Holcus lanatus	Yorkshire-fog	6	-	-
Erica tetralix	Cross-leaved Heath	3	-	-
Juncus squarrosus	Heath Rush	1	-	-
Campylopus inflexus	Heath Star-moss	1	-	-
Scleropodium purum	Neat Feather-moss	1	-	-
Bryopsida	Mosses	1	-	-
Calluna vulgaris	Heather	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus effusus	Common Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Polytrichum commune	Common Haircap	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 40. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 40.

Height of vegetation in cm	20	10	30	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	3	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	2	0

Species recorded in monitoring plot 40. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Holcus lanatus	Yorkshire-fog	3	-	-
Carex pilulifera	Pill Sedge	1	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	-	+	-
Hypochaeris radicata	Cat's-ear	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 41. The pin point frame is located in the center of the picture in the semi-open vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 41.

Height of vegetation in cm	15	7	10	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	2	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	1	0

Species recorded in monitoring plot 41. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Agrostis capillaris	Common Bent	16	-	-
Holcus lanatus	Yorkshire-fog	7	-	-
Carex arenaria	Sand Sedge	1	-	-
Agrostis vinealis	Brown Bent	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex nigra	Common Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Chiloscyphus latifolius		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 42. The pin point frame is located in the center of the picture in the semi-open vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 42.

Height of vegetation in cm	30	0	28	28
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	5	0

Species recorded in monitoring plot 42. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	12	-	-
Campylopus inflexus	Heath Star-moss	1	-	-
	Dead wood	2	-	-
	Litter	2	-	-
Calluna vulgaris	Heather	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Carex panacea	Carnation Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cytisus scoparius	Broom	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 46. The pin point frame is located in the center of the picture in the semi-open vegetation cover, photo direction north. 25-08-2017.

Vegetation and ecological parameters in monitoring plot 46.

Height of vegetation in cm	5	10	10	6
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	0	< 1	0	1
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	8	0

Species recorded in monitoring plot 46. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Juncus bulbosus	Bulbous Rush	12	-	-
Molinia caerulea	Purple Moor-grass	4	-	-
Bryopsida	Mosses	3	-	-
Avenella flexuosa	Wavy Hair-grass	2	-	-
Eriophorum angustifolium	Common Cottongrass	1	-	-
	Litter	2	-	-
Dicranum scoparium	Broom Moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus filiformis	Thread Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Potentilla erecta	Tormentil	-	-	+

Monitoring plot 51. The pin point frame is located in the center of the picture nearly hidden in the dense vegetation cover where the white notes paper can be seen, only, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 51.

Height of vegetation in cm	20	25	25	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 51. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Calluna vulgaris	Heather	3	-	-
Holcus mollis	Creeping Soft-grass	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 52. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 52.

Height of vegetation in cm	30	0	25	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	2	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 52. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	11	-	-
Holcus mollis	Creeping Soft-grass	6	-	-
Carex arenaria	Sand Sedge	2	-	-
Hypochaeris radicata	Cat's-ear	1	-	-
	Dead wood	2		
Calluna vulgaris	Heather	-	+	-
Carex pilulifera	Pill Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Lactuca muralis	Wall Letuce	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 57. The pin point frame is located in the center of the picture nearly hidden in the semi-dense vegetation cover to the left of the white plastic bag, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 57.

Height of vegetation in cm	25	25	30	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	0	0

Species recorded in monitoring plot 57. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Holcus mollis	Creeping Soft-grass	2	-	-
Agrostis vinealis	Brown Bent	-	+	-
Hypochaeris radicata	Cat's-ear	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 59. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 59.

Height of vegetation in cm	30	30	35	30
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 59. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Holcus mollis	Creeping Soft-grass	7	-	-
Agrostis capillaris	Common Bent	1	-	-
Calluna vulgaris	Heather	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cytisus scoparius	Broom	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus effusus	Common Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+

Monitoring plot 62. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 62.

Height of vegetation in cm	20	20	18	45
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	1
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	2	0

Species recorded in monitoring plot 62. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	12	-	-
Calluna vulgaris	Heather	7	-	-
Molinia caerulea	Purple Moor-grass	6	-	-
Holcus mollis	Creeping Soft-grass	3	-	-
Carex arenaria	Sand Sedge	1	-	-
	Dead wood	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Polytrichastrum formosum	Bank Haircap	-	-	+
Potentilla erecta	Tormentil	-	-	+
Salix aurita	Eared Willow	-	-	+

Monitoring plot 65. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 65.

Height of vegetation in cm	10	15	35	25
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0
Remarks	The original monitoring plot was too close to a ditch covered with *Juncus effusus*. The monitoring plot has been moved 10 m N.			

Species recorded in monitoring plot 65. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Molinia caerulea	Purple Moor-grass	9	-	-
Juncus squarrosus	Heath Rush	5	-	-
Calluna vulgaris	Heather	1	-	-
Erica tetralix	Cross-leaved Heath	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex echinata	Star Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 66. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 66.

Height of vegetation in cm	0	7	1	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	3	0
Remarks	The original monitoring plot was too close to a ditch covered with *Juncus effusus*. The monitoring plot has been moved 10 m N.			

Species recorded in monitoring plot 66. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Polytrichum commune	Common Haircap	8	-	-
Eriophorum angustifolium	Common Cottongrass	5	-	-
Campylopus inflexus	Heath Star-moss	3	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	2	-	-
Molinia caerulea	Purple Moor-grass	2	-	-
Agrostis vinealis	Brown Bent	1	-	-
Avenella flexuosa	Wavy Hair-grass	1	-	-
Erica tetralix	Cross-leaved Heath	1	-	-
	Litter	1	-	-
Holcus lanatus	Yorkshire-fog	-	+	-
Calluna vulgaris	Heather	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Potentilla erecta	Tormentil	-	-	+

Monitoring plot 67. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 23-08-2017.

Vegetation and ecological parameters in monitoring plot 67.

Height of vegetation in cm	0	7	1	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	3	0
Remarks	The original monitoring plot was too close to a ditch covered with *Juncus effusus*. The monitoring plot has been moved 10 m N.			

Species recorded in monitoring plot 67. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Campylopus inflexus	Heath Star-moss	12	-	-
Molinia caerulea	Purple Moor-grass	9	-	-
Avenella flexuosa	Wavy Hair-grass	3	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	1	-	-
	Dead wood	1	-	-
Calluna vulgaris	Heather	-	+	-
Holcus lanatus	Yorkshire-fog	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 68. The pin point frame is located in the center of the picture at the end of the white string almost hidden in the dense vegetation cover, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 68.

Height of vegetation in cm	9	13	8	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	0	2	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	1	0
Remarks	The monitoring plot has been moved 50 m W because of the erection of an impassable fence.			

Species recorded in monitoring plot 68. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Molinia caerulea	Purple Moor-grass	14	-	-
Vaccinium uliginosum	Bog Bilberry	6	-	-
Dicranum scoparium	Broom Moss	3	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	2	-	-
Carex nigra	Common Sedge	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Aulacomnium palustre	Bog Bead-moss	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex canescens	Grey Sedge	-	-	+
Carex echinata	Star Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Epilobium palustre	Marsh Willowherb	-	-	+
Epilobium sp.				+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Gnaphalium uliginosum	Marsh Cudweed	-	-	+
Holcus lanatus	Yorkshire-fog	-	+	-
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus anceps		-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus filiformis	Thread Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Polytrichum piliferum	Haircap Moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix cinerea	Grey Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 69. The pin point frame is located in the center of the picture at the end of the white string in the semi-dense vegetation cover, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 69.

Height of vegetation in cm	9	5	10	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	< 1	3	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0
Remarks	The monitoring plot has been moved 100 m W because of the establishment of an impassable fence.			

Species recorded in monitoring plot 69. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	16	-	-
Carex echinata	Star Sedge	14	-	-
Quercus robur	Pedunculate Oak	1	-	-
Dicranum scoparium	Broom Moss	1	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex canescens	Grey Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Juncus effusus	Common Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sorbus intermedia	Swedish Whitebeam	-	-	+

Monitoring plot 70. The pin point frame is located in the center of the picture at the end of the white string covered by the dense vegetation cover, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 70.

Height of vegetation in cm	22	18	0	3
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 70. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	15	-	-
Carex nigra	Common Sedge	6	-	-
Molinia caerulea	Purple Moor-grass	3	-	-
Chamaenerion angustifolium	Fireweed	1	-	-
	Dead wood	1	-	-
Holcus lanatus	Yorkshire-fog	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Bidens tripartita	Trifid Bur-marigold	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex echinata	Star Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Cladonia chlorophaea agg.		-	-	+
Epilobium montanum	Broad-leaved Willowherb	-	-	+
Epilobium palustre	Marsh Willowherb	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Gnaphalium uliginosum	Marsh Cudweed	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus bufonius	Toad Rush	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus filiformis	Thread Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Plantago major	Greater Plantain	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix cinerea	Grey Willow	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 75. The pin point frame is located in the center of the picture at the end of the white string in the semi-dense vegetation cover, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 75.

Height of vegetation in cm	20	13	30	18
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	5	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 75. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	13	-	-
Vaccinium uliginosum	Bog Bilberry	12	-	-
Molinia caerulea	Purple Moor-grass	11	-	-
Holcus lanatus	Yorkshire-fog	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia sp.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus bufonius	Toad Rush	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula congesta		-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Plantago major	Greater Plantain	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 77. The pin point frame is located in the center of the picture at the end of the white string in the dense vegetation cover at the black bag, photo direction north. 29-08-2017.

Vegetation and ecological parameters in monitoring plot 77.

Height of vegetation in cm	50	35	50	35
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	<1	0	0	< 1
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	2	< 1

Species recorded in monitoring plot 77. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	16	-	-
Carex echinata	Star Sedge	-	+	-
Holcus lanatus	Yorkshire-fog	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex nigra	Common Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum jutlandicum	Heath Plait-moss	-	-	+
Hypogymnia physodes		-	-	+
Juncus effusus	Common Rush	-	-	+
Potentilla erecta	Tormentil	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sphagnum fimbriatum	Fringed Bog-moss	-	-	+

Appendix 5. Site no. 3, monitoring plot 100-104

Monitoring plot 100. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 100.

Height of vegetation in cm	50	45	50	40
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	10°	S	< 1	< 1

Species recorded in monitoring plot 100. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Carex arenaria	Sand Sedge	16	-	-
Avenella flexuosa	Wavy Hair-grass	-	-	+
Calluna vulgaris	Heather	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polypodium vulgare	Polypodium	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Sorbus intermedia	Swedish Whitebeam	-	-	+

Monitoring plot 101. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 101.

Height of vegetation in cm	7	5	4	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	5	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	2	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	14°	S	1	< 1

Species recorded in monitoring plot 101. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Empetrum nigum	Crowberry	15	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	12	-	-
Avenella flexuosa	Wavy Hair-grass	5	-	-
Carex arenaria	Sand Sedge	1	-	-
Calluna vulgaris	Heather	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 102. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 102.

Height of vegetation in cm	15	15	13	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	2	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	5°	ESE	< 1	< 1

Species recorded in monitoring plot 102. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex nigra	Common Sedge	10	-	-
Avenella flexuosa	Wavy Hair-grass	9	-	-
Carex arenaria	Sand Sedge	6	-	-
Hypochaeris radicata	Cat's-ear	3	-	-
Rumex acetosella	Sheep's Sorrel	-	+	-
Calluna vulgaris	Heather	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polypodium vulgare	Polypodium	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 103. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 103.

Height of vegetation in cm	11	12	6	18
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	5	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	10°	SW	< 1	< 1

Species recorded in monitoring plot 103. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	11	-	-
Avenella flexuosa	Wavy Hair-grass	10	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	4	-	-
Calluna vulgaris	Heather	3	-	-
Vaccinium uliginosum	Bog Bilberry	2	-	-
Erica tetralix	Cross-leaved Heath	1	-	-
Juncus squarrosus	Heath Rush	1	-	-
Carex arenaria	Sand Sedge	-	+	-
Cladonia chlorophaea agg.		-	+	-
Dicranum scoparium	Broom Moss	-	+	-
Phragmites australis	Reed	-	+	-
Carex nigra	Common Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Ptilidium ciliare		-	-	+
Salix aurita	Eared Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Polytrichum sp.		-	-	+

Monitoring plot 104. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 104.

Height of vegetation in cm	18	20	0	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	2	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	7°	SE	< 1	< 1

Species recorded in monitoring plot 104. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex arenaria	Sand Sedge	13	-	-
Avenella flexuosa	Wavy Hair-grass	6	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	1	-	-
Sand		2	-	-
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Appendix 6. Site no. 4, monitoring plot 105-114

Monitoring plot 105. The pin point frame is located in the center of the picture at the dead wood almost hidden in the dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 105.

Height of vegetation in cm	35	20	25	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	2	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	3	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	7°	NW	2	< 1

Species recorded in monitoring plot 105. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex arenaria	Sand Sedge	15	-	-
Avenella flexuosa	Wavy Hair-grass	13	-	-
Scleropodium purum	Neat Feather-moss	11	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	6	-	-
Calluna vulgaris	Heather	2	-	-
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Hypogymnia physodes		-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Phragmites australis	Reed	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 106. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 106.

Height of vegetation in cm	3	6	7	8
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	10	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	2°	W	1	< 1

Species recorded in monitoring plot 106. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Empetrum nigum	Crowberry	13	-	-
Avenella flexuosa	Wavy Hair-grass	11	-	-
Carex arenaria	Sand Sedge	3	-	-
Scleropodium purum	Neat Feather-moss	2	-	-
Vaccinium uliginosum	Bog Bilberry	2	-	-
Cladonia sp.		1	-	-
Betula pubescens	Downy Birch	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex nigra	Common Sedge	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Lysimachia arvensis	Scarlet Pimpernel	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Pinus mugo	Dwarf Mountain-pine	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Salix cinerea	Grey Willow	-	-	+
Sorbus aucuparia	Rowan	-	-	+

Monitoring plot 107. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 107.

Height of vegetation in cm	15	15	7	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	25	< 1	1	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	7°	SW	< 1	< 1

Species recorded in monitoring plot 107. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Empetrum nigum	Crowberry	9	-	-
Carex arenaria	Sand Sedge	4	-	-
Agrostis capillaris	Common Bent	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Hypogymnia physodes		-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus contorta	Lodgepole Pine	-	-	+
Pinus mugo	Dwarf Mountain-pine	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Ptilidium ciliare		-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+

Monitoring plot 108. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 108.

Height of vegetation in cm	10	8	10	8
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	15	15	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 108. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Calluna vulgaris	Heather	13	-	-
Avenella flexuosa	Wavy Hair-grass	9	-	-
Carex arenaria	Sand Sedge	3	-	-
Vaccinium uliginosum	Bog Bilberry	3	-	-
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Phragmites australis	Reed	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix cinerea	Grey Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+

Monitoring plot 109. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 109.

Height of vegetation in cm	12	14	11	11
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	50	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 109. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Calluna vulgaris	Heather	9	-	-
Carex arenaria	Sand Sedge	7	-	-
Avenella flexuosa	Wavy Hair-grass	5	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	5	-	-
Vaccinium uliginosum	Bog Bilberry	3	-	-
Juncus squarrosus	Heath Rush	2	-	-
Molinia caerulea	Purple Moor-grass	2	-	-
Betula pubescens	Downy Birch	-	-	+
Carex oederi subsp. pulchella		-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Juncus effusus	Common Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pinus mugo	Dwarf Mountain-pine	-	-	+
Pinus sylvestris	Scots Pine	-	-	+
Salix aurita	Eared Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Polytrichum sp.		-	-	+

Monitoring plot 110. The pin point frame is located in the center of the picture at the end of the white string besides the red bag almost hidden in the dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 110.

Height of vegetation in cm	17	23	15	11
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	20	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	2	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 110. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	16	-	-
Myrica gale	Bog-myrtle	8	-	-
Calluna vulgaris	Heather	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 111. The pin point frame is located in the center of the picture at the end of the white string to the left of the other frame almost hidden in the dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 111.

Height of vegetation in cm	17	15	19	16
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	10	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 111. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Juncus effusus	Common Rush	10	-	-
Calluna vulgaris	Heather	8	-	-
Molinia caerulea	Purple Moor-grass	8	-	-
Avenella flexuosa	Wavy Hair-grass	5	-	-
Vaccinium uliginosum	Bog Bilberry	4	-	-
Carex nigra	Common Sedge	2	-	-
Erica tetralix	Cross-leaved Heath	1	-	-
Betula pubescens	Downy Birch	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Phragmites australis	Reed	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polytrichum sp.		-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+

Monitoring plot 112. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 112.

Height of vegetation in cm	15	20	14	7
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 112. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex nigra	Common Sedge	16	-	-
Avenella flexuosa	Wavy Hair-grass	15	-	-
Vaccinium uliginosum	Bog Bilberry	-	+	-
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Chiloscyphus latifolius		-	-	+
Cladonia chlorophaea agg.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 113. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 113.

Height of vegetation in cm	15	17	5	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	50	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	< 1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	15º	N	< 1	< 1

Species recorded in monitoring plot 113. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Vaccinium uliginosum	Bog Bilberry	12	-	-
Avenella flexuosa	Wavy Hair-grass	6	-	-
Calluna vulgaris	Heather	6	-	-
Carex arenaria	Sand Sedge	4	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	2	-	-
Scleropodium purum	Neat Feather-moss	2	-	-
Ptilidium ciliare		1	-	-
Betula pubescens	Downy Birch	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Sorbus aucuparia	Rowan	-	-	+

Monitoring plot 114. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 114.

Height of vegetation in cm	12	9	6	5
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	35	1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	1	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 114. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Calluna vulgaris	Heather	13	-	-
Avenella flexuosa	Wavy Hair-grass	7	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	7	-	-
Carex arenaria	Sand Sedge	6	-	-
Ammophila arenaria	Marram	2	-	-
Cladonia chlorophaea agg.		1	-	-
Vaccinium uliginosum	Bog Bilberry	1	-	-
Dicranum scoparium	Broom Moss	-	+	-
Betula pubescens	Downy Birch	-	-	+
Cladonia sp.		-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Phragmites australis	Reed	-	-	+
Rumex acetosa	Common Sorrel	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+

Appendix 7. Site no. 5, monitoring plot 115-129

Monitoring plot 115. The pin point frame is located in the center of the picture in the open vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 115.

Height of vegetation in cm	15	10	20	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 115. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Agrostis capillaris	Common Bent	10	-	-
Avenella flexuosa	Wavy Hair-grass	8	-	-
Molinia caerulea	Purple Moor-grass	7	-	-
Hypochaeris radicata	Cat's-ear	3	-	-
Holcus lanatus	Yorkshire-fog	2	-	-
Carex arenaria	Sand Sedge	1	-	-
Calluna vulgaris	Heather	-	+	-
Rumex acetosella	Sheep's Sorrel	-	+	-
Calamagrostis epigeios	Wood Small-reed	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus mollis	Creeping Soft-grass	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Luzula congesta		-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Solanum dulcamara	Bittersweet	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 116. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 116.

Height of vegetation in cm	6	22	12	9
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	1	1	< 1	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 116. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	13	-	-
Molinia caerulea	Purple Moor-grass	11	-	-
Rumex acetosella	Sheep's Sorrel	3	-	-
Calluna vulgaris	Heather	1	-	-
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Lysimachia europaea	Chickweed-wintergreen	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rubus idaeus	Raspberry	-	-	+
Salix cinerea	Grey Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 117. The pin point frame is located in the center of the picture nearly hidden in the semi-dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 117.

Height of vegetation in cm	35	35	35	35
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	5	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	14º	-	< 1	< 1

Species recorded in monitoring plot 117. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Dryopteris dilatata	Broad Buckler-fern	4	-	-
Rubus idaeus	Raspberry	3	-	-
Carex arenaria	Sand Sedge	2	-	-
Dryopteris carthusiana	Narrow Buckler-fern	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Fallopia convolvulus	Black-bindweed	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Gymnocarpium dryopteris	Oak Fern	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Polypodium vulgare	Polypodium	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 118. The pin point frame is located in the center of the picture halfway hidden in the semi-dense vegetation cover, photo direction north. 30-08-2017.

Vegetation and ecological parameters in monitoring plot 118.

Height of vegetation in cm	12	13	18	27
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 118. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	16	-	-
Avenella flexuosa	Wavy Hair-grass	5	-	-
Carex nigra	Common Sedge	2	-	-
Senecio sylvaticus	Heath Groundsel	2	-	-
Agrostis capillaris	Common Bent	-	-	+
Calamagrostis epigeios	Wood Small-reed	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Corynephorus canescens	Grey Hair-grass	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polypodium vulgare	Polypodium	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix cinerea	Grey Willow	-	-	+
Solanum dulcamara	Bittersweet	-	-	+
Sorbus aucuparia	Rowan	-	-	+

Monitoring plot 119. The pin point frame is located in the center of the picture halfway hidden in the semi-dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 119.

Height of vegetation in cm	30	25	10	15
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	< 1	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 119. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Holcus lanatus	Yorkshire-fog	2	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	2	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Gymnocarpium dryopteris	Oak Fern	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 120. The pin point frame is located in the center of the picture at the end of the white string to the right of the plastic bag nearly hidden in the dense vegetation cover and not the one visible to the left of the bag, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 120.

Height of vegetation in cm	16	28	4	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	2	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 120. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Calluna vulgaris	Heather	5	-	-
Picea sitchensis	Sitka Spruce	1	-	-
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+

Monitoring plot 121. The pin point frame is located in the center of the picture the open vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 121.

Height of vegetation in cm	0	25	5	4
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	< 1	0	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	1

Species recorded in monitoring plot 121. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	9	-	-
Molinia caerulea	Purple Moor-grass	6	-	-
Carex canescens	Grey Sedge	4	-	-
Juncus filiformis	Thread Rush	3	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	2	-	-
Juncus bulbosus	Bulbous Rush	1	-	-
Potentilla erecta	Tormentil	1	-	-
Calluna vulgaris	Heather	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Polytrichastrum formosum	Bank Haircap	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Bryophyta, protonema		-	-	+

Monitoring plot 122. The pin point frame is located in the center of the picture the open vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 122.

Height of vegetation in cm	9	10	15	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	8	< 1	8	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 122. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Carex canescens	Grey Sedge	11	-	-
Holcus lanatus	Yorkshire-fog	3	-	-
Molinia caerulea	Purple Moor-grass	2	-	-
Potentilla erecta	Tormentil	1	-	-
	Litter	2	-	-
Rumex acetosella	Sheep's Sorrel	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus effusus	Common Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Polytrichum commune	Common Haircap	-	-	+
Bryophyta, protonema		-	-	+

Monitoring plot 123. The pin point frame is located in the center of the picture the open vegetation cover, photo direction north. 31-08-2017.

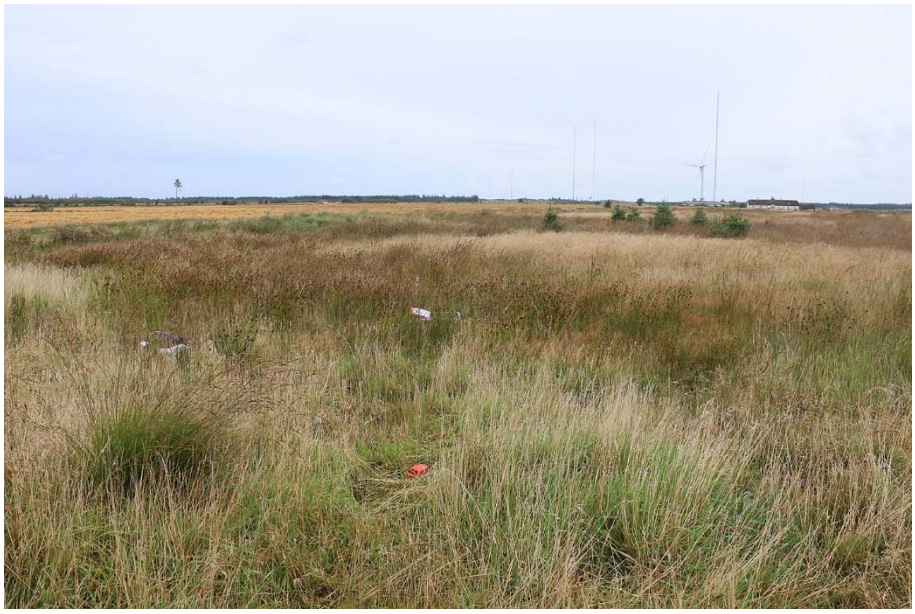
Vegetation and ecological parameters in monitoring plot 123.

Height of vegetation in cm	13	11	11	9
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 123. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	16	-	-
Avenella flexuosa	Wavy Hair-grass	10	-	-
Hypochaeris radicata	Cat's-ear	1	-	-
Achillea millefolium	Yarrow	-	-	+
Agrostis capillaris	Common Bent	-	-	+
Bidens tripartita	Trifid Bur-marigold	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cirsium arvense	Creeping Thistle	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galeopsis bifida	Bifid Hemp-nettle	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Juncus effusus	Common Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Plantago major	Greater Plantain	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polygonum aviculare	Knotgrass	-	-	+
Prunus sp.		-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 124. The pin point frame is located in the center of the picture the open vegetation cover, photo direction north. 31-08-2017.



Vegetation and ecological parameters in monitoring plot 124.

Height of vegetation in cm	2	0	30	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 124. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	11	-	-
Holcus lanatus	Yorkshire-fog	11	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	5	-	-
Juncus effusus	Common Rush	4	-	-
Molinia caerulea	Purple Moor-grass	4	-	-
Agrostis capillaris	Common Bent	1	-	-
	Litter	1	-	-
Galium saxatile	Heath Bedstraw	-	+	-
Agrostis vinealis	Brown Bent	-	-	+
Calamagrostis epigeios	Wood Small-reed	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex canescens	Grey Sedge	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus bulbosus	Bulbous Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Potentilla erecta	Tormentil	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+

Monitoring plot 125. The pin point frame is located in the center of the picture at the end of the white string hidden in the dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 125.

Height of vegetation in cm	40	50	45	45
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 125. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Molinia caerulea	Purple Moor-grass	16	-	-
Avenella flexuosa	Wavy Hair-grass	-	-	+
Betula pendula	Silver Birch	-	-	+
Brachythecium rutabulum	Rough-stalked Feather-moss	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp.		-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polytrichastrum formosum	Bank Haircap	-	-	+

Monitoring plot 126. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 31-08-2017.

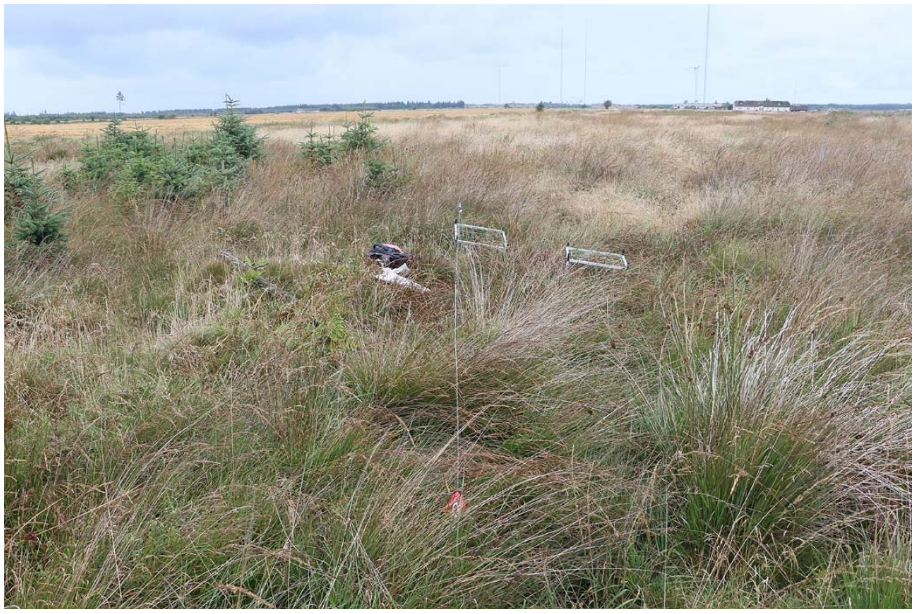
Vegetation and ecological parameters in monitoring plot 126.

Height of vegetation in cm	4	5	8	10
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	2	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	5°	SE	< 1	< 1

Species recorded in monitoring plot 126. In the table a species is recorded the first time it is has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	15	-	-
Molinia caerulea	Purple Moor-grass	6	-	-
Calluna vulgaris	Heather	4	-	-
Scleropodium purum	Neat Feather-moss	-	+	-
Carex arenaria	Sand Sedge	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Cladonia sp.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypericum perforatum	Perforate St. John's-wort	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix sp.		-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 127. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 31-08-2017.



Vegetation and ecological parameters in monitoring plot 127.

Height of vegetation in cm	7	18	10	18
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	1	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0

Species recorded in monitoring plot 127. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Avenella flexuosa	Wavy Hair-grass	12	-	-
Molinia caerulea	Purple Moor-grass	12	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	2	-	-
Holcus lanatus	Yorkshire-fog	1	-	-
Calluna vulgaris	Heather	-	+	-
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia chlorophaea agg.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Dryopteris dilatata	Broad Buckler-fern	-	-	+
Empetrum nigum	Crowberry	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Picea sitchensis	Sitka Spruce	-	-	+
Potamogeton polygonifolius	Bog Pondweed	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Salix aurita	Eared Willow	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Sorbus aucuparia	Rowan	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Monitoring plot 128. The pin point frame is located in the center of the picture at the black umbrella behind the tussock in the semi-dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 128.

Height of vegetation in cm	10	8	10	6
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 128. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Calluna vulgaris	Heather	11	-	-
Avenella flexuosa	Wavy Hair-grass	9	-	-
Holcus lanatus	Yorkshire-fog	4	-	-
Chamaenerion angustifolium	Fireweed	1	-	-
Agrostis capillaris	Common Bent	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Cladonia sp.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Galium saxatile	Heath Bedstraw	-	-	+
Holcus mollis	Creeping Soft-grass	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+

Monitoring plot 129. The pin point frame is located in the center of the picture in the semi-dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 129.

Height of vegetation in cm	18	8	8	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	2	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	0	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 129. In the table a species is recorded the first time it has been recorded in the field, only.

International name	**Vernacular name**	**No. of pins**	**Supplementary species**	**Additional species**
Avenella flexuosa	Wavy Hair-grass	16	-	-
Pleurozium schreberi	Red-stemmed Feather-moss	4	-	-
Scleropodium purum	Neat Feather-moss	1	-	-
Holcus lanatus	Yorkshire-fog	-	+	-
Calluna vulgaris	Heather	-	-	+
Carex arenaria	Sand Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cladonia sp.		-	-	+
Dryopteris carthusiana	Narrow Buckler-fern	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Quercus robur	Pedunculate Oak	-	-	+
Rubus sect. *Rubus*	Bramble	-	-	+
Salix cinerea	Grey Willow	-	-	+
Solanum dulcamara	Bittersweet	-	-	+
Vaccinium uliginosum	Bog Bilberry	-	-	+

Appendix 8. Site no. 7, monitoring plot 130-134

Monitoring plot 130. The pin point frame is located in the center of the picture almost hidden in the dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 130.

Height of vegetation in cm	10	40	20	35
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	0	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0
Remark	The monitoring plot has been moved 8 m W to avoid the gravel road			

Species recorded in monitoring plot 130. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	9	-	-
Molinia caerulea	Purple Moor-grass	9	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Agrostis capillaris	Common Bent	-	-	+
Calluna vulgaris	Heather	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Cirsium arvense	Creeping Thistle	-	-	+
Cirsium vulgare	Spear Thistle	-	-	+
Dicranella heteromalla	Silky Forklet-moss	-	-	+
Hypnum cupressiforme/jutlandicum	Plait-moss	-	-	+
Juncus effuses	Common Rush	-	-	+
Plantago major	Greater Plantain	-	-	+
Pohlia nutans	Nodding Thread-moss	-	-	+
Polytrichum commune	Common Haircap	-	-	+
Potentilla erecta	Tormentil	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Trifolium repens	White Clover	-	-	+

Monitoring plot 131. The pin point frame is located in the center of the picture almost hidden in the dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 131.

Height of vegetation in cm	4	21	20	14
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	0
Remark	The monitoring plot has been moved 5 m W to avoid the gravel road where the car is parked			

Species recorded in monitoring plot 131. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	9	-	-
Molinia caerulea	Purple Moor-grass	7	-	-
Agrostis capillaris	Common Bent	6	-	-
Juncus effusus	Common Rush	2	-	-
Rumex acetosella	Sheep's Sorrel	2	-	-
	Litter	1	-	-
Hypochaeris radicata	Cat's-ear	-	+	-
Argentina anserina	Silverweed	-	-	+
Avenella flexuosa	Wavy Hair-grass	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex echinata	Star Sedge	-	-	+
Carex nigra	Common Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Chamaenerion angustifolium	Fireweed	-	-	+
Cirsium vulgare	Spear Thistle	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Elytrigia repens	Common Couch	-	-	+
Equisetum arvense	Field Horsetail	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Eriophorum angustifolium	Common Cottongrass	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus squarrosus	Heath Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Lycopus europaeus	Gypsywort	-	-	+
Medicago lupulina	Black Medick	-	-	+
Picea abies	Norway Spruce	-	-	+
Plantago major	Greater Plantain	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polytrichum sp.		-	-	+
Potentilla erecta	Tormentil	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sonchus arvensis	Perennial Sowthistle	-	-	+
Trifolium pratense	Red Clover	-	-	+
Trifolium repens	White Clover	-	-	+

Monitoring plot 132. The pin point frame is located in the center of the picture almost hidden in the dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 132.

Height of vegetation in cm	10	10	6	20
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	< 1	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	8	0
Remark	The monitoring plot has been moved 5 m SW to avoid the gravel road			

Species recorded in monitoring plot 132. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Holcus lanatus	Yorkshire-fog	7	-	-
Calluna vulgaris	Heather	6	-	-
Agrostis capillaris	Common Bent	5	-	-
Carex echinata	Star Sedge	5	-	-
Molinia caerulea	Purple Moor-grass	5	-	-
Dicranum scoparium	Broom Moss	4	-	-
Hypnum cupressiforme/jutlandicum	Plait-moss	1	-	-
Erica tetralix	Cross-leaved Heath	-	+	-
Argentina anserina	Silverweed	-	-	+
Campylopus inflexus	Heath Star-moss	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Carex pilulifera	Pill Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Cirsium vulgare	Spear Thistle	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Equisetum arvense	Field Horsetail	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus effusus	Common Rush	-	-	+
Medicago lupulina	Black Medick	-	-	+
Persicaria lapathifolia subsp. pallida	Pale Persicaria	-	-	+
Plantago major	Greater Plantain	-	-	+
Pohlia nutans	Nodding Thread-moss	-	-	+
Polytrichastrum formosum	Bank Haircap	-	-	+
Potentilla erecta	Tormentil	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix repens subsp. repens var. repens	Creeping Willow	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Spergula arvensis	Sea-spurreys	-	-	+
Trifolium repens	White Clover	-	-	+

Monitoring plot 133. The pin point frame is located in the center of the picture at the end of the white string almost hidden in the dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 133.

Height of vegetation in cm	43	53	55	50
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	0	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1
Remark	The monitoring plot has been moved 5 m W to avoid the gravel road			

Species recorded in monitoring plot 133. In the table a species is recorded the first time it is has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Juncus effusus	Common Rush	15	-	-
Agrostis capillaris	Common Bent	12	-	-
Calluna vulgaris	Heather	-	+	-
Rumex acetosella	Sheep's Sorrel	-	+	-
Achillea ptarmica	Sneezewort	-	-	+
Agrostis vinealis	Brown Bent	-	-	+
Anthriscus sylvestris	Cow Parsley	-	-	+
Argentina anserina	Silverweed	-	-	+
Artemisia vulgaris	Mugwort	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Cirsium vulgare	Spear Thistle	-	-	+
Cladonia chlorophaea agg.		-	-	+
Equisetum arvense	Field Horsetail	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Euphrasia stricta	Eyebright	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypericum perforatum	Perforate St. John's-wort	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Medicago lupulina	Black Medick	-	-	+
Mentha xgracilis	Bushy Mint	-	-	+
Molinia caerulea	Purple Moor-grass	-	-	+
Plantago lanceolata	Ribwort Plantain	-	-	+
Plantago major	Greater Plantain	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Potentilla erecta	Tormentil	-	-	+
Prunella vulgaris	Selfheal	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Salix aurita	Eared Willow	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Solanum dulcamara	Bittersweet	-	-	+
Tripleurospermum inodorum	Scentless Mayweed	-	-	+
Trifolium repens	White Clover	-	-	+
Tussilago farfara	Coltsfoot	-	-	+
Vicia sativa subsp. nigra		-	-	+
Viola tricolor	Wild Pansy	-	-	+
Polytrichum sp.		-	-	+

Monitoring plot 134. The pin point frame is located in the center of the picture at the end of the white string hidden in the dense vegetation cover, photo direction north. 31-08-2017.

Vegetation and ecological parameters in monitoring plot 134.

Height of vegetation in cm	50	6	7	25
	Dwarf shrub	Trees and shrubs below 1 m	Trees and shrubs over 1 m	Free water surface
Cover in m^2	< 1	< 1	0	0
	Bare soil	Bare sand	Dead wood	
Cover in m^2	< 1	0	0	
Light penetration	96	96	96	96
	Inclination	Direction of inclination	Cover of bryophytes in m^2	Cover of lichens in m^2
	0°	-	< 1	< 1

Species recorded in monitoring plot 134. In the table a species is recorded the first time it has been recorded in the field, only.

International name	Vernacular name	No. of pins	Supplementary species	Additional species
Juncus effusus	Common Rush	12	-	-
Agrostis capillaris	Common Bent	8	-	-
Molinia caerulea	Purple Moor-grass	4	-	-
Carex nigra	Common Sedge	2	-	-
Agrostis vinealis	Brown Bent	-	-	+
Argentina anserina	Silverweed	-	-	+
Bidens tripartita	Trifid Bur-marigold	-	-	+
Calluna vulgaris	Heather	-	-	+
Carex panicea	Carnation Sedge	-	-	+
Cerastium fontanum subsp. vulgare var. vulgare	Common Mouse-ear	-	-	+
Cirsium vulgare	Spear Thistle	-	-	+
Dicranum scoparium	Broom Moss	-	-	+
Equisetum arvense	Field Horsetail	-	-	+
Erica tetralix	Cross-leaved Heath	-	-	+
Geranium pusillum	Small-flowered Crane's-bill	-	-	+
Holcus lanatus	Yorkshire-fog	-	-	+
Hypochaeris radicata	Cat's-ear	-	-	+
Juncus articulatus	Jointed Rush	-	-	+
Juncus conglomeratus	Compact Rush	-	-	+
Luzula multiflora	Heath Wood-rush	-	-	+
Medicago lupulina	Black Medick	-	-	+
Myrica gale	Bog-myrtle	-	-	+
Persicaria lapathifolia subsp. pallida	Pale Persicaria	-	-	+
Plantago lanceolata	Ribwort Plantain	-	-	+
Plantago major	Greater Plantain	-	-	+
Pleurozium schreberi	Red-stemmed Feather-moss	-	-	+
Polytrichum commune	Common Haircap	-	-	+
Potentilla erecta	Tormentil	-	-	+
Ranunculus repens	Creeping Buttercup	-	-	+
Rumex acetosella	Sheep's Sorrel	-	-	+
Salix aurita	Eared Willow	-	-	+
Salix capraea	Goat Willow	-	-	+
Salix repens subsp. repens var. argentea		-	-	+
Salix sp.		-	-	+
Scleropodium purum	Neat Feather-moss	-	-	+
Scorzoneroides autumnalis	Autumn Hawkbit	-	-	+
Senecio sylvaticus	Heath Groundsel	-	-	+
Sonchus asper	Prickly Sowthistle	-	-	+
Trifolium pratense	Red Clover	-	-	+
Tussilago farfara	Coltsfoot	-	-	+

MONITORING THE VEGETATION RECOVERY IN ØSTERILD PLANTAGE 2017

Part 3

The trees in a part of Østerild Plantage have been cut down to give room for a national test center. Before the afforestation DCE has performed a baseline monitoring in the summer of 2011. DCE has in summer 2017 re-monitored the recovery of the vegetation cover to elucidate the direction and the rate of succession in 100 monitoring sites. The results from the re-monitoring are presented in the report.

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