



Brief on: Important areas for red listed plant taxa, concerning operations related to mineral activities.

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Important areas for red listed plant taxa

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Background

[Rules for field work and reporting regarding mineral resources \('Field Rules'\), Government of Greenland, Bureau of Minerals and Petroleum](#) (Anon. 2000), provides special provisions applied to field work within areas and periods of particular significance to wildlife and other biologically important areas based on the existing biological knowledge.

The Government of Greenland has requested that area types described in Field Rules chapter 2 and 3 be available and be displayed geographically in the NatureMap online mapping portal for environment and nature of Greenland, accessible at www.eamra.gl, and the information from there distributed directly and automatically to the national planning and mapping portal NunaGIS, accessible at www.nunagis.gl, and the LicenceMap, the mineral mapping portal at www.govmin.gl. Accordingly, information from NatureMap can be viewed also in NunaGIS and LicenceMap as direct data link service.

Considering the latest existing biological knowledge, Greenland Institute of Natural Resources recommends the following additions the field rules, including addition of new geographical areas.

This brief is an addition to chapter 2 *Areas and periods of particular significance to wildlife* based on the existing biological knowledge of red listed plant taxa in Greenland.

Ad. 1: Sensitivity and general description

This brief concerns the *red listed* plant taxa of Greenland. In accordance with *Manual til rødlistevurdering af danske arter* (Moeslund et al. 2020) *red listed* species are those assessed to be Regionally Extinct [RE, Regionalt uddød], Critically Endangered [CR, Kritisk truet], Endangered [EN, Truet), Vulnerable [VU, Sårbar], Near Threatened [NT, Næsten truet) and Data Deficient [DD, Utilstrækkelige data]. The Greenland occurrences of *red listed* vascular plant taxa on the national red list (Boertmann & Bay, 2018) includes taxa assessed as *Near Threatened* (NT), *Vulnerable* (VU), Regionally Extinct [RE] (only one species), and Data Deficient [DD] (only 4 species) in accordance with this. No vascular plant species have currently been assessed to be *Endangered* [EN] and Critically endangered [CR]. In total 95 plant taxa are red listed, see [Appendix 1](#).

Taxa of national responsibility

The red list of 2018 assigns 14 taxa of vascular plants of *national responsibility*. These taxa are not necessarily rare, in some cases in fact relatively common, but of national importance as they are endemic to Greenland i.e. not found anywhere else in the world. Four of these species are however also assessed as status *Vulnerable* or *Near Threatened* (See [Appendix 2](#)) and thus included in the further analysis of data and the map.

Specific taxa protection

Chapter 4 § 9 of *Landstingslov nr. 29 af 18. December 2003 om naturbeskyttelse* (Anon. 2003) provides the Government of Greenland with the authority to instate protection of specific wild plant taxa. No such protection is currently in place.

CITES

Six plant species are covered by the regulations of CITES and regulation of all species in the Orchid family and the genus of *Rhodiola*. Only one of these species, *Amerorchis (Galearis) rotundifolia*, is also red listed.

Ad. 2: Periods of importance

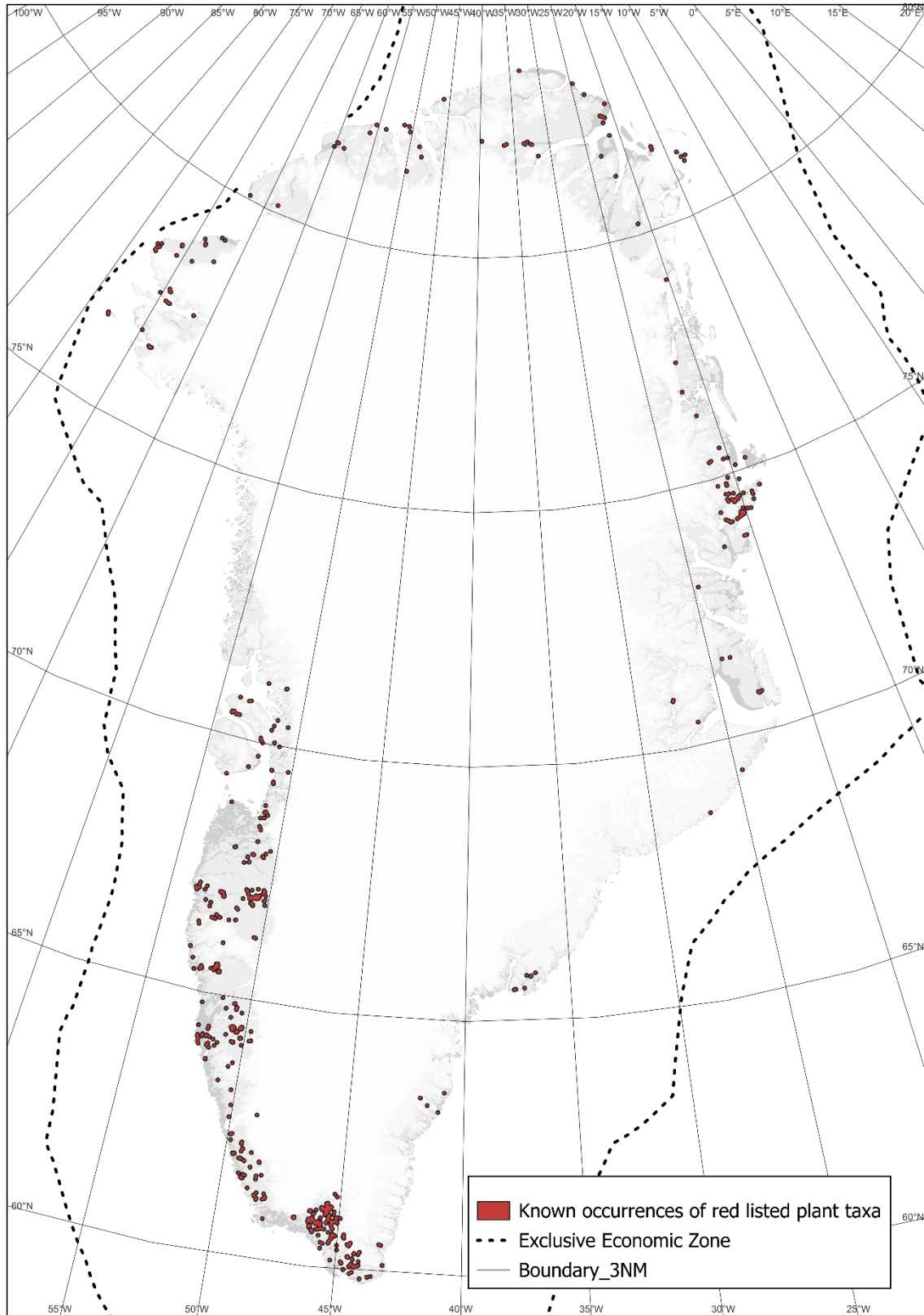
There are no specifically important periods for plants. As plants are sessile organisms, changes in and destruction of habitat and the plants as such at any time of the year are the major threats. These threats include but are not limited to the following disturbances:

- Direct destruction of habitat and plants,
 - disturbance or removal of vegetation itself,
 - disturbance or removal of soil,
- Indirect/long term changes in habitat,
 - changes in water regime (drainage or flooding),
 - changes in snow cover,
 - changes in nutrients content and levels,
 - changes in herbivory (species, intensity),
 - dust deposition.

Ad. 3: Areas of importance

The map included here is based on data consolidated from historic (Bay 1992; Daniëls and van Herk 1984; Feilberg 1984; Fredskild 1996; Halliday 2019; Hansen and Laegaard 1966; Olesen et al. 2015; Bay 1993; Bennike and Anderson 1998) and current (Ahlstrand 2023; GBIF 2023) sources on the occurrences of the red listed vascular plant taxa in Greenland. The map depicts dissolved buffer zones of 4 km around occurrences of red listed plant taxa.

Map of important areas for red listed vascular plant taxa



Ad. 4: Recommended regulations

In relation to mineral activities expected to potentially have major impacts on vegetation, GINR recommends thorough and appropriate surveys of the vegetation regardless of known occurrences of red listed plant species. In the areas identified here, it is recommended to pay particular attention to the search for and identification of the specific red listed taxa by qualified experts and in the appropriate habitat and vegetation types.

References

- Ahlstrand, N. E. I. 2023. "NHMD Vascular Plants Collection. Natural History Museum of Denmark. Occurrence Dataset." <https://doi.org/10.15468/4zygkn>.
- Anon. 2003. *Landstingslov Om Naturbeskyttelse*. https://nalunaarutit.gl/Groenlandsk-lovgivning/2003/ltl-29-2003?sc_lang=da.
- Bay, C. 1992. *A Phytogeographical Study of the Vascular Plants of Norther Greenland - North of 74 Northern Latitude*. Copenhagen, Denmark: Museum Tusculanum Press.
- . 1993. "Taxa of Vascular Plants New to the Flora of Greenland." *Nordic Journal of Botany* 13 (3): 247–52.
- Bennike, O., and Anderson, J.N. 1998. "Potamogeton Praelongus in West Greenland." *Nordic Journal of Botany* 18 (4): 499–501.
- Boertmann, D., and Bay, C. 2018. "Grønlands Rødliste 2018 – Fortegnelse over grønlandske dyr og planters trusselstatus." Greenland Institute of Natural Resources. <https://natur.gl/raadgivning/roedliste/>.
- Daniëls, F., and van Herk, C.M. 1984. "Equisetum Hiemale L. Found in Greenland." *ACTA BOT. ISL.* 7: 31–36.
- Feilberg, J. 1984. *A Phytogeographical Study of South Greenland: Vascular Plants*. Nyt Nordisk Forlag Arnold Busck.
- Fredskild, B. 1996. "A Phytogeographical Study of the Vascular Plants of West Greenland (62°20'–74°00'N)." *Meddelelser Om Grønland* 45: 1–157.
- GBIF. 2023. "QGIS Plugin." 2023. <https://www.gbif.org/>.
- Halliday, G.E. 2019. "A Flora of the East Greenland Central Fjord Region." *Trollius Publications*. <https://www.pemberleybooks.com/product/a-flora-of-the-east-greenland-central-fjord-region/38040/>.
- Hansen, K. and Lægaard, S. 1966. "Carex Disperma, C. Trisperma, and C. Abdita in Greenland." *Bot. Tidssk* 62: 212–22.
- Moeslund, J.E. Nygaard, B. and Ejrnæs, R. 2020. "Manual Til Rødlistevurdering Af Danske Arter 2020-2030." 188. Aarhus Universitet, Institut for Bioscience. <https://dce2.au.dk/pub/tr188.pdf>.
- Olesen, B., Krause-Jensen, D., Marbà, N. and Christensen, P.B. 2015. "Eelgrass *Zostera Marina* in Subarctic Greenland: Dense Meadows with Slow Biomass Turnover in Cold Waters." *Marine Ecology Progress Series* 518 (January): 107–21.



1 Appendix 1

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3 List of taxa contained in the consolidated data included in the map, based on (Boertmann & Bay 2018). NT = [Næsten Truet, Near Threatened), VU =
4 [Sårbar, Vulnerable], RE = [Regionalt uddød, Regionally Extinct], og DD = [Utilstrækkelige data, Data Deficient]. Very few species have Greenland
5 names. English names are from GBIF.org, * indicates that no species-specific epithet is known.

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Scientific name	Red List	Family	Greenland name	English name	Danish name
<i>Agrostis gigantea</i> Roth	VU	Poaceae		Black Bent	Stortoppet Hvene
<i>Agrostis stolonifera</i> L.	NT	Poaceae		Creeping Bent	Kryb- Hvene
<i>Alchemilla vestita</i> (Bus.) Raunk.	NT	Rosaceae		* lady's mantle	Håret Løvefod
<i>Alchemilla wichúrae</i> (Bus.) Stefanss.	NT	Rosaceae		Grassland lady's mantle	Kløftet Løvefod
<i>Amerorchis rotundifolia</i> (Banks ex Pursh) Hult.	VU	Orchidaceae	Milalinnguaq	Roundleaf Orchid	Rundbladet-Rhizomgøgeurt
<i>Andromeda polifolia</i> L.	VU	Ericaceae		Bog Rosemary	Rosmarinlyng
<i>Androsace septentrionalis</i> L.	VU	Primulaceae		Pygmyflower rockjasmine	Nordisk Fjeldarve
<i>Anemone richardsonii</i> Hook.	NT	Ranunculaceae		Yellow anemone	Sne- Anemone
<i>Arctophila fulva</i> (Trin.) Anders.	VU	Poaceae		Arctic marsh grass	Hængegræs
<i>Arctostaphylos uva-ursi</i> ssp. <i>coactilis</i> (Fern. & Macbr.) Löve, Löve & Kapoor	NT	Ericaceae		Bear-Grape	Hede- Melbærris
<i>Astragalus alpinus</i> L.	DD	Fabaceae		Alpine Milk-Vetch	Alpe-Astragal
<i>Athyrium filix-femina</i> (L.) Roth	VU	Dryopteridaceae		Common Ladyfern	Almindelig Fjerbregne
<i>Atriplex longipes</i> ssp. <i>praecox</i> (Hülph.) Tures	VU	Chenopodiaceae		Baltic Saltbush	Stilk- Mælde
<i>Botrychium multifidum</i> (Gmel.) Rupr.	VU	Ophioglossaceae		Leathery Grape Fern	Stilk- Månerude
<i>Botrychium simplex</i> Hitchc.	VU	Ophioglossaceae		Least Moonwort	Enkelt Månerude
<i>Botrychium tenebrosum</i> A.A. Eaton	VU	Ophioglossaceae		* Moonwort	* Månerude
<i>Braya novae-angliae</i> (Rydb.) Th. Sør.	VU	Brassicaceae		Northern-Rockcress	Canadisk Braya
<i>Cakile edentula</i> ssp. <i>edentula</i> (Bigel). Hook	VU	Brassicaceae		American searocket	Strandsennep
<i>Calamagrostis hyperborea</i> Lge.	NT	Poaceae		Lange's Reedgrass	Langes Rørhvene
<i>Calamagrostis poluninii</i> Th. Sør.	NT	Poaceae		Polunin's Reed Grass	Polunins Rørhvene
<i>Carex abdita</i> Bickn.	VU	Cyperaceae		* Sedge	Skjult Star
<i>Carex buxbaumii</i> Wbg.	VU	Cyperaceae		Buxbaum's Sedge	Kølle- Star
<i>Carex chordorrhiza</i> Ehrh. in L. f.	VU	Cyperaceae		Creeping Sedge	Grenet Star
<i>Carex disperma</i> Dew.	VU	Cyperaceae		Softleaf Sedge	Tofrøet Star
<i>Carex lyngbyei</i> Horn.	VU	Cyperaceae		Lyngbye's sedge	Lyngbyes Star

<i>Carex mackenziei</i> Krecz.	VU	Cyperaceae		Mackenzie's sedge	Lagune- Star
<i>Carex magellanica</i> ssp. <i>irrigua</i> (Wbg.) Hult.	NT	Cyperaceae		Boreal Bog Sedge	Frynse- Star
<i>Carex membranacea</i> Hook.	DD	Cyperaceae		Fragile sedge	Skør-Star*
<i>Carex panicea</i> L.	NT	Cyperaceae		Grass-like sedge	Hirse- Star
<i>Carex salina</i> Wbg.	VU	Cyperaceae		Saltmarsh Sedge	Salt- Star
<i>Carex trisperma</i> Dew.	VU	Cyperaceae		Threeseeded Sedge	Trefrøet Star
<i>Carex vaginata</i> Tausch.	VU	Cyperaceae		Sheathed Sedge	Fåkapslet Star
<i>Carex viridula</i> Michx.	VU	Cyperaceae		Little Green Sedge	Amerikansk Dværg- Star
<i>Catabrosa aquatica</i> (L.) Beauv.	VU	Poacea		Water whorl-grass	Tæppegræs
<i>Cerastium arvense</i> L.	VU	Caryophyllaceae		Field Chickweed	Storblomstret Hønsetarm
<i>Chrysosplenium tetrandrum</i> (N. Lund) Th. Fr.	VU	Saxifragaceae		Northern golden saxifrage	Dværg- Milturt
<i>Cirsium helenioides</i> (L.) Hill.	RE	Asteraceae		Melancholy thistle	Forskelligbladet Tidsel
<i>Cornus canadensis</i> L.	NT	Cornaceae		Bunchberry	Kanadisk Hønsebær
<i>Cystopteris montana</i> (Lam.) Desv.	VU	Dryopteridaceae		Mountain bladderfern	Bjerg- Bægerbregne
<i>Danthonia spicata</i> (L.) Beauv.	VU	Poacea		Poverty Oat Grass	Præriehavre
<i>Drosera rotundifolia</i> L.	NT	Droseraceae		Round-Leaf Sundew	Rundbladet Soldug
<i>Dryopteris abbreviata</i> (DC.) Newman	NT	Dryopteridaceae		* Woodfern	Nordisk Mangeløv
<i>Dupontia fisheri</i> R. Br.	VU	Poacea		Tundra grass	Dunet Tundragræs
<i>Eleocharis palustris</i> (L.) R. & S.	VU	Cyperaceae		Common Spike-Rush	Almindelig Sumpstrå
<i>Eleocharis quinqueflora</i> (F. X. Hartm.) Schwarz	NT	Cyperaceae		Few-Flower Spike-Rush	Fåblomstret Sumpstrå
<i>Eleocharis uniglumis</i> (Link) Schult.	VU	Cyperaceae		Onescale Spikerush	Énskættet Sumpstrå
<i>Equisetum hyemale</i> L.	VU	Equisetaceae		Common Scouring Rush	Skarvgræs
<i>Eriophorum spissum</i> Fern.	VU	Cyperaceae		Hare-Tail Cotton-Grass	Tæt Kæruld
<i>Erysimum pallasii</i> (Pursh) Fern.	NT	Brassicaceae		Pallas' wallflower	Hjørneklap
<i>Festuca edlundiae</i> S. Aiken, Consaul & Lefkovitch	DD	Poacea		Edlund's fescue	Edlunds Svingel*
<i>Festuca groenlandica</i> (Schol.) Frederiksen	NT	Poacea		Greenland fescue	Grønlandsk Svingel
<i>Galium boreale</i> L.	VU	Rubiaceae		Northern Bedstraw	Trenervet Snerre
<i>Galium verum</i> L.	DD	Gentianaceae		Lady'S Bedstraw	Gul snerre
<i>Gentiana detonsa</i> Rottb.	NT	Gentianaceae	Pilikkiusaq	Windmill fringed gentian	Salt- Ensian
<i>Gentiana/gentianella amarella</i> L.	VU	Gentianaceae		* Gentian	Smalbægret Ensian
<i>Geum rivale</i> L.	VU	rosaceae		Purple Avens	Eng- Nellikerod
<i>Geum rossii</i> (R. Br.) Greabn.	VU	Rosaceae		Ross' avens	Ross' Nellikerod
<i>Hierochloë odorata</i> (L.) Wbg.	VU	Poacea		* Sweetgrass	Vellugtende Festgræs
<i>Isoëtes lacustris</i> L.	VU	Isoëtaceae		Isoète Lacustre	Sortgrøn Bransenføde
<i>Juncus gerardii</i> Lois.	VU	Juncaceae		Saltmeadow Rush	Harrild

<i>Juncus ranarius</i> Perr. & Song.	NT	Juncaceae		Seaside rush	Klæg- Siv
<i>Ledodendron vanhoeffeni</i> Abrom.	VU	Ericaceae		Greenland rhododendron	Vanhöffens Alperose
<i>Luzula wahlenbergii</i> Rupr.	VU	Juncaceae		Wahlenberg's wood-rush	Rensdyr- Frytle
<i>Myriophyllum spicatum</i> ssp. <i>exalbescens</i> (Fern.) Hult.	NT	Haloragaceae		* Watermilfoil	Aks- Tusindblad
<i>Ophioglossum azoricum</i> C. Presl	VU	Ophioglossaceae		Small Adder's-tongue	Azorisk Slangetunge
<i>Parnassia kotzebuei</i> Cham. & Schlecht.	NT	Saxifragaceae		Kotzebue's grass-of-Parnassus	Arktisk Leverurt
<i>Pedicularis capitata</i> Adams	NT	Scrophulariaceae		Capitate lousewort	Hoved- Troidurt
<i>Pedicularis groenlandica</i> Retz.	VU	Scrophulariaceae	Ulanerusaq	Elephant's-head	Snabel- Troidurt
<i>Pedicularis sudetica</i> ssp. <i>albolabata</i> Hult.	VU	Scrophulariaceae		Sudetic lousewort	Ishavs- Troidurt
<i>Poa flexuosa</i> Sm.	NT	Poacea		Wavy Meadow-grass	Bølget Rapgræs
<i>Polemonium boreale</i> Adams	NT	Polemoniaceae		Boreal jacob's-ladder	Polar- Jakobsstige
<i>Polypodium vulgare</i> L.	VU	Dryopteridaceae		Adder'S Fern	Almindelig Engelsød
<i>Potamogeton natans</i> L.	VU	Potamogetonaceae		Broad-Leaved Pondweed	Svømmende Vandaks
<i>Potamogeton perfoliatus</i> L.	VU	Potamogetonaceae		Clasped Pondweed	Hjertebladet Vandaks
<i>Potamogeton praelongus</i> Wulf.	VU	Potamogetonaceae		Long-Stalked Pondweed	Langbladet Vandaks
<i>Potentilla anserina</i> L.	NT	Rosaceae		Anserina	Gåse-Potentil
<i>Potentilla rubella</i> Th. Sør.	NT	Rosaceae		Reddish cinquefoil	Clavering- Potentil
<i>Primula egaliksensis</i> Wormsk.	NT	Primulaceae		Greenland primrose	Grønlandsk Kodriver
<i>Puccinellia bruggemanni</i> Th. Sør.	NT	Poacea		Prince Patrick alkaligrass	Bruggemans Annelgræs
<i>Puccinellia rosenkrantzii</i> Th. Sør.	VU	Poacea		* alkaligrass	Rosenkrantz' Annelgræs
<i>Ranunculus auricomus</i> L.	NT	Ranunculaceae		Goldilocks Buttercup	Nyrebladet Ranunkel
<i>Ranunculus cymbalaria</i> Pursh	VU	Ranunculaceae		Alkali Buttercup	Saltranunkel
<i>Ranunculus sabinei</i> R. Br.	NT	Ranunculaceae		Sabine buttercup	Sabine- Ranunkel
<i>Rorippa islandica</i> (Oed.) Borb.	VU	Brassicaceae		Marsh Cress	Islandsk Guldakse
<i>Rubus chamaemorus</i> L.	NT	Rosaceae	Uluusiit	Cloudberry	Multebær
<i>Rubus saxatilis</i> L.	VU	Rosaceae		Stone Bramble	Fruebær
<i>Sagina nodosa</i> (L.) Fenzl.	NT	Caryophyllaceae		Knotted pearlwort	Knude- Firling
<i>Sedum acre</i> L.	VU	Crassulaceae		Biting Stonecrop	Bidende Stenurt
<i>Selaginella rupestris</i> (L.) Spring emend. Underw.	VU	Selaginella		Ledge Spikemoss	Klippe- Dværgulvefod
<i>Sisyrinchium groenlandicum</i> Böch.	VU	Iridaceae		Greenland blueeyed grass	Grønlandsk Blåøje
<i>Spergularia canadensis</i> (Pers.) G. Don	VU	Caryophyllaceae		Canadian sandspurry	Kanadisk Hindeknæ
<i>Trientalis europaea</i> L.	VU	Primulaceae		Arctic starflower	Skovstjerne
<i>Utricularia intermedia</i> Hayne	NT	Lentibulariaceae		Flatleaf Bladderwort	Storløbet Blærerod
<i>Vaccinium myrtillus</i> L.	VU	Vacciniaceae		European Blueberry	Blåbær
<i>Zostera marina</i> L.	VU	Potamogetonaceae		Eelgrass	Ålegræs

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9 **Appendix 2**

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11 List of species of *national responsibility* (Boertmann & Bay 2018).

Scientific name	Greenland name	English name	Danish name	
<i>Saxifraga nathorstii</i>		East Greenland saxifrage	Nathorsts stenbræk	LC
<i>Draba sibirica arctica</i>			Sibirisk draba	LC
<i>Antennaria affinis</i>			Hvid kattedod	LC
<i>Antennaria hansii</i>			Grønlandsk kattedod	LC
<i>Antennaria intermedia</i>			Rosenvinges kattedod	LC
<i>Hieracium hyparcticum</i>			Subarktisk høgeurt	LC
<i>Hieracium rigorosum</i>			Stiv høgeurt	LC
<i>Sisyrinchium groenlandicum</i>		Greenland blueeyed grass	Grønlandsk blåøje	VU
<i>Puccinellia rosenkrantzii</i>		* alkaligrass	Rosenkrantz's annelgræs	VU
<i>Puccinellia porsildii</i>			Porsilds annelgræs	NA
<i>Puccinellia groenlandica</i>		Greenland alkali grass	Grønlandsk annelgræs	LC
<i>Calamagrostis poluninii</i>			Polunins rørhvene	NT
<i>Calamagrostis hyperborea</i>			Langes rørhvene	NT
<i>Potamogeton pusillus groenlandicus</i>			Liden vandaks	LC

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