

Assessment of possible adverse consequences for biological diversity when planting vascular plants outside their natural range in Norway.

The Norwegian Environment Agency refers to the collaboration agreement between the Agency and the Norwegian Scientific Committee for Food and environment (VKM) 31.01.2019 and the mandate for assignments to VKM on risk assessment in 2020.

The Norwegian Environment Agency asks VKM to identify possible adverse consequences for biological diversity during planting, including sowing, of Norwegian vascular plants outside the individual species or population's natural range, i.e. planting an individual that does not belong to any species, subspecies or populations that occurs naturally on site. The identification must be linked to a set of criteria that must be prepared as part of the assignment. These criteria should then be tested on seed mixtures used for various purposes.

Background

The goal for the management of species under the Nature Diversity Act is that the species and their genetic diversity are preserved in the long term and that the species occurs in viable populations in their natural range of propagation. As far as is necessary to achieve this goal, the species' ecological functional areas and the other ecological conditions on which they depend are also safeguarded. Section 3 (e) of the Nature Diversity Act defines a species or population as foreign when it does not occur "naturally" on the site. The word organism, according to the preparations for the provision, is chosen instead of species, because the term is linked to release, i.e. planting or sowing, and not only includes species, but also subspecies, stocks and populations.

The preparations further emphasize that in order to preserve genetic diversity within a species it is often necessary to protect subspecies and genetically diverse populations from introductions of foreign organisms of the same species, cf. Section 5 of the Nature Diversity Act which states that *"The objective is to maintain species and their genetic diversity for the long term and to ensure that species occur in viable populations in their natural ranges. To the extent necessary to achieve this objective, areas with specific ecological functions for different species and other ecological conditions on which they are dependent are also to be maintained."*

Several provisions of the Nature Diversity Act and regulations on alien organisms apply specifically to "alien organisms" as defined above or to an "organism that does not belong to a subspecies, stock or population that occurs naturally in an area". Therefore, in order to apply the provisions to plants that have their natural range in Norway, it is necessary to have knowledge of the plants in question belong to the same population as the one present or not. Where the plants belong to a different population than the one present on the site, one must assess whether there is reason to believe that the planting poses any risk to the population on site.

Understanding the concepts of biological diversity, species and genetic variation etc. must then be in accordance with the use and purpose of Sections 3 and 5 and Chapter IV of the Natural Diversity Act, as well as related regulations.

The Agency will use the results in case management and other measures under the Norwegian national regulation on alien organisms. This will, among other things, be relevant when assessing exemptions on permit requirements and the need for risk assessment, cf. Regulations on alien

organisms § 11. This report will further also be relevant with respect to the measures outlined in the proposed Action Plan Against Invasive Alien Organisms and the National Pollinator Strategy.

Terms of reference

The Norwegian Environment Agency requests VKM to develop criteria for classification by overall assessment of possible adverse effects on biological diversity when planting and sowing vascular plants that occur naturally in Norway, i.e. plants belonging to species, subspecies or populations that do not already occur naturally in the district, into the environment. VKM should develop criteria that make it possible to identify species and higher taxa of vascular plants that occur naturally in Norway that pose little risk of biological diversity when planted in Norway outside the individual specie's - or population's range. At the same time, the criteria should be used to identify when risk assessments on species- level or for higher taxa are needed when the individuals to be transplanted from a different stock than the one that occurs naturally at the site of planting.

The criteria should cover groups of vascular plants with different biological properties, including various types of adaptations to pollination (wind, insects etc.), adaptation to seed dispersal, vegetative propagation and different ploidy levels. Considerations to be taken will be relevant to possible risk related to hybridization (outcrossing, outbreeding), a relatively high increase in the competitiveness of hybrid specimens relative to endangered species on site, but also reestablishment measures or measures aimed to prevent inbreeding depression.

The Norwegian Environment Agency further requests VKM to propose suitable documentation for the classification and assessment of risk according to these criteria and to identify a representative selection of species in seed mixtures or similar that are commercially available for various types of use by different sectors. Relevant examples include grass roofs, green roofs/living roofs (stonecrops), transport as well as relevant measures in various protected areas and endangered habitats, and measures relevant to the proposed Action Plan Against Invasive Alien Species and the National Pollinator Strategy. The selection is made in consultation with the Agency.

Demarcation

The study and the criteria shall not include Norwegian tree species, cf. Section 31 of the Nature Diversity Act, which is exempt from the requirement for permission when released pursuant to the Norwegian Regulations on Alien Organisms Section 3, second paragraph, letter b.