

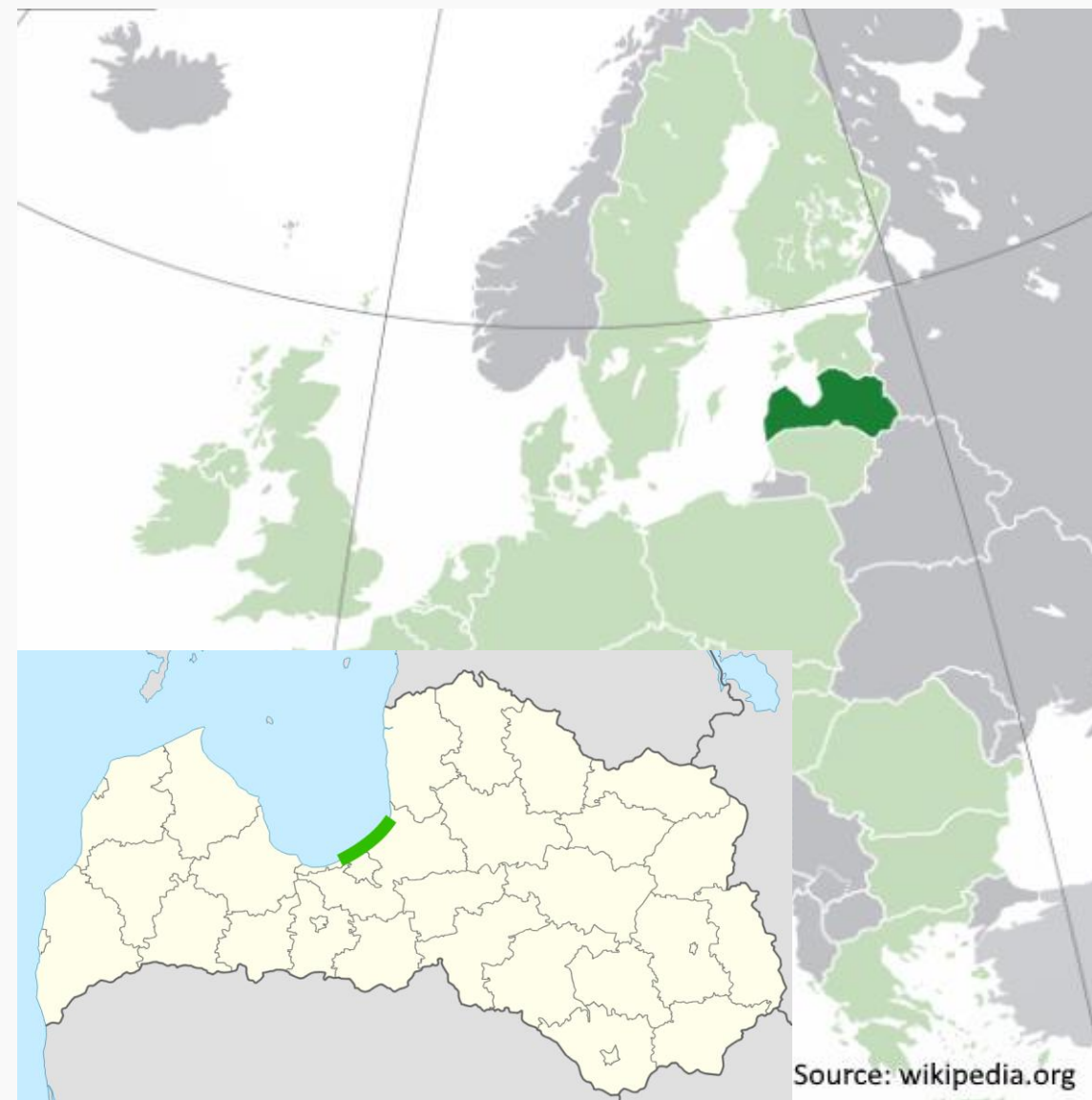
# Coastal Habitat Conservation in Nature Park "Piejūra"

Dr.oec Elīna Konstantinova, Mg.Sc.ing Agnese Jeņina,  
Dr.bioloģ. Brigita Laime, Dr.geol Jānis Lapinskis



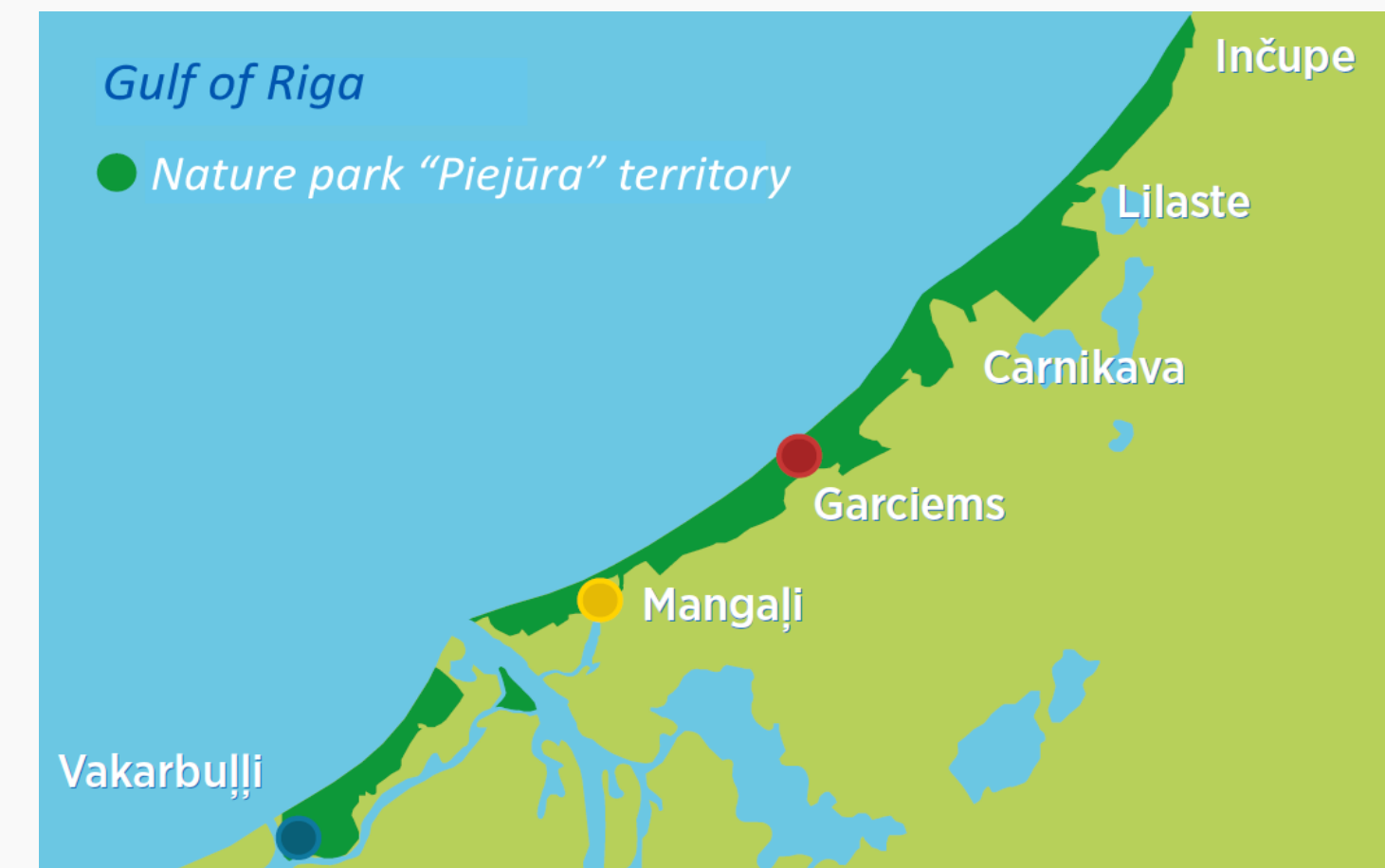
## Nature Park "Piejūra"

Nature Park (NP) "Piejūra" represents the habitats and species of the Boreal region and is one of the NATURA 2000 network territories. The total area of NP "Piejūra" is 4315 ha. Majority of the area is covered by habitats of EU importance, like coastal dunes, meadows, lagoons, and forests that are spread in the area of more than 30 km and is characterized by the high biodiversity. The entire territory of these sensitive habitats are becoming more and more topical due to the increase of the anthropogenic load, as well as the increasing severity of storms and subsequent level of coastal erosion. The unique value of project area depends on the interaction of all species and habitats present in it, and the project aims also to preserve this diversity of species and habitats, which together form the landscape diversity of the seashore.



## Demonstration sites

The demonstration character of the project is to give an example of nature conservation and site management in conditions of: sensitive and unique coastal habitat and species protection, high site demand, and proximate geographic location to urbanized areas as well as complex stakeholder structure.



- Restoration and management measures of coastal habitats in Garciems.
- Protecting the coastal dunes against erosion in Mangali.
- Management measures of Boreal Baltic coastal meadows in Vakarbuli.

## The aim of the project

Mitigation of the heavy anthropogenic pressure and restore the vulnerable coastal habitats in NP "Piejūra" (Latvia), Natura 2000 site.

## Project objectives

1. Nature Management plan and Visitor management plan of NP "Piejūra"

2. Conservation and restoration actions

3. Control alien species invasion in NP "Piejūra"

4. Stakeholder's involvement

## Conservation and restoration

### Restoration and management measures of wooded habitats

**Methods** – To restore coastal habitats (grey and wooded dunes) activities will consist of complex restoration methods together forming a mosaic structure to increase the biodiversity of habitats. The following methods will be used:

- thickening the wooded layer (different percentage of cutting in various polygons of the area);
- making open spaces and glades in wooded dunes;
- clearing the ground and creation of open soil areas;
- trees and shrubs cutting in the open dunes;
- alien, including invasive, tree and bush cutting.



B.Laime, A.Jeņina. Wooded dunes restoration.

The aim is to restore and improve the condition of the protected habitats while simultaneously balancing these actions with the provision of a shore-side protective function and the provision of high-quality ecosystem services to the local population. Restoration innovation will be ground topsoil removal, in order to promote regeneration of pine forests and create favorable habitat conditions for *Dianthus arenarius* populations and using complex restoration methods together forming a mosaic structure of wooded dunes. Such works will be carried out for the first time in NP "Piejūra" and overall Latvian coast.



### Alien species combat

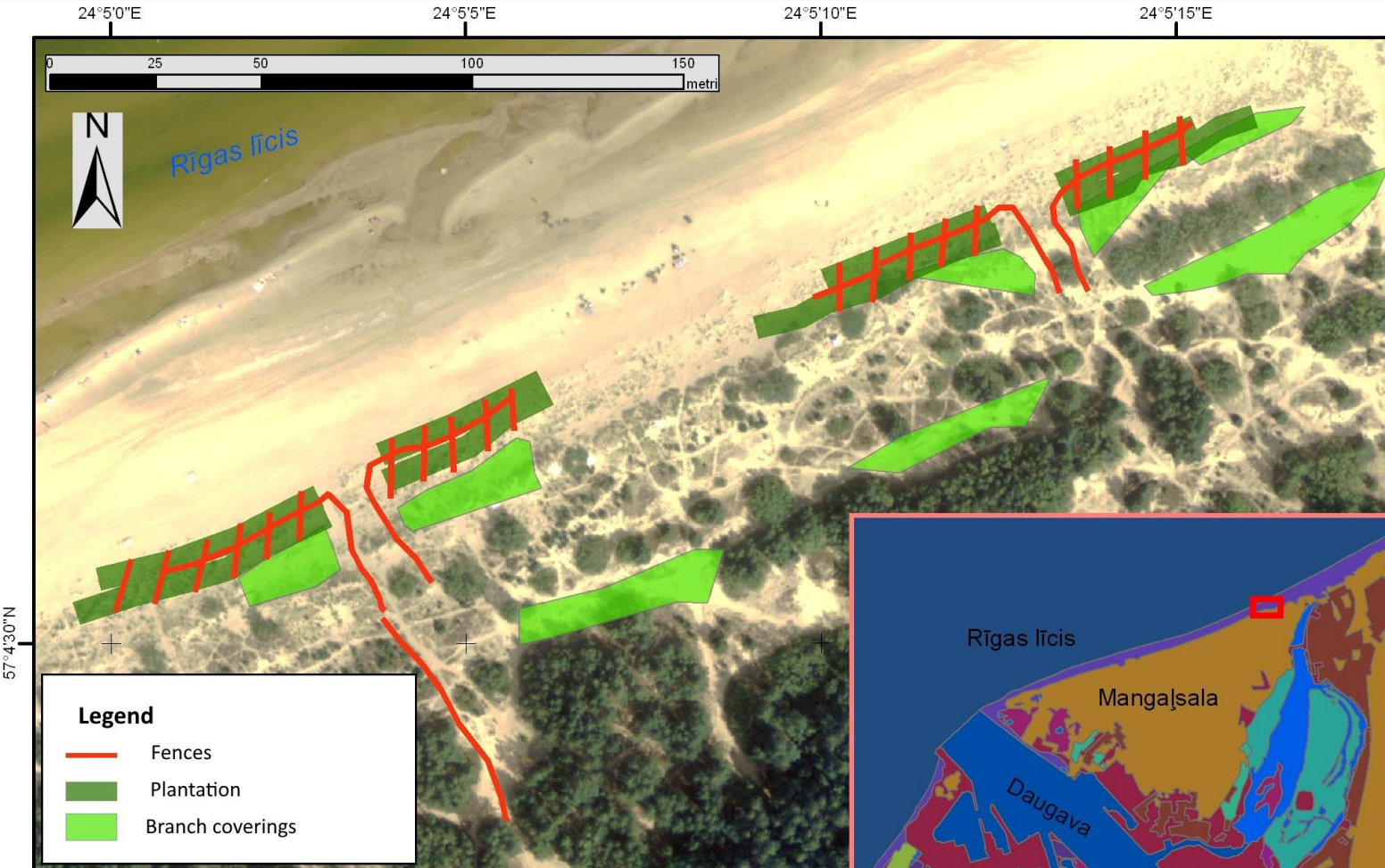
**Methods** – Main methods for alien species combat are mowing, sawing, weeding and digging. For each situation methods are different basing on environmental expert's evaluation reports and consultations. Although the most effective method of *Rosa rugosa* elimination is treatment of pesticides, in this case, it is not the option, because it can have a negative impact on nearby rivers. It is planned that total action impact area will be 175 ha and will have a positive impact on habitats: 1630\*, 2130\*, 9080\*, 1150\*, 9010\*, 2180, 6430, 2110, 2120.

Targeted species:

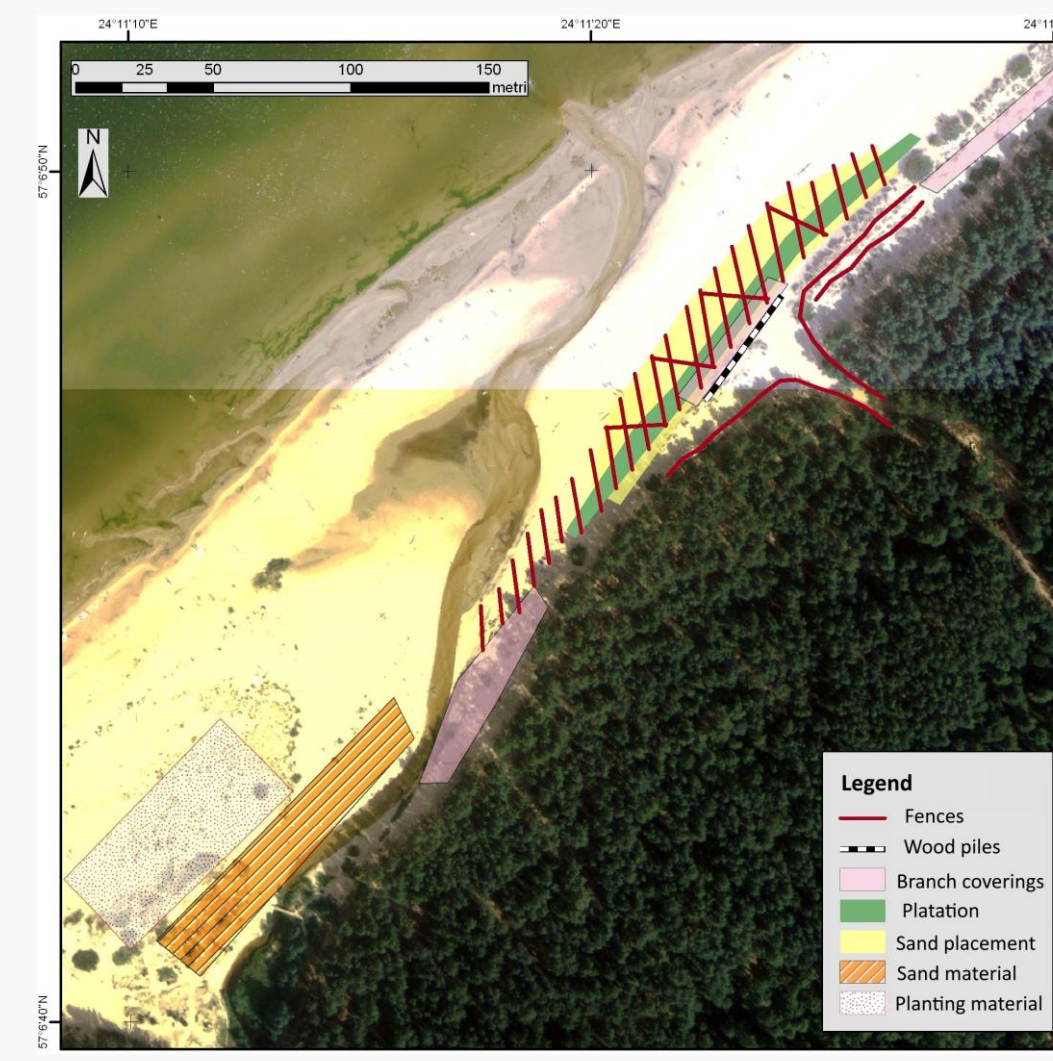


### Protection the coastal dunes against erosion

**Methods** – Main methods for erosion reduction will be brush coverings, plantation of *Leymus arenarius* or *Ammophila arenaria* and set up of fences to prevent erosion. For dune strengthening plantation of *Leymus arenarius* or *Ammophila arenaria* method is efficient and environmentally friendly, as well as innovative on a Latvian scale, since dunes has traditionally been strengthened by *Salix* plantation, which is a very effective method, but unfortunately, *Salix* species are expansive plants and over time has more negative side effects. Also, an innovative and demonstrative aspect of coastal erosion reduction will be the use of reeds for fence installation – respectively the main construction on the fences will be from tree trunks, but for filling will be used reeds.



J.Lapinskis. Coastal dunes restoration and protection against erosion in Mangali.



J.Lapinskis. Coastal dunes restoration and protection against erosion in Garciems.

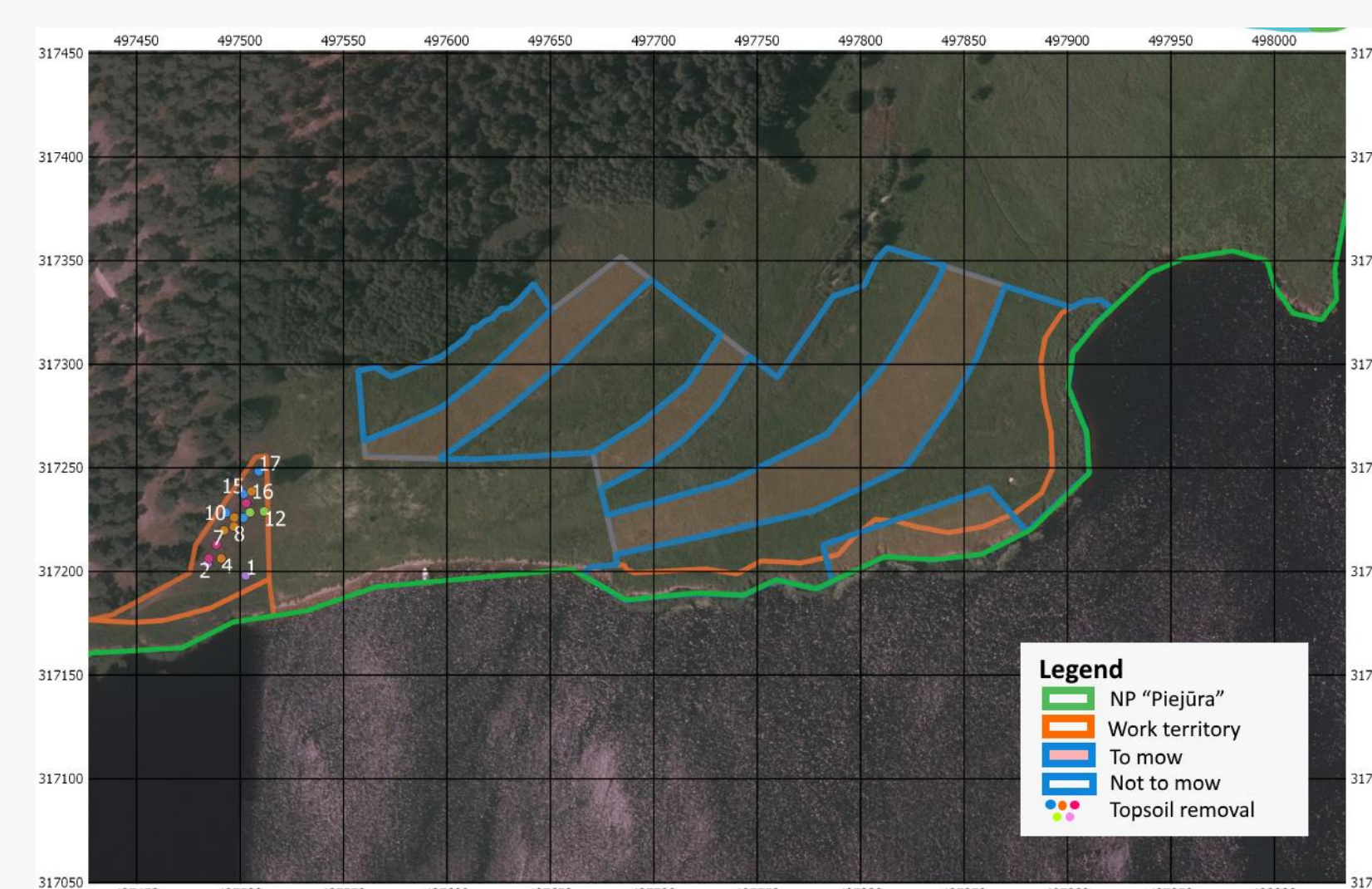
### Restoration measures of Boreal Baltic coastal meadows

**Methods** – The purpose is to restore the grassland. Not only mowing will be used, but also grass harvesting and open field formation as topsoil removal. Such works will be done for the first time in the NP "Piejūra". The main innovation will be based on the creation and application of a new management model: in the meadow will be identified several areas where mowing will take place at different times, taking into account the ecology of protected species (part of meadow will be mowed in June, another in July or August, also some places will remain untouched). In another year mowing places will be changed. Late mowing also will be applied to restore one of the target species *Angelica palustris*, because the seeds mature at the end of August. As a result, habitats for rare and protected plant and bird species will be provided.



Rhinanthus spp.

In addition, it is planned to improve the vegetation structure by spreading seeds of *Rhinanthus spp.*, which parasites on grasses. This method would reduce the proportion of grasses and increase the diversity of plant species.



B.Laime, A.Jeņina. Coastal meadows restoration.



### Restoration of coastal lagoons

**Methods** for coastal lagoons restoration – tree and bush cutting, mowing and removal of reed, the excavation of the reed roots in lagoons and lagoon banks, and after works regular repeated mowing.

