

Diversity of humid dunes slacks [2190] in Latvia



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With 3.8 million ha of forests or 50.9% (according to the State Forest Service data, www.vmd.gov.lv) of the territory, **Latvia is among the most forested countries in Europe**. The highest amount and diversity of nature values in Latvia occur in the lands managed by the Latvijas valsts meži (LVM in a further text). Integrated management considering nature conservation and maintenance of biological diversity takes important place within strategic and tactical planning of lands managed by the LVM.

Functional management of forests covers various aspects, the basis of longterm sustainable development is to balance interests of nature conservation and economics. Since 2000, mapping of forest key habitats has initiated implementation of these aims.

Registration of rare and endangered species, **the European Union importance habitats** has been initiated as a one aspect to maintain biodiversity within lands managed by the LVM. Surveillance and monitoring of species and the EU importance habitats, since 2011, is done according to the special programme in line with methodology of *Natura2000* monitoring programme of the State.

The objective of this study is to **analyse quantitative and qualitative aspects of registered EU importance habitats**, such as amount of dead wood, amount and density of biologically old trees etc. This basis information gives an overview about distribution and quality.

Dune slacks are linear depressions close to sea level in coastal dune systems, which lie between the ridges of coastal dune systems. Dune slacks occur within primary, secondary and relative stable dunes on post Baltic Ice Lake transition area in Latvia, including post Littorina Sea impact area.

All dune slacks in Latvia are protected on the State and Europe Union level as very rare habitat. At present all dune slack habitats in Latvia cover **1400 ha** or **0,02%** of the country.

Clarify subtypes and successional pathways of older successional stage humid dune slack vegetation in the NW of country – the main distribution area of the core habitat.

The research has been made in Slitere National Park and along the western part of the Riga Gulf, in the coastal zone of the Baltic Sea, in Latvia. The study area – wet dune slacks are part of the unique habitat and landscape complex of wet dune slacks and biologically old wooded dunes.

To study structure and functions of the habitat, and plant communities in dune slacks of inter - dune complexes vegetation was assessed in 18 transects, and 48 vegetation sample plots in all were established. Structure and functions of the habitat was registered in special questionnaire.

This succession on wet sand, however, is very different to that on the dry dunes. A range of wetland plants are important and early vegetation can be extremely species-rich with plants, for example: *Equisetum variegatum*, *Sagina nodosa*, *Juncus buffonius*, *Centaurium littorale*, *Ranunculus sceleratus*, as well as with number of bryophytes. While in dunes slacks with mire vegetation, one can determine three types of peatland – bog, fen and transition mire, where key species are *Carex sp.* and *Sphagnum sp.*



First results – a general analysis of the EU importance habitats, registered since 2011, shows:

- I Since 1990, 1400 ha of EU importance habitata – dune slacks has been registered, in general, with homogenous and aligned spatial distribution, protected habitats are registered mainly in the NW of the country in coastal Lowland area;
- II Existing data on the LVM managed lands, shows quite high diversity of the dune slacks, varies from open pioneer stages to overgrown boggy woodlands and mires in dune slack geomorphological form;
- III Structure of humid dune slacks in Latvia is not homogenous. It varies from extremely dry in coastal areas to dry or wet towards inland, as well as, composition of vegetation varies. Dune slacks in Latvia mainly developed in process of primary succession and following development towards forest of bog with some stages of grasslands.

The main management measure – **wilderness approach**, has been implemented in the terrestrial EU importance habitats. Special management activities have been carried out according to certain scientifically based situation assessment. Specific nature values will require special management measures, such as either non-intervention or active management, which in turn may consists on maintenance, improvement or restoration.

