

Oosthoekduinen: a satisfactory agreement between nature development and recreation - a nature restoration project by the Flemish government

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The nature development project 'Oosthoekduinen' includes the Oosthoekduinen s.s., the Calmeynbos and the Krakeelduinen. The area is situated at De Panne and covers 190ha. This area is legally protected in several ways: protected landscape, 'green area' on the zoning plans drawn up under the 'Law of the organization of town and country planning', Special Protection Areas in application of Bird directive (79/409/EEC) and Habitat Directive (92/43/EEC), and partly under the Decree for protection of the dunes (BS 31/8/1993).

This protection status contrasts with the continuous growing recreational pressure on the area. To accommodate those apparently opposing interests, the Nature Division of the Ministry of the Flemish Community commissioned the VLM to develop and execute a nature restoration project in this area.

The project aims at the restoration and development of:

- open dune habitats of dune grassland and moss dune ('grey dunes');
- dune shrub communities;
- dune pond and pools;
- moist to wet polder grassland and low productive natural grassland;
- introduction of ecological forest management;
- zoning of recreation.

Degradation of the grey dunes, a priority habitat protected by the Habitat Directive is caused by a lack of nature management and too much treading by recreation. A grazing area was established to maintain the dune grassland vegetation.

The Krakeelduinen form a mosaic of dune shrubs, dune grassland and moss dunes. To maintain the dune shrub vegetation invasive plant species such as Ontario poplar (*Populus candicans*), Grey poplar (*Populus canescens*) and Sycamore (*Acer pseudoplatanus*) were removed. The cutting down of the planted poplar lanes was the first step towards the restoration of the parabolic dune landscape.

The Calmeynbos is originally a diverse afforestation from around 1900. Nowadays about 60% of the initially planted taxa is still present. Their regeneration however, is difficult except for the Sycamore. The purpose of the project is to introduce ecological forest management. Therefore coniferous plantations are replaced by deciduous trees, forest structure is improved, regeneration of indigenous tree species like Common ash (*Fraxinus excelsior*) and Elm (*Ulmus spec.*) is facilitated by clearing more competitive species and the proportion of dead wood is increased.

In the former military zone, all military infrastructure such as store houses, concrete platforms, watch-towers are removed except for one blockhouse which will be restored as a hibernation shelter for bats.

Before the start of the project, the dune-polder transition zone was in intensive agricultural use. This zone was acquired by the Nature Division of the Ministry of the Flemish Community and has now the statute of Flemish Nature Reserve “Duinzoom”. The restoration of the dune-polder zone was established by locally removing the nutrient rich surface horizon, increasing microrelief on former arable land, reprofiling the banks of the watercourse “Langeleed” and other ditches, enlarging existing pools and digging new ones. Part of the area is managed by mowing, the other part by permanent grazing.

To channel the recreational activities, agreements were made with neighbours and users (e.g. the scouting, mountain bike and horse riding clubs). Therefore trails were established for walkers, mountain bikers and horse riders. In conflicting situations where walkers, mountain bikers and horse riders interfered too much the paths were separated or rerouted altogether.

The effectiveness of these measures will be monitored during 10 years. Lessons that will be learned from this monitoring will be of value in future management projects.