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# NATURE VISION

PORT OF ROTTERDAM AUTHORITY

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## Foreword

The port of Rotterdam is strategically located at the mouth of the Rhine and Maas rivers. This delta landscape has been shaped over the centuries by nature and by people. Like other important delta regions around the world, it is a unique and valuable area for nature and biodiversity. The prosperity of Rotterdam, the Netherlands, and Northwest Europe has been largely determined by its location in the Rhine-Maas delta and by the port of Rotterdam. That is precisely why we, as a port and the Port of Rotterdam Authority, have an important duty towards nature and biodiversity in the port, which we cannot view separately from the nature around us. This Nature Vision sets out the direction we want to take in fulfilling our role, so that the port of Rotterdam continues to develop in harmony with its surroundings.

### **Eric van der Schans**

*Director Environmental Management*  
Port of Rotterdam Authority



Nature and biodiversity are the basis for our life on Earth and therefore also for our economy. Without the natural resources that the earth provides us, we would not be able to live here at all. It is important that this is increasingly recognized and that there is broad social cooperation in this area. It is great to see that the Port of Rotterdam Authority has taken this insight as the starting point for its Nature Vision, which is essentially a vision of what the company should do (and refrain from doing) in order to be future-proof and remain attractive to its partners. It was a great privilege for Naturalis to be involved in this project. The combination of our respective areas of expertise has resulted in a powerful vision that the Port of Rotterdam Authority and its partners can work with and that the Netherlands can be proud of.

### **Koos Biesmeijer**

*Scientific Director*  
Naturalis Biodiversity Center



## Port of Rotterdam Authority Nature Vision

The Port of Rotterdam Authority has the ambition to become a net positive port in the long term, working in complete harmony with the environment and ensuring that all our activities contribute positively to society. We feel a sense of responsibility to contribute to a better living and working environment for everyone. Restoring nature and biodiversity is an important part of this. The location of the port of Rotterdam in the Rhine-Maas delta, the sandy soils, and tidal dynamics create an exceptional combination of conditions and a unique habitat for diverse species of flora and fauna, both above and below the water. The quality of nature is under increasing pressure worldwide, including in the Netherlands. The Port of Rotterdam Authority wants to contribute to the task of restoring biodiversity by making better use of the potential of the port and its surroundings for nature and biodiversity. We cannot do this alone, and we need other stakeholders in the port and in the wider delta to join us. Our Nature Vision for 2025-2050 is therefore:

*“Together with stakeholders, we are strengthening nature and biodiversity in and around the port, thereby creating a nature-inclusive port in a thriving Rhine-Maas delta”.*

We do this by integrating nature and biodiversity<sup>1</sup> into our organization and processes, by improving basic conditions, by reducing pressure factors, and by giving nature space wherever possible. This means that the natural values of the Rhine-Maas delta are actively improved and integrated into the development and management of the port area and its surroundings.

<sup>1</sup> The terms ‘nature’ and ‘biodiversity’ are used interchangeably. Nature has a broader meaning than biodiversity and, in addition to living nature, also includes non-biological aspects such as soil, surface quality, and weather. [www.clo.nl/indicatoren/nl-wat-is-biodiversiteit](http://www.clo.nl/indicatoren/nl-wat-is-biodiversiteit)

With the help of Naturalis Biodiversity Center, a [control model for biodiversity](#) has been set up for the situation in the port of Rotterdam (see diagram). This control model was designed with the aim of helping organizations make a positive impact on biodiversity through their decision-making and subsequent actions. This ties in with the recommendations from the [national biodiversity dashboard](#), which provides authorities, companies, and other organizations with tools to work together on biodiversity regeneration.



## A nature-inclusive port in a thriving delta

The Rotterdam port area is an important link in a much larger region, the Rhine-Meuse delta, in which the port exerts clear influence and on which it depends. This region features a variety of 'landscapes' and zones, most of which are characteristic of a rich and complex system where river and sea converge. Each landscape contributes in its own way to the biodiversity of

the entire region. The Rotterdam port area is an integral part of this, and we therefore also find these landscapes in the port. Consider the coastal and dune landscapes, the woodland landscape, the tidal landscape, and the migratory bird and fish zones.



**Marine rocky shore landscape**  
consist of hard banks resembling rocky coastlines and offer rich biodiversity thanks to their clear, saline water.



**Pollinator landscape**  
is varied and rich in flowers, forming an ecological backbone for butterflies, bees, and other insects, which also benefits other animals, and connects nature inside and outside the port.



**Urban wildlife landscape**  
is typical of urban areas and occurs in unexpected places, such as on roofs and roadside verges, providing habitat for species such as bats and house sparrows.



**Woodland landscape**  
consists of connecting, tree-rich areas with herb-rich undergrowth, scrub, freshwater, and small landscape elements.



**Migratory bird zone**  
sees large numbers of migratory birds along the coastline between their breeding and wintering grounds, some of which land on the Maasvlakte to rest.



**Dune landscape**  
is formed by nutrient-poor sandy areas with characteristic dune flora and fauna, such as orchids, rabbits, sand lizards, and natterjack toads.



**Coastal landscape**  
includes important resting and foraging areas for coastal birds and shallow coastal areas, with mudflats and beaches exposed at low tide.



**Migratory fish zone**  
is the most important route for migratory fish between their spawning and rearing areas at sea and in rivers. The port is a crucial place where migratory fish adapt to changing salinity levels.



**Tidal landscape**  
is home to unique nature, characterized by varying saline conditions and the influence of the tide

Dordrecht 20km

## Coastal landscape



This landscape refers to areas that are of great importance to coastal birds for resting, breeding, overwintering, and foraging. And on the shallow, salty parts of the coast, which are influenced by tides, currents, and waves, including mudflats and beaches that are exposed at low tide and are also used by seals. In the port, this relates to the outer contours of the Maasvlakte, but also the southern part of the Maasvlakte north of the Haringvliet estuary, within which the Bird Valley and Slufter are located.

### OUR COMMITMENT

- Space for coastal birds such as ringed plovers, common terns, avocets, spoonbills, and various duck species to breed, forage, and rest safely
- Human disturbance in the coastal landscape in the port is kept at acceptable levels
- Contributing to strengthening nature in the North Sea

## Dune landscape



This landscape encompasses the dunes along the coast of South Holland, ranging from young dunes along the beach to old dune woodland along the inner dune edges. Located between the Natura 2000 dune areas of Voornes Duin and Solleveld and Kapittelduinen, the poor and sandy conditions of Maasvlakte and Europoort provide good conditions for dune vegetation such as dune grasslands and dune scrub, which in turn provide habitat for species that are characteristic of these areas. These can be plants such as fen orchids and smooth cat's ear, but also rabbits, grasshoppers, butterflies, seagulls, and other ground-nesting birds, songbirds, and pioneer species such as natterjack toads and sand martins.

### OUR COMMITMENT

- Preservation of nutrient-poor and sandy soils
- Habitat for rabbits and other typical species
- Breeding grounds for large gulls
- Connection to surrounding dune areas

## Migratory bird zone



This zone is where migratory birds experience 'channelled migration', migrating in large numbers along the Dutch coastline in the spring and autumn. Many songbirds that migrate at night land here, due to the location of the Maasvlakte in relation to the coastline and possibly also due to the appeal of lighting in this area.

### OUR COMMITMENT

- Migratory birds need sufficient places (scrub) to rest during migration
- Neither public nor commercial lighting has much effect on migratory birds
- Activities and developments in this zone factor in functionality for migratory birds

## Marine rocky shore landscape



The hard banks with slopes and quay walls of the western port area (Europoort and Maasvlakte) now bear more resemblance to the rocky coasts of France and England than to the original system dominated by sand and sediment. The constant influence of seawater, which means that the salinity varies little and the water is relatively clear, provides great conditions for reef-like structures with high biodiversity, even at great depths. The port basins also provide important habitats for many fish species.

### OUR COMMITMENT

- The potential for biodiversity in nautical infrastructure is being exploited
- Shorelines are free of waste

## Tidal landscape



This landscape is located in the zone influenced by the tide and varying conditions of salinity between the Maas Entrance and the Biesbosch, and the unique tidal nature associated with this area. Natural values are particularly high in the zone between low and high water, but are somewhat lower underwater. In the port, this mainly relates to the area east of Rozenburg (Botlek, Waal-Eemhaven, Merwe-Vierhavens, and the Dordrecht ports), which usually has slightly brackish conditions.

### OUR COMMITMENT

- Increase in freshwater and brackish-water tidal nature
- Shorelines are free of waste

## Migratory fish zone



Fish species such as eel, salmon, and twaite shad migrate between the Rhine and Maas rivers and the sea. In the port, they mainly use the Nieuwe Maas and the Nieuwe Waterweg for this purpose, but also use routes via the Oude Maas and Hartelkanaal and possibly the Calandkanaal. Sufficient rest is particularly important for these species in the brackish part of this zone (the Scheur near Rozenburg and the Hartelkanaal), because this is where they adapt to the variable salinity levels.

### OUR COMMITMENT

- Rest and space for migratory fish to adapt to changing salinity levels
- Greater knowledge and understanding of how migratory fish use the port, pressure factors, dose-effect relationships, and solutions

## Woodland landscape



A wealth of species live around native trees and shrubs, including fungi, insects, birds, bats, and other small mammals. Many species depend on proper woodland structures to connect different habitats in the port and with the nature surrounding the port. Within the port area, this landscape is mainly found on the Rozenburg Peninsula, being scarcer elsewhere in the port. Where there is a high concentration of trees, we refer to this as a 'woodland landscape', in the form of rows of trees or larger wooded areas. The woodland landscape never consists solely of trees. Here, the variety of herb-rich undergrowth, scrub, freshwater elements, and small landscape features is important.

### OUR COMMITMENT

- Increase in tree canopy cover
- Tree structures are varied and native
- Functioning ecological connection between east and west and between the port and its surroundings

## Pollinator landscape



This landscape is the green backbone of the port, connecting east and west and linking the port with the surrounding natural environment. The pollinator landscape provides a varied habitat for butterflies, bees, and other insects, as well as mammals, reptiles, amphibians, and birds. It is rich in flora and varied, with a high diversity of herbs, interspersed with scrub, fresh water (pools, drainage ditches, trenches, wadis), bare sand, and small landscape features.

### OUR COMMITMENT

- Throughout the port, there is room for hotspots and connections in the pollinator landscape
- Improving structure and connectivity

## Urban wildlife landscape



This is the place for typical 'urban wildlife' that typifies the older port areas of Rotterdam and Dordrecht, such as the Waal-Eemhaven. If you look closely, you will find nature in unexpected places: between tiles, on roofs, or along roadsides. Building-dwelling species such as bats, house sparrows, and common swifts depend on the urban wildlife landscape for reproduction, shelter, and food. Greenery not only serves biodiversity, but is also functional for people and the environment. It is easy to maintain, provides shade and cooling, and helps prevent flooding during heavy rainfall.

### OUR COMMITMENT

- More greenery in public spaces (from grey to green)
- Buildings are nature-inclusive



## Room for nature

We want to cherish and strengthen the landscapes and connections, so that we work together with stakeholders to build a green, natural and resilient delta and port area. For each landscape, we have described what we consider important and what we are committed to. The basic principles here are that existing nature in the port should be preserved, strengthened and qualitatively improved as much as possible. Opportunities for nature and biodiversity are actively sought and exploited, with landscape management and development carried out in a nature-inclusive manner, resulting in nature in the port being connected to (nature in) the surrounding area. These commitments mean the Rotterdam port area is contributing to national and international nature restoration projects. We want to act as an example of effective economic and ecological cooperation. Based on our vision, we factor in the entire Rhine-Maas delta, including part of the North Sea, allowing us to focus more substantively on our own port area.

## Pressure factors and abiotic conditions

We conduct research into pressure factors and basic conditions and actively address them if they hinder the development of nature and biodiversity. This takes into account the functionality of the port and the activities that take place there. We encourage soil conditions and water quality to meet the requirements for nature and biodiversity. We ensure that sensitive species are disturbed as little as possible, for example by limiting recreation, noise and light in specific areas, especially during vulnerable periods. We combat litter in the port environment and we fight invasive exotic species. We also provide good basic facilities to prevent pollution and damage to green spaces and nature.



*Photo courtesy of 'Veldkijker Films'.*



## Nature in organisation and processes

In order to achieve our ambitions, a great deal is demanded of the Port of Rotterdam Authority, its customers, local partners and other stakeholders. The aim is to make nature and biodiversity an integral part of our work and the actions of our suppliers and customers. In a programmatic approach, this Nature Vision is translated into an implementation programme, which is periodically enhanced on the basis of evaluations and monitoring. Nature and biodiversity are becoming part of the Port Authority's work processes and are structurally factored in to decision-making relating to development and transition of the port.



Spatial development and landscape management focus on preserving and strengthening nature and biodiversity, but preserving nature is also a challenge in other activities. When implementing new projects in the port, nature-inclusive measures are becoming the norm. The Port Authority encourages companies in the port and everyone who works and stays in the port to participate. Additionally, we actively collaborate with local partners to improve the natural environment around the port.

Our knowledge is further developed through research, monitoring, an active network and the incorporation of new technological developments and scientific insights. This knowledge is shared with partners and stakeholders in the port and beyond, and effectively utilised for nature and biodiversity, our motto being 'do, learn, do better'. Active communication about nature in the port is used to create a broader support base and to inform and enthuse internal and external stakeholders. The condition and development of port nature and biodiversity are reported annually for internal accountability purposes. It will also become part of external reporting obligations such as CSRD<sup>2</sup>.

<sup>2</sup> Corporate Sustainability Reporting Directive (CSRD): a European directive on sustainability reporting.

## Scope

The port's impact on nature extends beyond the port area. In combination with the Delta Works, the port area has transformed the Rhine-Maas delta into a significantly altered estuary. For this reason, this Nature Vision focuses on an area of 25 kilometres around the ports of Rotterdam and Dordrecht on land and 60 kilometres out to sea.

## Our role in the wider region

Outside the port area, we are committed to strengthening the Rhine-Maas delta by contributing to concrete initiatives that enhance the nature of the dune, coastal and tidal landscapes. These include tidal parks, breeding grounds for coastal birds, and shellfish beds in the North Sea, where both minor and major initiatives have a positive impact. In discussions about larger projects, such as further expansion of the port or a larger opening in the Haringvlietdam, not only are economic interests explicitly included in deliberations, but nature conservation interests are factored in, too.

Furthermore, we are committed to initiatives that strengthen the connection between nature in the port and beyond, for example by better connecting the woodland and pollinator landscapes in the port with the surrounding area and by improving the connection between the sea and the river for migratory fish. The oyster pilot projects on the Maasvlakte, aimed at promoting nature development at sea, are also great examples of ways to establish a connection between the port and its surroundings.

Outside the port, we are also committed to limiting pressure factors that arise directly or indirectly from port activities, or to gathering and expanding knowledge about them. These include underwater noise caused by shipping and pollution.

Outside the port, we are dealing with existing nature reserves, management agreements and management organisations, other landowners, many involved parties, ongoing programmes, consultation structures, and many integrated and interrelated dossiers. In this complex playing field, where the initiative often lies with other parties, we seek cooperation with partners and their initiatives to achieve the goals set out in this Nature Vision.



## Why this Nature Vision?

The Nature Vision fits in seamlessly with [the 'purpose' of the Port of Rotterdam Authority](#). Nature and biodiversity are fundamental to our society, and action is needed to reverse the tide of biodiversity loss and its negative impact on our society and economy. We see it as our social responsibility to contribute to the restoration of biodiversity and nature, thereby also contributing to a better living environment. Nature plays an important role, both in being a sustainable port and in remaining attractive to businesses and future investments. Nature not only provides ecosystem services, but can also help to solve practical challenges (nature-based solutions). These include climate-adaptive solutions, such as water storage through the construction of vegetated wadis and cooling through shading. These are opportunities to tackle nature conservation in an integrated manner alongside other challenges.

Both internationally and commercially, it is recognised that nature conservation and restoration are becoming increasingly important in reducing risks to our prosperity and well-being. Countries worldwide have agreed that by 2030, at least 30 per cent of degraded ecosystems will have been effectively restored. Legislation<sup>3</sup> is in force in the European Union requiring Member States to restore damaged ecosystems. Additionally, there are hard targets for urban, agricultural and woodland ecosystems, rivers, pollinators and tree planting. Commercially, reporting guidelines are in force with regard to the direct and indirect impact of businesses. Insurers and financiers are increasingly acting on the basis of such risk analyses. It is becoming increasingly clear that postponing measures leads to ever higher costs<sup>4</sup>.

The long-term goal of the Port of Rotterdam Authority is therefore to become a net positive port, working in complete harmony with the environment and ensuring that all our activities contribute positively to society. Elements such as quality of life, safety and biodiversity are balanced with an economically strong port. With this Nature Vision, the Port of Rotterdam Authority is aligning our area with this net-positive approach and with international agreements on biodiversity. The Nature Vision and proposed approach enable us to work in a structured manner to preserve and enhance nature in and around the port.

<sup>3</sup> [Nature Restoration Regulation, 2024](#) | <sup>4</sup> [IBO - Snel aan de slag, 2023](#)

This vision was developed in collaboration with  
**Naturalis Biodiversity Center**

