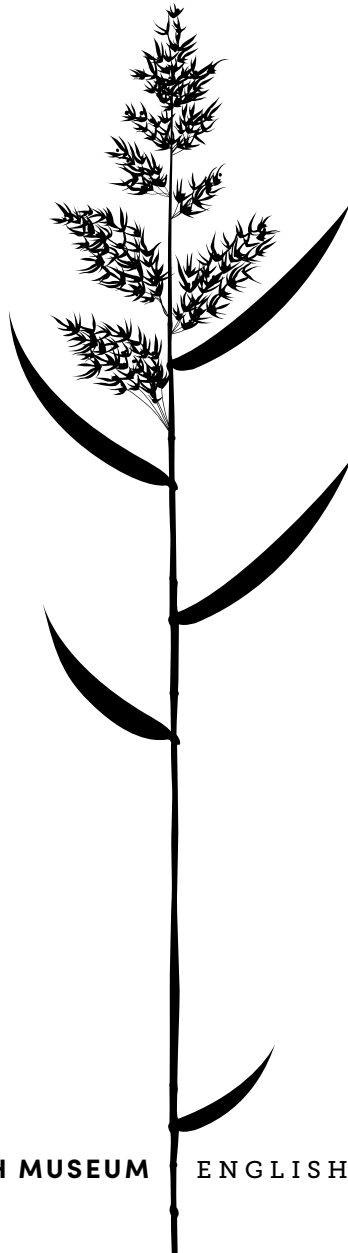


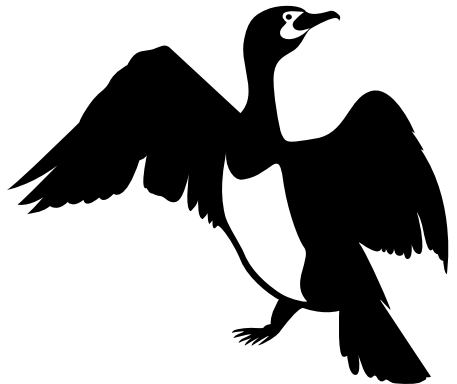
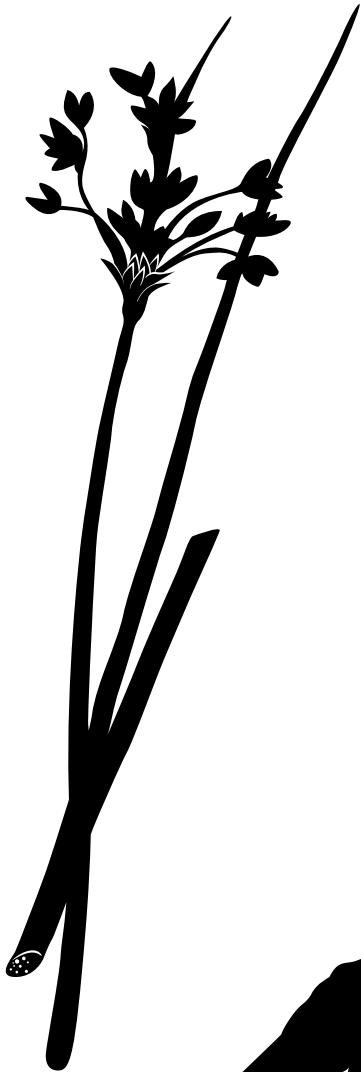
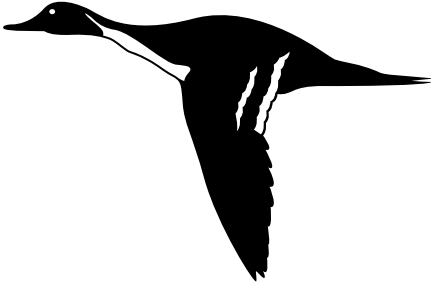
LIFE & SURVIVAL IN THE BIESBOSCH

THE NATURE AND THE WATER,
THEIR INHABITANTS AND THEIR CULTURE



BIESBOSCH MUSEUM

ENGLISH BOOKLET



LIFE & SURVIVAL IN THE BIESBOSCH

The natural landscape of the Biesbosch has been changing for centuries since the St Elisabeth flood of 1421 submerged the polder called Groote Waard (literally: 'large piece of land outside the dikes') and transformed the area into an inland sea.

New land formed due to tidal influences, sedimentation and plant growth. Interventions by the people of the Biesbosch – brushwood, reed and willow cultivation – also contributed to the creation of the unique landscape.

The exhibition 'Life and Survival in the Biesbosch' will show you how the landscape changed and how the people of the Biesbosch lived with the water and managed to survive on what nature had to offer.



START EXHIBITION



YOU ARE IN:
PAVILION 1

The Creation of the Biesbosch



On St Elisabeth's feast day, 19 November 1421, a severe northwesterly storm ravaged the dikes of the Groote Waard, a prosperous agricultural polder between Dordrecht, Geertruidenberg and Heusden. Severely weakened in previous years, the dikes collapsed and caused a major flood: the St Elisabeth Flood.

The Groote Waard had been reclaimed in the thirteenth century by five landlords collaborating to dam the Meuse near Heusden and Maasdam and construct an encircling dike. The landlords maintained the dikes well for years. But when the Hook and Cod Wars were rekindled, the nobility began to neglect dike maintenance. They spent their money on wars against the cities, which were trying to gain more power. The dikes were furthermore weakened by the so-called *moeren*: the cutting of peat for salt and fuel production.

The dike breaches were repaired, but then yet another storm tide caused yet another flooding of the Groote Waard on 19 November 1424 and it proved impossible to repair the damage this time. The waters of the sea and the rivers were given free reign. Flooding the polder, they created an inland sea with creeks and mud flats. Local people left the area. It was impossible to live in this *Verdroncken Waard* (literally: 'drowned land outside the dikes') any longer.



YOU ARE IN:
PAVILION 1



YOU ARE IN:
CABINET 1

The Truth Beneath the Water



FACT OR FICTION

The St Elisabeth Flood has always fired the imagination. According to the stories, the entire Groote Waard perished in a single night, on 19 November 1421. Supposedly, the disaster washed away every village, the waves taking thousands of people.

The stories about the St Elisabeth Flood were passed down from father to son. Poetic licence made them more and more exciting, but historians can no longer be sure they are true. According to records of historical events, the so-called *Chronicles*, circa 100,000 people were affected by the disaster and 72 villages disappeared under the cold water.

It has now been almost six centuries since the flood and the facts remain largely unknown: how many people actually drowned? How many eventually fled the Groote Waard? Contemporary research estimates that the affected area was home to around 20,000 people. The oldest-known description dates from between 1450 and 1500 and is found in the sixteenth-century *Chronicon Tielense* – ‘the chronicles kept in Tiel’ – compiled in the sixteenth century. It mentions 2,000 casualties and we now think this was probably a correct assessment.



YOU ARE IN:
CABINET 1



YOU ARE IN:
PAVILION 2

Fishing in a Drowned Land



After the St Elizabeth Flood, waves splashed against Dordrecht's city walls. From the church tower of Geertruidenberg, you could see nothing but water and clouds. What had once been a rich agricultural area was now a large pool of water. The Verdroncken Waard had become an inland sea, filling up when the tide was high and with mud flats appearing above the water surface when the tide was low. The drowned land provided rich fishing grounds. The only question was: Whose fish is it, once it has been caught?

Until the previous century, the area had focused on salmon fishing exclusively: anything else had been by-catch. For hundreds of years, salmon fishers had been using fish traps: you could see the stakes that connected the underwater fences made of willow sticking out of the water. The salmon swam along the fence, eventually passing a partition. Right behind the partition was the trap the salmon got caught in.

In addition, fisherman cast their nets from a salmon scow or from the embankment. Such nets hung in the water like curtains. If you were a fish, you'd find it hard to pass through the mesh of such nets, too!



YOU ARE IN:
PAVILION 2



YOU ARE IN:
CABINET 2

Behind the Fence



DOWN THE HATCH

All was quiet in and around the duck decoy. If anything, you heard the quacking of the ducks that rested in the pond. The *kooiker* dog did not bark, either. Wagging its white tail, it made the curious ducks look up and swim towards it. Following the instructions of the decoy man, the dog alternately ran along the fencing and appeared at the embankment of one of the ditches that ended in a trap pipe. The unsuspecting ducks, swimming along the tapering ditch, ended up trapped at the end of the pipe in a kind of fyke net. The stable ducks that lived in de duck decoy because the decoy man fed them every day helped lure them into the trap.

At the end of the trap pipe, where the vegetation was low, the decoy man emerged to chase the ducks. When they tried to fly out of the pipe, they got entangled in a slanting net. When they fell, they panicked and took the only escape route left: through the trap hatch. Which then closed.



YOU ARE IN:
CABINET 2



YOU ARE IN:
PAVILION 3

Rush and Reed Cutting



Biesbosch, 'Rush Woods': it's a strange name for a watery area. In a wood, you would expect to find trees, yet this one surely must include rush? Soon after the 1421 St Elizabeth Flood, it did. The conditions on some of the (mud) flats that appeared above the water surface at high tide were ideal and the rush began to take root. The plants inhibited the flow of water and caused sedimentation. As a result, other plants appeared along the banks of the mud flats, like reed. Reed in turn retained sediment, sand and soil, and the wetland area of the Verdroncken Waard began to appear above the water surface more and more often. This process is called 'terrestrialization' and it can go on for many centuries.

The people living in the Biesbosch help the terrestrialization process along by planting rush and reed on a large scale. The stalks of rush and reed will weave an excellent chair seat, mat or basket. Harvesting is heavy physical work for rush and reed cutters, however. They are always knee-deep in slush and mud.



YOU ARE IN:
PAVILION 3



YOU ARE IN:
CABINET 3

All Things Nice Run Free



NO HARM, NO FOWL

The reed cutters ate the same food week after week: potatoes with a bit of smoked bacon. After a couple of days, the bread they had brought with them to the flats was rock-hard. The heavy work yielded a hearty appetite, and yet they had to take potluck every day. They could sure do with some eel for a much-needed change! The Biesbosch workers regularly put out fyke nets among the reedy borders, or set a couple of traps among the shrub to catch other animals.

A natural environment where only very few people live, bursting with fish, fowl and other wildlife: ideal to go a-hunting. Unfortunately, poaching was and is prohibited by law. If the police catch you doing it, you're in big trouble! You're not allowed to catch animals that do not belong to you. You need a licence, or to have the legal right.

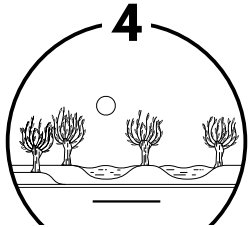


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CABINET 3



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PAVILION4

Working in the Willow Fields

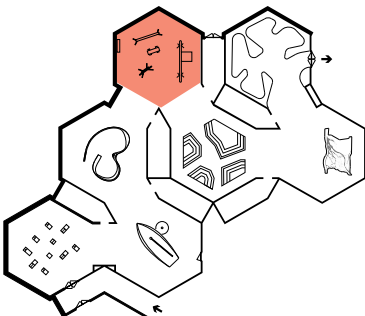


WILLOW AND
BRUSHWOOD BUNDLES

Early on Monday morning, the willow cutters left home to chop willow wood deep in the Biesbosch. From November to April, they worked the willow fields during the day and spent their nights in a willow cutters' cabin with their colleagues.

Willow wood has been a popular product for centuries. In the nineteenth century, people increasingly used willow to make hoops for barrels, handles for tools and agricultural devices; brushwood was bundled and used to make fascine mattresses. These woven brushwood mats were sunk into place at piers and dike bases for protection of the river bed.

The production of willow wood required a certain water level in the willow fields as well as dikes and ditches. This is why willow fields were often located in low-lying polders and close to major rivers. Actually, willow cutters were the first hydraulic engineers and dredgers in the Netherlands. The change-over to wetland development was easy to make. After the construction of the Nieuwe Merwede divided the Biesbosch in two in 1874, wetland development began to flourish.



YOU ARE IN:
PAVILION 4



YOU ARE IN:
CABINET 4

Wetland Development



WHAT TO DEVELOP?

The Biesbosch was a testing ground for dredgers and hydraulic engineers for centuries. The people of the Biesbosch became very familiar with the digging of ditches to improve river drainage and the construction of dikes to hold back the water.

The quality of the willow wood was excellent due to the natural conditions in the freshwater tidal area. Better than anyone else, the willow workers knew how to treat willow wood and they were experienced fascine mattress makers as well. The Werkendam men in particular were known as the best brushwood workers, whereas the men from Sliedrecht were excellent dredgers. As early as the seventeenth century, they were brought in wherever there was engineering work to be done because water formed a threat, both in the Netherlands and abroad.

Water works like the construction of the Nieuwe Waterweg (1872), the Noordzeekanaal (1876), the Afsluitdijk (1932) and the Delta Works involved the work of many wetland developers.

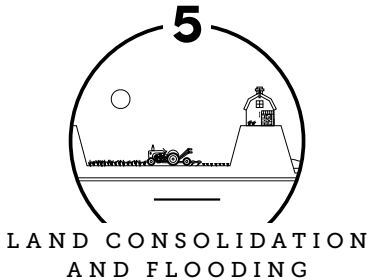
To international acclaim. Abroad, too, there is plenty of work to be done on ports and coastal areas and there are plenty of canals to be dug. Even Dubai Palm Islands to raise!





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PAVILION 5

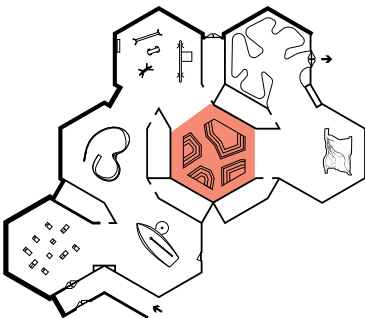
Farming in the Biesbosch



Farming in the Biesbosch long guaranteed you would lead a lonely existence. Former, raised willow fields were transformed into polder islands that were only accessible by water. Groceries and mail were delivered by boat. Farmers had no use for cars to get to church, to school or to the doctor. They would rather have a boat or a horse.

When the estuary mouth of the Haringvliet was blocked by the Ministry of Infrastructure and the Environment on 2 November 1970, the water was drained from the Biesbosch at low tide one final time, never to return. After that, the life of the farmers changed dramatically. They used to manage the water in the polders themselves, but now the water boards managed the water in the entire Biesbosch. To that end, the number of ditches was reduced and the water boards encouraged land consolidation. A better distribution of the patchwork of estates ensured fewer ditches were necessary and that farmers could grow their produce on larger fields. Provided farmers could soon drive to the village on a paved road, their near future looked promising.

In the Biesbosch, however, 'never' was only good for about 30 years. In the beginning of this century, a number of farmers were bought out and estates turned into flood plains: the river needed more space.



YOU ARE IN:
PAVILION 5



©Ronald Tillemann

YOU ARE IN:
CABINET 5

The Second World War



SPERRGEBIET FOR
GERMANS

The Germans were afraid to enter the Biesbosch: afraid to lose their way in the wetlands with their meandering creeks, reed borders, willow fields and different water levels during the day. The Dutch were soon aware of the German fears. First, barge captains hid their inland barges here, before the Germans could confiscate them. Next, Jews, resistance fighters and British pilots hid out in the tidal area. The people in hiding could call on the farmers to provide them with food.

In 1944, the southern Netherlands were liberated by the allied forces and the Germans fled into the Biesbosch. A number of resistance fighters forged a plan to take the fleeing Germans captive as prisoners of war to get their hands on weapons. The Biesbosch partisans took 76 prisoners of war, whom they turned over to the Polish liberators many months later.

In 1944, the front between liberated Brabant and occupied Holland was right in the middle of the maze of water that was the Biesbosch. To transfer secret military messages, allied pilots, Jews, radios and instruments across enemy lines, resistance fighters made crossings. Risking their own lives on moonless nights, 21 people regularly crossed the front by boat. About 370 times. A number of these 'crossers' were (posthumously) awarded the Military William Order.

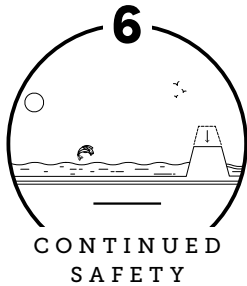


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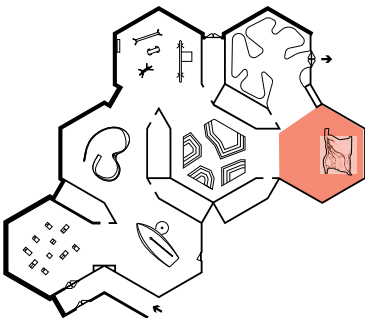
Go with the Flow



The Netherlands is located in the delta formed by the Rhine, Scheldt and Meuse. A large part of our country is below sea level. Both its position below sea level and its many rivers make the Netherlands vulnerable to floods. To manage the water, we have reclaimed land to make polders and created dunes, dikes and Delta Works to protect ourselves. We use pumping stations, locks and ditches for further water management.

Still, new water safety issues are always presenting themselves. Now sea levels are rising, land is subsiding, rains are becoming heavier and river levels higher. To protect ourselves against high water levels amid a river system, dike improvement is no longer the only possible solution.

The history of the Biesbosch pre-eminently illustrates that we need to think about water safety in another way: go with the flow. This means all rivers have to be given more space. It is an important task for the Ministry of Infrastructure and the Environment, the water boards, the provinces and the municipalities.



YOU ARE IN:
PAVILION 6



YOU ARE IN:
CABINET 6

Water Storage in Reservoirs

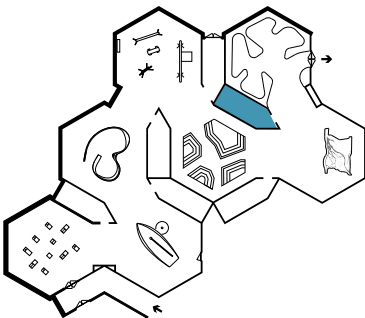


THE STORAGE OF MEUSE WATER

In the 1960s, Rotterdam's drinking water – its 'city brew' – seemed to be losing its taste. Then suddenly, at one point in 1963, all of the tap water turned brackish. At the time, the drinking water was produced using water from the New Meuse. Since all of a sudden it tasted as brackish as sea water, the New Meuse became useless as a source. As the water mains had to remain pressurized, water company DWL decided to continue pumping brackish water into the system at the time.

Rotterdam city authorities appointed a committee that had to identify another source for drinking water production. They found it in the Meuse. Unfortunately, this rain-fed river sometimes had low water levels to contend with. The solution was found in the Brabant section of the Biesbosch: reservoirs to store and naturally purify the Meuse water, which was then turned into reliable drinking water by the water company.

The construction of the reservoirs began in 1970. They were given the names of three out of six agricultural polders that had to clear the field: Petrusplaat (219 ha) and Honderd en Dertig (150 ha) were put into use in 1973, followed in 1978 by Gijster (324 ha).



Today, large parts of South Holland and Zeeland use drinking water made from the water in these reservoirs. In addition, they are a source of freshwater for industrial water treatment plants in South Holland, Brabant and Zeeland.



Go Outside

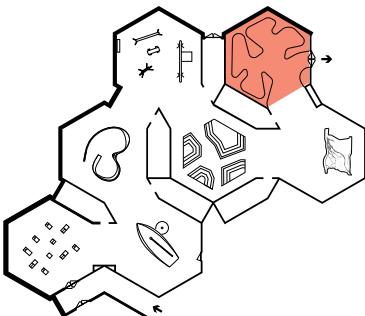


When after the Second World War, the Dutch people got more free time and became more prosperous, they went looking for ways to spend their leisure time. Lovers of water felt attracted to the Biesbosch because of its many creeks. Nature lovers recognized the beauty of the landscape as well.

The tidal differences of circa 2 m turned a trip through the Biesbosch into an exciting adventure: you always had to mind the water. If you weren't careful, your boat would run aground and you'd have to wait for the tide to turn.

On account of the Delta Works, which included blocking the estuary mouth of the Haringvliet, the tidal differences disappeared almost entirely in 1970. This had major implications for the nature and the culture on the willow fields, which fell into disuse and turned into willow forests.

The flooding of the Noordwaard in the context of the Room for the River-project spurred on the development of nature yet again. People will undoubtedly continue to visit the Biesbosch to be outdoors and enjoy the nature of this unique freshwater tidal area – perhaps armed with cameras, like hunters looking for that one particular bird that will interrupt its migration to rest for a while in the Biesbosch.



YOU ARE IN:
PAVILION 7







SHARING IS CARING

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