

Safety for four million people in the Dutch delta

Dutch Water Program Room for the River

Facts and figures

The water in the rivers reached extremely high levels in 1993 and 1995. 250,000 people had to be evacuated in 1995.

Budget

€ 2.3 billion

Planning

Start: 2007

Completion: 2015

Current maximum discharge capacity

15,000 m³/sec

Discharge capacity on completion

16,000 m³/sec



Work in progress lowering groynes

The Netherlands has a population of over 16 million in an area (including the territorial sea and surface water) of just 41,528 km². The Netherlands lies in a delta, which enables three major rivers: the Rhine, Meuse and Scheldt, to flow out to sea. Without dikes and coastal dunes, around two thirds of the Netherlands would be flooded. Flood protection is therefore a very high priority in water management for the Dutch Ministry of Infrastructure and the Environment.

The cadence of Dutch history is marked by floods and the response to them. In 1993 and 1995, the Dutch rivers swelled to unprecedented levels. Large tracts of farmland were inundated; 250,000 people were evacuated. 250,000 people and one million head of livestock were evacuated. As a consequence, the Dutch government took measures to protect the rivers region against flooding. The approach, 'Room for the River', was born.

Natural flood plain restored

Room for the River, the implementation of which started in 2007, restores the river's natural flood plain in places where it is least harmful in

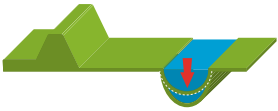
order to protect those areas that need to be defended. By 2015, through a series of more than 30 measures, costing 2,3 billion euro, we will have lowered and broadened our flood plain and created river diversions and temporary water storage areas. We will restore marshy riverine landscapes to serve once again as natural 'water storage' sponges and provide biodiversity and aesthetic and recreational values.

Local and global

Provinces, municipalities, water boards and Rijkswaterstaat are cooperating in the implementation of the Room for the River Program. The Minister of Infrastructure and the Environment bears the overall responsibility for the Program. Also internationally Room for the River collaborates with its neighbour countries. The countries through which the Rhine, Meuse and Scheldt rivers flow, cooperate closely on flood protection. These countries are The Netherlands, Belgium, France and Germany. Room for the River also shares this experience with other countries all over the world, and highly values the experience obtained from these international exchanges.



How we are making room for the river



Deepening summer bed

The river bed is deepened by excavating the surface layer of the river bed. The deepened river bed provides more room for the river



Water storage

The Volkerak-Zoommeer lake provides for temporary water storage when exceptional conditions result in the combination of a closed storm surge barrier and high river discharges to the sea.



Dike relocation

Relocating a dike land inwards increases the width of the floodplains and provides more room for the river.



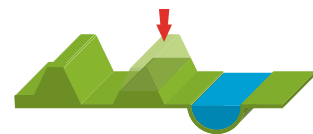
Strengthening dikes

Dikes are strengthened in areas in which creating more room for the river is not an option



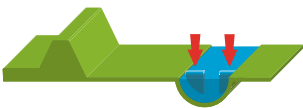
High-water channel

A high-water channel is a diked area that branches off from the main river to discharge some of the water via a separate route.



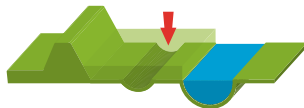
Lowering of floodplains

Lowering (excavating) an area of the floodplain increases the room for the river during high water levels.



Lowering groynes

Groynes stabilise the location of the river and ensure that the river remains at the correct depth. However, at high water levels groynes can form an obstruction to the flow of water in the river. Lowering groynes increases the flow rate of the water in the river.



Depoldering

The dike on the river side of a polder is relocated land inwards and water can flow into the polder at high water levels.



Removing obstacles

Removing or modifying obstacles in the river bed where possible, or modifying them, increases the flow rate of the water in the river.