



Fish migration	
	Possible
	Measure in preparation
	Not possible

Situation January 2010

# From sea to source

## Hunze & Aa's Water Board offers fish a helping hand

**A healthy fish population**  
Fish play an important role in the food chain. They eat and are eaten. A healthy fish population contributes to a natural equilibrium in the water. Fish are part of the menu of several bird species, for instance the kingfisher, the common tern and the spoonbill. If the fish population declines, there is a direct negative influence on the bird population. To maintain this natural equilibrium it is important that the fish are not restricted in their freedom of movement and that clean water is available.

**Fish migration; a long way to go**  
Several fish species migrate from the Wadden Sea to a freshwater environment in the backcountry to grow and spawn. Clean freshwater is an important condition for species like the

three-spined stickleback, eel, river lamprey and the smelt that show this migratory behavior. Eel travel all the way from the Sargasso sea (South America) in order to grow up in freshwater. Eventually the fish swim back to the sea.

**Water management is necessary, but it also causes problems**  
The Water Board manages a total of 3500 kilometers of freshwater (rivers, canals, ditches and lakes). Dykes, weirs, locks and pumping stations are used to carry out water management in order to protect the inhabitants. These constructions can be difficult or impossible for fish to pass. This can prevent them from reaching their spawning and nursery grounds, which is of great importance in order to reach a natural equilibrium. To ensure a healthy fish population it is necessary to give the fish a helping hand in passing the weirs, locks and pumping stations.

**A helping hand**  
The Water Board offers fish a helping hand during their voyage and stay in their spawning and rearing grounds. This is carried out by:

- Creating fish ladders next to weirs and pumping stations.
- Carrying out "fish friendly" lock management.
- Creating wildlife friendly shores.
- Carrying out river restoration projects to restore meandering streams.
- Providing clean water by treating and controlling wastewater.

**Hunze and Aa's Water Board**  
In the eastern region of Groningen and the north-eastern part of Drenthe, the Hunze and Aa's Water Board is responsible for safe sea dykes and storage basin embankments, for sufficient clean surface water and for accessible waterways.

**Working together for a better fish population**  
Improvement of migration conditions and habitats for fish is the responsibility of a number of organisations. The Water Board therefore cooperates with the Fishery Board Groningen-Drenthe, NGO's and the Provinces Groningen and Drenthe. As a result of this cooperation measures can be carried out more efficiently and financial opportunity can be maximised. On a national and international level knowledge about the construction of fish passes is exchanged and best practice applied.

[www.hunzeenaas.nl](http://www.hunzeenaas.nl)

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