

Restoration of Skjern River (Denmark)

River straitening and drainage development for preparing farmlands started in the late 19th century. By 1968, 95 % of the river was modified and 4000-ha farmland was transformed to cultivated field. But its effects on the environment and the restoration plan were investigated for twelve years, and based on the results, the interested parties negotiated to reach an agreement. In June of 1999, the biggest restoration works in the north Europe started, with the budget of 35 million dollars. It included land acquisition, as well as projects regarding soil, water, and roads, and was called "Skjern River restoration project."

◆ Key to Restoration

- River re-winding
- River and surroundings analysis
- Fauna and flora protection

◆ Overview of the River

Skjern River, the largest river in Denmark, with 2500-km² catchment basin, flows into a fiord along the North Sea. The flood fields used to be utilized as natural meadows rich with grass thanks to azote and phosphorous provided by floods. In 1960s the winding 29-meter course was changed to a straightened 19-meter course. Banks were created and drainage facilities were prepared in order to lower the underground water level in the flood fields, and an area of 4000 ha was drained. After these changes, serious problems were found, including loss of loess, sunken farmlands, and downstream fiord contaminated with sediment and nutrient salts flowing from farmlands.



◆ Project Efforts for Restoration

[River re-winding]

Conservation of biodiversity and restoring trout's spawning bed requires recovery of winding river course. Since the natural process of a straight river course to change to a winding course would take a long period of time, the designated winding course was created by excavation.

[River and surroundings analysis]

Historical and topographic research and analysis on the details of the river and the surrounding scenery was required. The river originally formed a typical inland delta created in transporting massive sediment in its slight grade. This dynamic system has now been restored in the half dimension of the basin.

[Fauna and flora protection]

Atlantic salmon forms large-scale natural salmon communities, and it is the last of those species remaining in north Europe. Therefore the measures are taken to conserve their natural habitat and to protect them.