Ecological rehabilitation in the Ruhr metropolis

At the end of July, the module 'Ecosystem Management' took a part of us to the Ruhr region of North Rhine-Westphalia. Here a biologically dead river, along with its surrounding industrial wastelands are being ecologically rehabilitated, in the framework of two long-term, multi-billion projects. During our excursion we visited several sites, we spoke with persons from several organizations involved in the projects, and saw for ourselves just how the region looks like and how much progress had been made on the projects.

The Emscher
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So let me introduce you to the Ruhr region, the Emscher river, and the two projects.

The Ruhr region, once Europe's industrial heart, is now one of the most anthropogenically modified and densely populated regions of Europe. The region encompasses 11 metropolitan cities and 4 administrative districts (5,67 million people), incorporated in the Ruhr Regional Association (RVR), the regional hub responsible for spatial planning. From the 1960s onwards, the coal and steel enterprises gradually declined, leaving behind a high unemployment rate, environmentally contaminated sites in need of restoration, and a decreased quality of life in the region. Then the structural transformation began, from a coal and steel industrial center to a service, technology and culture-oriented metropolis.

View from Bottrop treatment plant

The Ruhr region is crossed by three rivers: Ruhr, Emscher and Lippe. Actually, since the Emscher is situated in the middle, the region should have been called 'the Emscher region'. But no one liked the Emscher, at least not the way it's been for the last 100 years…

The Emscher is managed by the Emscher water association, the Emschergenossenschaft (EG), a wastewater disposal and sewage plant operator, established in 1899 as a public corporation without commercial interest. Its tasks include wastewater treatment, ensuring proper drainage, flood protection and water body maintenance.

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Early 1900, in order to accommodate the growing industrial needs of the region, the Emscher and its tributaries (400 km of natural river) were straightened, deepened and dyked, and since then used as open wastewater canals. This was the best solution at a time when mine subsidence across the Ruhr region prevented the building of underground sewers, and disrupted water flows and groundwater, causing constant flooding and epidemics. Today subsidence is no longer an issue. However, since the ground level has remained low, there is no natural water drainage. Therefore, flood control must be ensured artificially by 102 drainige pumping statiotions, without which a large part of the Ruhr region would be under water. Moreover, EG also pumps up the Emscher at an artificially high level, in order to secure its flow into the Rhine. Today, the Emscher or most of it, is still a filthy, smelly river, fenced with barbed wire, to protect people from bathing or even drowning, like before. But it won't stay like this for long, because the Emscher Valley is now in a change process.

Panel indicating drowning danger

Acknowledging Emscher's recreational potential, EG attempts to transform the formerly repugnant river valley into a nature and culture-oriented recreational area, so that it would provide the region with valuable ecosystems and attractive places to live and work. In 2006, EG initiated the Emscher-Future Master Plan, the 'generations-project' aimed at the renaturation of the Emscher. Four modern sewage treatment plants (some of them with sludge gas energy recovery), as well as a system of 400 km of underground wastewater pipes (from which 220 are already completed) will create the preconditions for water body restoration to a near-natural state. The project is managed in dialogue with cities and districts, industry and business, relevant government authorities and other organisations and institutions. Where the money comes from, you will ask. In addition to public funds of around 4,5 billion euro, there are investments coming from private initiatives, such as ecological, urban development and water resources management projects, as well as artistic and cultural projects. What is the return of these investments? The New Emscher Valley will increase the quality of life in the region, attract tourists and even more investors, which will eventually generate net gains for the region.


Emscher's flow in and out of Bottrop treatment plant, before flowing into the Rhine

The other master plan concerned with the future of the region is the Emscher Landscape Park, sponsored and coordinated by RVR. The project aims at re-integrating the urban landscape into the nature, by developing a regional green belt, reshaping the urban landscape into "industrial nature", and thus valorizing huge areas of fallow land and the region's industrial heritage. The Emscher Landscape Park, considered as the "green lungs of the Ruhr region", is a network of former industrial sites and fallow plots converted into parks, small gardens, wetlands, industry forests and other sites, scattered across the Emscher valley and connected through paths and bicycle roads. Today the Park, with its *Industrial Heritage Trail,* are known worldwide for their originality, and have become important touristic attractions in the region. A wide range of activities are organised in the Park, from concerts to outdoor training sessions for kids, from organised tours to climbing activities in specially adapted places. For me, the project illustrates an original way of 'land recycling', and maybe the only way of greening the region, while keeping alive relics from its industrial past.


Emscher Landscape Park Duisburg Nord

On the basis of these two multi-billion master plans, EG and RVR have been cooperating since 2006 in the New Emscher Valley working group, with the aim to bring nature back to the Ruhr region, enhance recreational space and improve the quality of life.

As you have noticed, both projects are based on a multifunctional approach towards nature. The appropriate balance between conservation and use here is defined by two guiding principles of the New Emscher Valley: exploiting the true ecological potential of the Emscher system, while creating recreational and leisure opportunities for the public. But what do you think, is it really possible to have a species-rich river landscape used for recreation in such a densely populated region?

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