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WORKSHOP 2 – Water landscapes: international experiences

The Water Framework Directive and cultural heritage, conflicts in implementation in Sweden

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The European Union Water Framework Directive (WFD) was agreed in 2000 and put into force in most European Union member States in 2004. In the case of the Swedish water management, it is apparent that the implementation of WFD is causing conflicts when measures to achieve ecological quality standards affects cultural heritage.

The Framework Directive and the landscape

In short, the WFD and the overall European water policy is about making Europe's waters cleaner and getting the citizen involved in the decision making as an assimilation of the Aarhus Convention.

The WFD provides a landscape perspective since water management, according to the directive, should be based on river basins and catchment areas, not management by administrative borders or by sector management, such as energy or agriculture. This river basin approach can be applied to large or small basins: the need for measures and the need for co-operation is the basis for how this is established. The Directive strongly advocates co-operation and coherent action. Water management calls for the involvement of many types of actors. In Sweden we have organised Water Councils to manage this.

The obvious problem with the Directive is that water issues are singled out as a policy area of its own, separated from other aspects of landscape. This sharpens conflicts between water ecology and other aspects such as cultural heritage.

Water management in Sweden

The Directive is about all waters – streams, lakes, coastal waters and also groundwater. The WFD works with set deadlines: for surface waters good ecological and chemical quality should be achieved no later than 2027. Sweden is a little behind schedule and measures have to be undertaken in the coming years.

Water management in Sweden is led by Swedish Agency for Marine and Water Management. Most operational work is carried out by five regional water authorities based on the main sea basins, four in the Baltic Sea and one in the North Sea. The regional water authorities classify waters, set environmental quality standards for waters and decide actions plans. The regional water authorities are supported by 21 secretariats, one in each Swedish county.

Co-operation concerning action plans and measures is organised in Water Councils (*Vattenråd*), of which there are 111 in Sweden. Water Councils are defined by their river basin with representatives from local authorities (cities and municipalities), industries that use water, forest companies and NGOs such as angling societies.

Lack of connectivity is the main challenge

In Sweden there are close to 100,000 lakes and nearly 28,000 rivers and streams. Main challenges in water management nowadays do not so much concern the chemical quality of the waters, but rather the morphological aspects – especially the lack of connectivity caused by dams and other artificial barriers. This is harmful to biodiversity since fish and other organisms cannot pass the barriers.

There is a need for action. Sweden behind in water management action and there is now an urgent need for action. Measures for better connectivity must be fulfilled in the next few years. There are about 11,000 dams in Sweden. Not all of them have to be fixed if ecological quality standards are to be met and not all of them are related to heritage sites but, considering the large number of dams, many heritage sites are likely to be affected, usually in a negative way.

Measures for connectivity and cultural heritage

After nearly 15 years with the WFD, we now know that many heritage sites will be, to a greater or lesser extent, affected by water management measures such as the restoration of habitats, fish passages, etc. Measures for better connectivity can mean that dams and barriers are deconstructed (demolished). The demolition of dams is in many cases an efficient measure and is therefore preferred, but could harm other aspects of the landscape, for example culture heritage. Bypass streams and fish ladders are in some cases less harmful to the culture heritage, but are costly and often less efficient in fulfilling environmental objectives.

There are many types of historic use of waters, and therefore many types of heritage sites that could be affected by water management actions: mills, electric power plants, floating facilities, etc. Some

of these, but certainly not all, are of high value for the preservation and use of cultural heritage. We also recognise that some damage to heritage sites could be avoided or minimised by adaptations, for instance with technical innovations. These adaptations can, however, be costly, and since measures to a large extent are supposed to be covered by the users, the exploiters, financing is an issue.

Sweden relies heavily on water power: about 45 percent of the electric supply is derived from water power plants. However, the national energy policy states that only 200-300 of the largest plants are needed in the grid: small plants can not expect to be safeguarded against demands for deconstruction. The impact on cultural heritage by Swedish water management can be:

- destruction of heritage sites;
- additional costs for adaptation to cultural heritage that cannot be covered;
- constructions for fish migration are not always efficient – deconstruction of barriers are preferred;
- the historic use and intangible heritage of small-scale water power will be wiped out?

Water-related heritage and landscape issues do not just relate to small and demarcated heritage sites. The historic use of water has often formed the landscape in a large scale. This goes for many of the Swedish river valleys, the historic industrial communities and many agriculture landscapes. The meandering of formerly straightened rivers and streams is an example of what is commonly considered an important measure affecting agricultural landscapes.

The conflict between water management and heritage management is widely reflected in the Swedish media. Cultural Heritage is often very important to the local society and people (not only the users) react to deconstruction of dams and other changes to the environment.

What has been done? What needs to be done?

In the rush for water management actions and measures, what needs to be done?

- closer co-operation between national agencies, e.g. the Swedish National Board of Heritage and the Swedish Agency for Marine and Water Management;
- closer co-operation between water management, nature conservation and heritage management at regional and local level;
- knowledge-building and making information accessible concerning water-related historic activities and heritage sites;
- development and application of methods and criteria for classification of water-related heritage sites deriving from the WFD's regulations of "heavily modified waters", where lower standards may be applicable;
- establishment of funds for financial compensation for additional costs due to heritage adaptation of measures;
- development and implementation of guidelines for heritage assessment within the permit and EIA (Environmental Impact Assessment) processes.

The Swedish National Heritage Board has developed a method for assessment of heritage due to the resilience to connectivity measures. This method is published in Spring 2019.