

Efficiency and sustainability: Integrated Water Resource Management

Client:

Various municipal water suppliers in
Northwestern Germany

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Challenges:

Ground Water is a dynamic resource. Because water quality and quantity is influenced by natural and anthropogenic factors municipal water suppliers are often facing various issues: What are the areal dimensions of a water protection zone required to safely withdraw water from it? What temporal and local changes can be expected in groundwater flow and storage when additional sites of water withdrawal are established within an existing catchment? Which other activities within a catchment need to be regulated in order to protect the municipal sources of drinking water?



Solutions:

We support water suppliers with integrated solutions for catchment-related problems. For any issue regarding water quantity and quality a number of scientifically-sound tools are available at IWW that enables us to help you with planning and maintaining a sustainable and efficient management.

Using advanced computational modeling we can analyze rates of groundwater recharge in your catchment or describe the flow and transport of contaminants within the subsurface. In concert with field-based data these models can be used for dif-

ferent purposes. For example, designing and planning new catchments or analyzing the effect of irrigation on an aquifers water balance and quality. The models may also be used to **identify risks to local drinking water sources and develop strategies to minimize or eliminate these risks.**

Informed decision making is based on reliable data. In many catchments the status of the ground water resource needs to be monitored on a regular basis to provide such data. We offer **continuous sampling and analysis of ground and surface water** and discuss these data with our clients in detail.

Application for a drinking water protection area requires extensive data and expertise. We assist water suppliers during the process by collecting all data necessary to successfully apply for it including soil surveys, whole catchment groundwater recharge estimates, risk assessment and dimensioning of the final protection zones using geographic information systems.

*Contact at IWW
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