



Sediment management of alpine reservoirs considering ecological aspects

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Alpine water reservoirs are major vital components of water supply, renewable electric energy generation, recreation but mainly flood protection for alpine regions as well as large downstream areas. Sustainability of these reservoirs is severely threatened by sedimentation resulting from natural geomorphologic processes. To maintain storage volume measures to reduce sedimentation should be initiated. If sedimentation has already occurred or may not be prevented methods of excavation must be taken into consideration such as flushing or mechanical removal. These are expensive tasks and may affect sensitive alpine environment seriously. However, failing to do so results in the loss of storage capacity and consequentially the loss of flood protection abilities, water supply reliability and hydro power generation potential. Trans-national strategies are needed to implement a sustainable management aiming on a dynamic balance to avoid reservoir sedimentation as well as degradation processes of rivers in the peri-alpine belt. Accumulation in reservoirs reduces valuable morphological processes of rivers downstream affecting biologic diversity and ecologic dynamics.

The EU-funded project ALPRESERV carried out by 17 partners from Germany, Austria, Italy, Switzerland, and Slovenia is focussed on trans-national strategies of sediment management in alpine reservoirs. The partnership consists of State Authorities, hydro power companies, research institutions and Non-Governmental Organisations (NGOs). The composition of administrations, companies, scientists and stakeholders guarantees an excellent networking as well as integration of the whole variety of aspects, opinions and knowledge concerning sediment management issues.

The project mainly aims on the transfer of knowledge, the common search for best practice solutions to reduce the sedimentation of alpine reservoirs or even to reduce the amount of already deposited material. Additional sustainable river basin oriented management plans shall be initiated. Different management concepts will be tested at 7 pilot project sites accompanied by extensive investigations to be able to judge the effectiveness and the impacts on the ecosystems. The studies are sponsored by the European Union throughout a working period of three years as part of the Interreg IIIB Alpine Space Programme.

The oral presentation covers experiences within the project from different applied strategies together with first results from impact analysis investigations.