Bookreview

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VEGETATION CHANGES IN TERRESTRIAL HABITATS FOLLOWING HYDROELECTRIC EXPLOITATION

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The dissertation reviewed here is made up of five papers by GUNNEL GRELSSON. Two of them have a second author, CHRISTER NILSSON. Various aspects of the influence of changed hydrological conditions on vegetation were studied. The studies were carried out on rivers and reservoirs in northern Sweden, where hydroelectric exploitation has changed the water regime in both directions: decreased or increased water levels and rhythms.

The first paper describes different types of erosion processes and different vegetation types on the shores of the reservoir. The author found that erosion had a marked effect in the period after the construction of new power stations. In the course of the time effect of erosion decreased with the changed geomorphology of the shores. The resulting changes in the distribution of plant communities are also given.

In her second paper, G. GRELSSON compared two different habitats on the shores of the reservoir. She found that the vegetation cover depends more on the erosion processes than on the regime of the reservoir.

The third paper (written together with C. NILSSON) describes the changes of cryptogamic vegetation caused by water erosion. The data were collected a 9 year period. The authors found different trends of species richness along transects.

The colonization of shores with a lower amplitude of water level by *Pinus sylvestris* is described in the fourth paper. G. GRELSSON and C. NILSSON compared two different types of shores (the first with decreased amplitude of water level, the latter with natural changes of water level). The lowering of the amplitude led to rapid colonization of the shores by *Pinus sylvestris*.

The last paper describes the response of *Pinus sylvestris* and *Picea abies* to changed water conditions on the shores of two different reservoirs. *Picea* was studied on the shores of a reservoir with long-term (annual) water regulation. *Picea* was not found to be influenced by water level. *Pinus* studied on shores with a short-term (daily to weekly) regulated reservoir. It responded differently to change of water level depending on the height above water level. It is a pity that the two species cannot be compared, since they were not studied on the same site, with the same water regime.

The thesis reviewed gives interesting facts about the influence of newly established reservoirs on the shore vegetation. It shows how variable the response can be depending on small differences of erosion, water regime etc. These results cannot be predicted without deep knowledge of the vegetation in the field, knowledge which this author has.

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