

## **IMPLEMENTATION OF ECOLOGICAL ENGINEERING PLANS IN GREEK WETLANDS**

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### **EXTENDED SUMMARY**

Ecological engineering constitutes a modern possibility for sustainable management of natural resources. Planning of sustainable systems, which will be regulated by ecological principles but also satisfy social needs, can contribute to the achievement of benefits for both man and nature. Ecological engineering pays particular attention to the variety, the complexity and the uncertainty of natural systems. Especially in the case of wetlands, such interventions should protect or even restore the basic ecological functions, promote people's acquaintance and familiarisation with the natural environment and give motives to those who may be damaged, in some aspects, by the environmental protection. The construction of technical works in wetlands is generally a significant intervention. However, if certain works are designed according to the principles of ecological engineering, it is possible to minimize their negative environmental impact and even achieve an upgrade of the natural environment. Two examples from greek coastal wetlands, Schinias in Marathon and Agios Mamas in Chalkidiki, reveal approaches that, through the construction of technical works, promote both development and environmental upgrade. Both wetlands are rather small, but they have important ecological and aesthetic interest. In the wetland of Schinias, which is under continuous degradation for decades, a rowing center is being constructed to be used during the Olympic Games of 2004 and is expected to have positive impact on the ecological conditions. The planning of the works restores the natural hydrologic regime and suppresses other disturbing uses. The designation of the site as a National Park is expected to promote recreation, sports, environmental awareness and protection. However, this plan met the persistent resistance of several environmental organizations, which refused to see in the work something more than the installation of an artificial construction in a natural wetland in need of protection. In the wetland of Agios Mamas, a plan for the protection of the ecosystem and a restricted built-up growth has been proposed. The region constitutes a recognized property of the residents of a neighbouring settlement. The plan provides for the construction of tourist accommodation facilities in a small and not very important part of the wetland, and the conservation of the remaining part in natural condition, under the regime of communal garden. Thus, the conservation of the flora, fauna and landscape, the control of disturbing activities, but also the protection of the landowners' interests will be ensured to a large extent. However, various institutional obstacles and a dubious attitude of the administration, have not allowed up to now the implementation of the plan, resulting this way in a continuing progressive degradation of the wetland. These examples show possible applications of ecological engineering, as well as difficulties caused by negative social attitudes.

**Key words:** Ecological engineering, wetland, technical works, Schinias, Agios Mamas.