

The Agmon lake-wetland complex: A Mediterranean example of land use change from farming to ecotourism

M. Iggy Litaor¹ and Moshe Shenker²

¹ *Tel Hai Academic College, Rosh Pina, Israel*

² *The Hebrew University of Jerusalem, Rehovot, Israel*

The alteration of freshwater wetlands to farming have commonly resulted in higher loading of C, N, P and suspended material to downstream waterways. This alteration also induced rapid oxidation of organic matter and rapid peat soil subsidence and loss of soil fertility enhanced by the dry climate of the Mediterranean basin. To reverse some of the negative consequences of the drainage a reconstruction project was implemented in the mid 1990s which replaced the marginal farm land with shallow lake-wetland complex and enabled partial recolonization of the extinct wetland habitat while retaining the economic utilization of the land through a shift from conventional agriculture to ecotourism. The reconstruction project consists of reflooding of 1.1 km², rerouting and renewal of the entire drainage system, elevating groundwater levels (~ 0.6 m below surface) around the reflooded area and introducing native plant species and animals. Currently, the project aims at maintaining the economical viability of the farming and ecotourism industries, minimizing nutrient loadings to downstream water resources and conserving and studying the newly emerged ecosystem. Current research in this lake-wetland complex encompasses the biogeochemistry of nutrients, groundwater hydrogeology, agro-forestry along waterways, dynamics of terrestrial and aquatic plants, avian species behavior, nesting and diversity and economical aspects of ecotourism. Decadal monitoring program suggests that N loading to waterways has decreased significantly but P loadings may have slightly increased. The number of birds such as golden cranes, pelicans, cormorants, herons, kites and others has increased dramatically attracting large number of visitors providing a boost to the ecotourism industry and compensates for the loss of farm land. The huge flocks of the golden cranes (> 35000 individuals) descending on the lake-wetland complex and the nearby cultivated fields have created a major strain on the joint agro-eco-management of this area and necessitates a better sustainable solution in the future.