Lake Izunuma-Uchinuma

Designation:
Izunuma Special Protection Zone of National Izunuma Wildlife Protection Zone
Location: Tome and Kurihara, Miyagi Prefecture
Year Initiated: 2006

Lake Izunuma-Uchinuma Nature Restoration Committee (as of March 2009)

This project aims to restore lake ecosystems that can support a variety of organisms, from waterfowls, migratory birds, to native fish and mussels, and a wetland environment in harmony with local people's life. Restoration strategies under planning include managing aquatic vegetation and breeding and transferring native fish.
Date Established: 7 Sep. 2008
Members: 39
Date Issued the Overall Plan: In preparation

The greater white-fronted goose (*Anser albifrons*)

Goal **Restore rich aquatic plant communities and the historic wetland environment and landscape that supported waterfowls and native fish.**

Lake Izunuma-Uchinuma are two freshwater lakes that lie in a cropland of northern Miyagi, with a total area of 390 ha. The lakes are important wintering sites for geese, swans and other migratory birds because they are rarely frozen even in midwinter. The lakes were registered under the Ramsar Convention in 1985. They serve as irrigation and flood-water retention ponds.

However, prolonged inundation occurred in heavy rainfalls of Year 1970 and 1971, resulting in a drastic change of the lake landscape. Emergent and floating aquatic plants sharply declined, and so did shrimps and ducks dependent on these plants. Therefore, this project aims at restoration of a natural environment favorable for the ecosystem with migratory birds being top trophic level species.

A flock of geese arriving at the lake

Approaches

- Manage aquatic vegetation →①
- Grow and transplant emergent and submersed plants →②
- Breed and transfer native fish and mussels →③

Lake Izunuma-Uchinuma are semi-natural lakes, which have long been closely associated with the daily living of local residents. It is of concern to sustain the lake environment that allows the coexistence of people and the wildlife and it always has. The project is in the process of conducting pre-restoration assessment and identifying specific restoration methods.

① Managing aquatic vegetation

Dead vegetation of reeds and lotus, expanding in growing seasons in the lakes, will be removed to facilitate the expansion of emergent and submersed plant cover.

A cluster of lotus plants

② Growing and transplanting emergent and submersed plants

Lotus and reed coverage has recently recovered, but particularly the manchurian wild rice (*Zizania latifolia*) is far from the recovery because of combination of a loss of the extensive original habitat due to sedimentation and feeding pressure by swans. Native species in the retarded recovery – the emergent (e.g., manchurian wild rice), submersed (e.g., hornwort, *Ceratophyllum demersum*; Kuromo, *Hydrilla verticillata*) floating-leaved (e.g., pondweed, *Potamogeton distinctus*; pygmy water lily, *Nymphaea tetragona*) - will be grown from lakebed seed banks in a nursery and transplanted into the lakes.

Planting manchurian wild rice

③ Breeding and transferring native fish and mussels

Since 1996 small native fish such as bitterling fish (Subfamily *Acheilognathinae*) have sharply declined due to predation by rapidly increasing the largemouth bass (*Micropterus salmoides*). To enhance native fish population, the native freshwater bitterling such as Zenitanago (*Acheilognathus typus*) and Unionid mussels (*Sinanodonta woodiana*; *Unio douglasiae nipponensis*; *Cristaria plicata*) will be grown in a biotope and released into the lakes.

Zenitanago

Related Web Sites

Lake Izunuma-Uchinuma Nature Restration Project:
http://www.pref.miyagi.jp/sizenhogo/sizen/izunuma-saisei/00%20top.htm
Lake Izunuma-Uchinuma Nature Restration Committee:
http://www.pref.miyagi.jp/sizenhogo/sizen/izunuma-saisei/04%20kyougikai.htm