

Biodiversity Loss on a Tidal Mudflat in RO Korea and Management to Combat it

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Ganghwa tidal flat is the largest mud tidal flat located in the Han River estuary in South Korea. It plays an important role as a breeding site for the endangered species the black faced spoonbill, as nursery grounds for many local species both commercial and non-commercial, and for transportation, and tourism. UNDP/GEF YSLME (Yellow Sea Large Marine Ecosystem) project and Anyang University conducted a series of surveys and activities to draw up conservation plans for the site

We classified all the coastal and island habitats along the west coast of Korea using Ramsar coastal wetland classification criteria and identified a total of 244 Ramsar habitats. Using selection criteria such as; size, connectivity; ecological condition and presence of endangered or endemic species the best examples of each of the 9 Ramsar habitat types present on the west coast of R. Korea were selected, of these three of the most critical habitats for biodiversity conservation an estuary, bay and mud tidal flat were further targeted. Baseline biodiversity estimations were made in the three habitats, fish, benthos and halophytes were surveyed with the cooperation of local fishermen.

The tidal mudflats south of Ganghwa Island were selected to demonstrate biodiversity management actions of the YSLME strategic action programme (SAP) for the Yellow Sea. Assessment of the pollution status and threats of the habitat for biodiversity conservation suggested that the greatest threats to the biodiversity supported by this mudflat came from the organic/nutrient pollution and the tidal power plant plan. Pollution status of the site was estimated using existing National Marine Environmental Monitoring Programs that identified



increasing trends in total nitrogen and phosphorus and COD. Benthic chamber (microcosm) was used to identify the direct impacts of organic/nutrient pollution to the chemical changes of sediment and the benthic biodiversity.

The existing local and central management plans in the demo sites were reviewed to identify gaps and establish a new plan that will be efficient to conserve the biodiversity supported by the area. We also identified and set programs for local target for education and training. Project networks are composed of local and central government as management authorities, local fishermen's association, Ganghwa NGO, and other stakeholders of the critical habitats.

This paper deals with a series of surveys and activities to draw up an efficient and practical management plans to conserve a critical site in coastal area and we hope this example could be used a model case study for coastal habitat management planning by other countries and agencies.