

Benefits of Ecosystem Services

- Thai Thuy Wetland, Vietnam -



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Thai Thuy Wetland Basic Information

Thai Thuy wetland is one of the key wetland sites in the Red River Delta and it is identified as an Important Bird & Biodiversity Area (IBA)*. Thai Thuy district has 16 km of coastline and is bordered by the Tra Ly river to the south and Thai Binh river to the north. The IBA site covers 6,981 ha of the coastal area and is bisected by the Diem Ho river. To the south of the Thai Binh river mouth are located extensive areas of mudflats, farmed as a result of sediment deposition. To the west lies an area of salt pans and adjacent to the Tra Ly river is a region of aquaculture ponds. The wetland brings significant benefits to not only local people but also wildlife as well; it provides a home for migratory and residential birds, amphibians, fish, insects and aquatic plants etc. Among the waterbirds, the site supports threatened species including Spoon-billed Sandpiper (CR), Black-faced Spoonbill (EN) and Baer's Pochard (CR).

*IBAs are identified using internationally agreed criteria applied locally by BirdLife Partners and experts



Valuation of the Major Ecosystem Services

Net Benefit : \$ 15.0 million/year

Plus \$ 60.3 million of carbon storage function

Harvested Wild Goods \$2.2 million/year



One of the major industries in Thai Thuy is fishing and local people depend on fish from the wetland and the surrounding marine area. Shellfish are also harvested from the mudflat area.

Disaster Risk Reduction \$ 1.1 million/year



Mangroves can reduce the impact of coastal disasters. Previous research shows that damage to the sea dyke and coastal communes by typhoons has been reduced by mangroves.

Cultivated Goods \$ 11.7 million/year



Shrimps and fish are cultivated in ponds. Clams are cultivated and harvested in the mudflat area. Salt is produced by using the sea water although recently the number of people engaged has reduced due to the difficulty to continue on a commercial basis.

Climate Regulation \$60.3 million*



The wetland contributes to regulating the global climate through storage of carbon. Locally, water moderates the climate by absorbing heat by day and releasing heat at night.

*The value is an one-off stored value, i.e. not an annual value.

Importance of Biodiversity & Ecosystem services

Ecosystem services are the benefits that people receive from ecosystems and we depend on the services to produce our food, regulate our water supplies and climate, and protect us from extreme weather. A number of ecological and environmental processes and functions, such as soil formation and nutrient cycling, underpin the ability of an ecosystem to deliver services, all of which depends on biodiversity.

Thai Thuy wetland provides various ecosystem services. The economic value of a small subset of these services was estimated using a rapid methodological approach and the results are shown on the left column.

Why value ecosystem service ?

Despite their importance, ecosystem services are consistently undervalued in conventional economic analyses and decisions. The valuation results help people to recognize ecosystem services better and the understanding can lead to wise use of the wetland such as sustainable agriculture and fisheries. It can also lead to better policy formulation, resulting in land-use and management options that deliver more effective conservation, resilient livelihoods and poverty alleviation.

Caution for interpretation of the valuation

- These economic values are estimates only and should be taken with caution due to limited sample size in the surveys
- Less important services such as bee honey and harvesting sea grasses were excluded
- Water purification function was excluded since it was difficult to estimate, although it is an important function
- The value of wider biodiversity is not covered in the valuation since it cannot be measured with monetary value in a straightforward way.
- The monetary value presented will vary year by year along with the market situation.
- It is uncertain that the estimated value would be maintained at the same level in future since the survey did not include the sustainability of resource use.

Despite the above caution, Thai Thuy wetland provides multiple benefits, some of which can be estimated using economic valuation.

