



## MWBP's Approach to Ecological Integrity and Biodiversity of Wetlands

Wetlands and their biodiversity are becoming increasingly threatened. Habitat loss has been accompanied by a decline and loss of freshwater species, to a point where biodiversity of freshwater ecosystems is currently in far worse condition than that of forest, grassland, or coastal ecosystems (Revenga and Kura 2003). The highest proportion of threatened species tended to be those that rely on freshwater habitats (Mace *et al.* 2005). Habitat degradation, physical alteration through dams and canals, water withdrawals, overharvesting, pollution, and introduction of exotic species all contribute either directly or indirectly to the decline in freshwater biodiversity.

Despite the various ecosystem services known to be provided, the wetlands and its biodiversity in the Mekong Basin are under great threat. Some of the key issues affecting them are:

- Loss of wetland ecosystem integrity
  - Modification of river systems and alteration of the hydrological regime
  - Pollution - industrial waste and agro-chemical run-off.
- Destruction and degradation of wetland habitats
  - Drainage and reclamation
  - Modification of land-use
  - Inappropriate wetland management
- Depletion of species abundance and diversity
  - Over-harvesting of plant and animal products
  - Destructive harvesting practices
  - Tree-felling
  - Change in indigenous species composition – introductions of exotics and spread of invasive alien species

Through partnerships at the regional, national and site level, the Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP) is using a range of approaches and tools in addressing these critical issues affecting the ecological integrity of wetlands and its biodiversity of the Lower Mekong Basin.

### The Environmental Flows Approach

Appropriate water allocation is critical for the ecological integrity of wetland ecosystems and its biodiversity. However, water flows have ecological, economic, social, and cultural dimensions. The subject of environmental flows (E-Flows) covers

each of these dimensions. E-Flows refers to water provided within a river, wetlands or coastal zone to maintain ecosystems and their services where there are competing water uses. In most river basins the natural flows have been modified to some extent, to meet the needs of human settlements, irrigators, flood controllers, or energy generators. Proponents of E-flows acknowledge these different uses, but argue that ecosystems are another valid user, and that ecosystems and livelihood services must also be valued and included in negotiations.

MWBP brings together many stakeholders, which enables the programme to facilitate dialogue and promoted discussions between stakeholders for the adoption of regional guiding principles to ensure landuse planning, sustainable river infrastructure development and management to be implemented at national and regional level through these guiding principles. This will ultimately contribute to maintaining water flows that support more productive wetlands and well-being of wetland communities.

### Flagship Species for Biodiversity

The Mekong River Basin consists of many unique ecosystems and provides habitat to a wide array of globally threatened wetland species. The four species that have been selected as flagship species of the MWBP are the Mekong Giant Catfish, Irrawaddy Dolphin, Sarus Crane and Siamese Crocodile. These species fulfill one or more criteria for selection of flagships:

1. inhabit a broad diversity of important wetlands and therefore are representative of threatened wetland habitats and their associated fauna;
2. are regional in distribution and trans-boundary in nature; and/or
3. provide an opportunity for enhancing regional collaboration for conservation and management of biodiversity and ecosystems.

The flagship species approach is another tool to address wetland and biodiversity conservation issues in the Mekong basin. By addressing issues affecting the flagship species, the programme is also addressing the similar issues that are affecting associated wetland resources and ecosystem processes. The MWBP is facilitating the development and implementation of Species

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Conservation Action Plans (SCAPs) for the flagship species in the Mekong Basin. For example, through work on the Giant Catfish, the MWBP has already begun implementing an effective conservation programme through establishment of a regional expert network with a common vision. A range of on-the-ground conservation activities have been implemented and a SCAP is currently being written.

### **Biodiversity Overlays**

Information on wetland biodiversity in the Mekong Basin is scattered within various departments and NGOs within and outside the region. To combat this issue MWBP will be producing biodiversity overlays (or biodiversity maps). The process of developing these biodiversity overlays will initially require compilation of the existing information through implementation of a regional biodiversity assessment and developing a clearing house under MWBP. The next stage will involve translating this valuable information into standardised GIS dataset as a tool to support the development planning process in the Mekong. Developing these biodiversity overlays will involve effective partnership with other organisations working globally and in the region.

### **Regional Initiative to Support Implementation of the Ramsar Convention on Wetlands**

The Ramsar Convention on wetlands is a multi-lateral Environmental Agreement for the conservation and wise use of wetlands. Of the six countries within the Mekong Region, all except for Lao PDR (currently considering ratification) are Contracting Parties to the Ramsar Convention on Wetlands. MWBP realises there is a need for increased cooperation on trans-boundary wetland and water resource management issues, and is proposing a Mekong Region Ramsar Initiative.

The purpose of the initiative to improve implementation of the principles and priorities of the Ramsar Convention by national agencies through increased regional cooperation. The Mekong Region Ramsar Initiative will build upon existing wetland conservation and water resource management efforts at the regional, national and site level.

In the current Phase of the MWBP, an assessment of the feasibility of the initiative is currently underway. A proposal has been prepared and presented to participating nations (including China and Myanmar) and other relevant partner organisations. The project however, does not have financial resource allocations for this important component. This is currently being sought.

### **Invasive Alien Species (IAS)**

Wetlands in the Lower Mekong Basin have not been spared from the threat of IAS. Some significant species affecting the ecology and livelihoods of local people include the Giant Mimosa (*Mimosa pigra*) and the Golden Apple Snail (*Pomacea sp.*). With a specific emphasis on threats to wetland ecosystems and associated livelihoods, the MWBP is developing specific interventions to combat IAS issues. The MWBP is also building on existing efforts and networks working on IAS in the region.

Through partnership, the MWBP will be developing and facilitating the implementation of a strategy to combat IAS affecting wetlands in the Lower Mekong Basin. In particular, the MWBP will build on the past and ongoing efforts of the Invasive Species Specialist Group (ISSG) and other experts on invasive alien species.

### **Trade in Biodiversity Resources**

In addition to subsistence use, various wildlife species are sold as food, medicine, pets, and for a variety of decorative purposes. As well as a flourishing domestic wildlife trade in all four countries, there is a massive organised illicit movement of live animals and parts of dead animals into neighbouring lands. The trade is driven by entrepreneurs in response to market forces. Extreme hunting pressure has reduced the populations and diversity of wildlife in even lightly populated areas, but trade-driven hunting is the major factor pushing wildlife populations to the brink of extinction.

As a lead into the anticipated involvement of TRAFFIC in Phase B, an initial survey of wildlife use and trade in both Attapeu and Stung Treng provinces has been carried out in both dry and wet season under contract from MWBP.

### **Literature cited**

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