



# ENVIS Newsletter

*on wetland ecosystems and inland wetlands*

## Sarovar Saurabh

Vol.6, 2010



Kolleru Lake. Photo courtesy Ms. Nanjan Sheeba



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# Sarovar Saurabh

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## Contents

1. Designating Ramsar Sites pg. 1-3.
2. Wetlands: need for pro-active moves for conservation and wise use pg. 4-5.
3. Sustaining bird life through traditional agro-ecosystem practices pg. 6-7.
4. Four potential wetlands for waterfowl conservation in South and Little Andaman Islands pg. 8-9.
5. News Article pg. 10.

Views expressed in the articles of this newsletter are of the authors only.

## Instructions to Contributors

We welcome original research and popular articles, reviews, reports, research highlights, notes, news, snippets, etc., related to the thematic area of the ENVIS centre for publication in 'Sarovar Saurabh the ENVIS Newsletter on Wetland ecosystems and inland wetlands'.

The articles and other information should be neatly typed in double space not exceeding five pages. The figures/graphs/ drawings should be of good quality and clarity. Photographs should be of minimum 300 dpi resolution. References should be limited and cited in the text by name and year. Council of Science editors style may be referred to for listing references at the end.

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From the Editors desk.....

*India is blessed with innumerable wetlands that provide the society numerous and crucial ecological services. However, with urbanization and other development activities these ecosystems are increasingly threatened. It is now essential that man recognizes the importance of wetlands and safeguard and conserve them.*

*This news letter has articles that throw light on the criteria essential in designating wetlands of international importance; need for conservation actions in the face of the ecosystem services that wetlands provide; birdlife in agricultural wetlands, and post-tsunami wetlands in the Andaman Islands for waterfowl conservation. The information shared here is a small beginning towards larger endeavor to consolidate the knowledge base on these ecosystems and highlighting actions required for promoting wetland conservation.*

*We look forward to your comments, suggestions and feedback in taking this Newsletter further. Please do write to us and we request you to be a part in disseminating information.*

P.A. Azeez.



# Designating Ramsar sites

## About the Convention on Wetlands

The Convention on Wetlands (Ramsar, Iran, 1971) is an intergovernmental treaty whose mission is “the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”.

## What are wetlands?

As defined by the Convention, wetlands include a wide variety of habitats such as marshes, peatlands, floodplains, rivers and lakes, and coastal areas such as saltmarshes, mangroves, and seagrass beds, but also coral reefs and other marine areas no deeper than six metres at low tide, as well as human-made wetlands such as wastewater treatment ponds and reservoirs.

Under the Ramsar Convention on Wetlands the two concepts of wise use and site designation are fully compatible and mutually reinforcing. Contracting Parties are expected to designate sites for the List of Wetlands of International Importance “on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology” (Article 2.2), AND to “formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory” (Article 3.1).

The Strategic Plan adopted at COP6 (1996) equates “wise use” with sustainable use. Contracting Parties to the Convention also recognize that wetlands, through their ecological and hydrological functions, provide invaluable services, products and benefits enjoyed by, and sustaining, human populations. Therefore, the Convention promotes practices that will ensure that all wetlands, and especially those designated for the Ramsar List, will continue to provide these functions and values for future generations as well as for the conservation of biological diversity. Ramsar COP9 (2005) updated the definition of wise use of wetlands as “the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development”.

The phrase “in the context of sustainable development” is intended to recognize that whilst some wetland development is inevitable and that many developments have important benefits to society, developments can be facilitated in sustainable ways by approaches elaborated under the Convention, and it is not appropriate to imply that 'development' is an objective for every wetland.

The Convention stresses the importance of wetlands as rich centres of biological diversity and productivity and as life support systems for human populations, and the Parties are concerned at the continuing loss and degradation of wetlands in many parts of the world.

## The vision for the Ramsar List

*To develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits/services.*



Flamingoes at Bhigwan wetland. Photo courtesy Mr. Sudheer Agashe

## Target for the Ramsar List in 2010

*To ensure that the List of Wetlands of International Importance contains at least 2,500 sites covering 250 million hectares by 2010.*

## Criteria for the designation of Wetlands of International Importance

### Group A of the criteria

#### *Sites containing representative, rare or unique wetland types*

### Objectives for the Ramsar List

#### Objective 1

*To establish national networks of Ramsar sites in each Contracting Party which fully represent the diversity of wetlands and their key ecological and hydrological functions.*

#### Objective 2

*To contribute to maintaining global biological diversity through the designation and management of appropriate wetland sites.*

#### Objective 3

*To foster cooperation among Contracting Parties, the Convention's International Organization Partners, and local stakeholders in the selection, designation, and management of Ramsar sites.*

#### Objective 4

*To use the Ramsar site network as a tool to promote national, supranational/ regional, and international cooperation in relation to complementary environment treaties.*

Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

### Group B of the criteria

#### *Sites of international importance for conserving biodiversity*

#### *Criteria based on species and ecological communities*

Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

Criterion 4: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

#### *Specific criteria based on waterbirds*

Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

#### *Specific criteria based on fish*

Criterion 7: A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.

Criterion 8: A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

#### *Specific criteria based on other taxa*

Criterion 9: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.



Spot-billed Pelicans at Garapadu Photo courtesy Ms. Nanjan Sheeba

*“Ecological character is the combination of the ecosystem components, processes and benefits/services that characterise the wetland at a given point in time.”*

(Resolution IX.1 Annex A, 2005)

## The inventory of priority wetland habitats

The Wetlands International report also draws attention to those wetland types for which inventory data is clearly lacking and Contracting Parties are urged to give this their priority attention through COP7 Resolution VII.20, paragraph 12. Consistent with these gaps in inventory coverage, many of these same wetland types remain poorly represented in the List of Wetlands of International Importance. This Strategic Framework for the development of the List aims to rectify this shortcoming. The relevant section of the Report (paragraph 63) states:

“Attention must also be given to the inventory of priority wetland habitats, targeting those for which there is little or no information, and those at greatest risk of degradation and destruction. Based on this study the priority wetland habitats are:

- seagrasses - in Southern Asia, the South Pacific, South America and some parts of Africa are under increasing threat from pollution, coastal development, destructive fishing practices, recreational use, etc.;
- coral reefs - are an important biodiversity resource that is under continuing threat globally due to the development, deforestation and pollution of coastal and inland wetlands;
- salt marshes and coastal flats - have generally been overlooked in wetland inventories, with few real estimates and no true global 'picture' available. However, they are under increasing threat worldwide, particularly in Africa, Asia and Oceania due to increasing coastal development;
- mangroves - are better mapped than other coastal and marine wetlands, but serious inconsistencies exist and more comprehensive inventory is required. This should be used to better determine the mangrove loss that is proceeding at an alarming rate in many parts of Africa, southeast Asia and Oceania through deforestation, land reclamation, and development for aquaculture;
- arid-zone wetlands - are generally poorly mapped but increasingly important in the light of escalating population pressures and water demand. For example, in Africa and the Middle East, pressures for increased water supply have led to the construction of many large dams and to disputes over transboundary sharing of limited water resources;
- peatlands - are well mapped in comparison to other wetland habitats. However, they are threatened by drainage for agriculture and afforestation in Asia, parts of Europe and North America in particular, despite their importance as a global carbon sink and economic resource, and are poorly known in tropical regions such as southeast Asia;
- rivers and streams - are seriously threatened by industrial and domestic pollution, water diversion, and regulation in many regions of the world. Although generally considered to be well mapped, it is difficult to obtain real estimates of rivers and streams and the extent of associated swamps, marshes, oxbow lakes and lagoons;
- artificial wetlands - increasingly important with reservoirs, dams, salinas, paddy, and aquaculture ponds important in many regions, notably Asia, Africa and the Neotropics, where they can provide habitat for wildlife, particularly migratory birds. Under some circumstances they provide many values and benefits to humans and can partially compensate for the loss and degradation of natural wetlands.”

### Ramsar sites and the wise use principle

*The act of designating (listing) under the Convention a wetland as internationally important is an appropriate first step along a conservation and sustainable use pathway, the endpoint of which is achieving the long-term wise (sustainable) use of the site.*

The article has been compiled from the Ramsar Convention Secretariat, 2007. Designating Ramsar sites: The Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance. Ramsar handbooks for the wise use of wetlands, 3rd edition, vol. 14. Ramsar Convention Secretariat, Gland, Switzerland.



## Wetlands: need for pro-active moves for conservation and wise use

Wetlands, an obvious and important feature of landscape, are among the important ecosystems on Earth. From time immemorial river valleys and wetlands have played critical role in nurturing human cultures and civilisation. However, the modern history of dealing with wetlands by humankind is fraught with misunderstanding and fear. Wetlands have disappeared at alarming rates throughout the developed and developing economies. They have been considered more or less synonymous with wastelands to be filled up, occupied and diverted for other human needs, disregarding the ecological services these ecosystems offer. The issue of global climate change is a more recent concern that possibly affects both coastal and inland wetlands. Limited scientific research, especially in rice paddy fields, and lack of scientific data have laid blame on wetlands for methane emissions and ensuing changes in climate. The international lobby also attempts forcing the fastest and biggest developing nations, India and China, to reduce their green house gas emissions or more appropriately, to find an alibi for the non-conformance of USA, the biggest per capita green house gas emitter, with Kyoto protocol requirement. Effectively the recent Copenhagen summit also did not have anything different to offer to the developing economies, except deciding for deliberations further. It seems that we are yet to correctly estimate with sufficient certainty whether wetlands are significant global carbon sources or sinks. Yet, wetlands do not have much to offer in causing climate change; but in containing its manifestations. The global climate change, which is overwhelmingly influenced by increasing human consumption of fossil fuel resources that too in a very inefficient manner; approximately only 2% of energy from coal is made use in the form of light when we put on our lights – the rest of energy gets wasted enroute.

Wetlands have properties that are not adequately covered by present terrestrial and aquatic ecology. Wetlands are unique in many ways of which their hydrologic functions and role as ecotones between terrestrial and aquatic systems are notable. Wetland management, as the applied side of wetland science, requires a systematic understanding of the various aspects of wetlands balanced with legal, institutional, and economic realities drawing expertise from disciplines of biology, ecology and engineering. Wetland science no longer should be confined to be a domain of biologists and it should be a synergy of sociologists, economists and engineers who need to reconsider wetlands with a wider perspective, considering wetlands not only as an issue of hydrology and water management; but as living systems. Wetlands are more intimately connected with human kind than any other ecosystems.

Wetlands are diverse, in their structure, characteristics and function, probably much more than other ecosystems. Nevertheless, to state in brief in a reductive style, the single most important factor that determines the nature of a wetland is its hydrological regime. The hydrologic regime directly determines, modifies or changes the chemical and physical properties such as degree of substrate anoxia, pH, soil salinity and nutrient availability. The changes in the physico-chemical setting in turn have a direct impact on the biotic and abiotic systems in the wetland. Even for minor changes in the hydrologic regime in wetlands, the biota may respond, at times very markedly, in species composition, richness, trophic relations, ecosystem productivity and ecosystem services.

In recent years advances in environmental and ecological studies have shed light on ecological and environmental intricacies of wetlands: their values are being recognized, and wetland protection is considered imperative in many parts of the world. The academia and managers have well acknowledged that the wetlands perform a number of invaluable tangible and intangible functions, offer several services and commodities to humanity. To a lesser extent, but progressively more, the policy makers are also getting conscious of the importance of the wetlands for sustainable development of the humankind. World over, resources such as fish, shellfish, waterfowl, and timber provide important and valuable harvests, and millions of days of commercial and recreational fishing and hunting. There is increasing realisation of the economic importance of the world's peat resources, which are estimated to be about 1.9 trillion tons. Uncontrolled exploitation of these resources will add on to the carbon dioxide content in the atmosphere. At the ecosystem level, wetlands moderate the effects of floods, contain pollution loads, improve water quality, and have aesthetic and heritage values. Wetlands also are perceived to contribute to the stability of global levels of available nitrogen, atmospheric sulphur, carbon dioxide, and methane. Although they are known methane emitters, they are also the most productive ecosystems helping in scavenging carbon dioxide. They play critical role in maintaining the global climatic balance (or in delaying tipping the balance?).

Monitory valuation of an ecosystem, especially wetlands, is important as it conveys the value of the system to non-professionals, policy makers and even experts in unrelated disciplines in an easily and commonly perceptible manner/currency. Such monitory values also help in conducting cost-benefit analysis of wetlands with a semblance of

reality, in case of any diversions of wetlands for other use. In the recent years of liberalisation, with market forces apparently dominating the policy decisions it is essential that a better realistic method of valuing the resources and services derived from the natural ecosystems are developed. The utility values of common properties need to be assessed in terms of common currency and may help in reducing the tragedy of “commons”.

Monitory valuation of commodities of wetland origin is uncomplicated and involves straightforward arithmetic. Such estimates are widely seen, although not commonly interpreted from an environmentally benign and sustainability perspective. The monetisation of the ecological services and non-tangible benefits of wetlands, on the other hand is complicated, and indirect. Concepts such as surrogate prices, contingent valuation, travel cost method, willingness to pay and such others come into use in this context. However, this has been further complicated by the difficulty of comparing by some common denominator the various values of wetlands against human economic systems, by the conflict between a private owner's interest and the values that accrue to the public at large, and by the need to consider the value of a wetland as a part of an integrated landscape. No universally acceptable and objective technique has been developed for use in economic evaluation of wetland ecosystems. Hence, the ecological services, especially those indirect and intangible, of the wetland still remains more or less confined to the researchers province. These are yet to find their role in policy making and their implementations. Especially for the loads of harvestable goods from the wetlands, in due course of time wetlands have become more vulnerable for overexploitation. Ignorance about the intangible services has added on to the plight.

The wetland alteration and destruction have progressed well with various anthropogenic pressures of which urbanisation are prominent. In the bygone eras, wetland drainage was considered the only policy for managing wetlands. Significant wetland alteration continues, particularly by dredging, filling, draining, hydrologic modification, peat mining, mineral extraction, siltation and water pollution. The concept of wetland management had different meanings at different times to different disciplines and in different parts of the world. It appears today, with developing awareness management of wetlands have started acquiring several environmental objectives, depending on the priorities of the wetland manager. The reclamation or draining and filling up the wetland and diverting the area to other uses, although happens widely both with connivance of the authorities and otherwise, have stopped to be the only and prime objective of wetland management. The need for wetlands to be managed in more or less natural state for certain objectives such as fish and wildlife enhancement, agricultural and aquaculture production, water quality improvement, and flood control is getting well entrenched in the minds of policy makers and project executives. However, to reverse the trend of fast depleting wetlands, especially from conscious and unwitting filling, in country will need more commitment, forceful regulations, intensive measures, stringent execution, development of awareness and time.

*Definition of the wetlands has been debatable for quite sometime. As per the Ramsar Convention (IUCN) “wetlands are areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt including areas of marine water the depth of which at low tide does not exceed 6 meters”. Still the definitions more or less vary with respect to specifics. Many workers have emphasised the importance of draw down in maintaining the ecosystem; that means the substrate of the wetland has to be exposed in full or partly for certain time of the year. Several other have emphasised that wetlands form a successional stage and if materials are not removed from the system, the wetlands may gradually change to terrestrial form.*



Fishing at Kadalundy estuary Photo courtesy Mr. P. Rajan

*Recognition of the wetland roles has defied time till may be late sixties or early seventies of the last century.*

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## Sustaining bird life through traditional agro-ecosystem practices

*Wildlife-friendly farming approaches can facilitate bird movement in fragmented agro-ecosystems and can provide important habitat for agricultural species and migratory birds. Wildlife friendly and land sparing approaches are currently being debated toward the goal of sustaining biodiversity and food production.*



Organic farming at Padayetti village Photo courtesy Mr. Ganesan K.

*Development of crop management technologies and irrigation infrastructure in post independence India has boosted the production of crops. The demand for food grains in India will be 268.8 million tonnes by 2020. In the projected food demand by 2020, the combined share of rice (41.07 %) and wheat (33.89 %) will be 75.96 %, which covers about 87.5 % of the irrigated area of the country.*

Earth is home to over 10,000 bird species. They are found in almost every habitat, reside in all continents and are best bio-indicators of an ecosystem. Global agricultural expansion during the past 200 years and high intensive input during the last 50 years have been key drivers in global habitat loss and decline of about 60 % of the birds listed on the IUCN red list. Agriculture intensification (e.g. erosion of biodiversity, desertification, climate change and other transboundary pollution) contributes to over 20 % of global anthropogenic greenhouse gas emissions and affects 70 % of all threatened bird species.

Main threats to birds in agro-ecosystems are global but specific impacts and management options may differ among geographical areas. Global climate change creates uncertainties for agriculture and birds, including impacts on bird migration and nesting, and concerns about synchrony between birds, habitats and food resources. Climate change adds to other existing challenges of habitat loss and fragmentation, urbanization, migration barriers and uncertain food resources.

Organic farming offers a means to address food self-reliance, rural development and nature conservation. The common threat in this ambitious goal is the sustainable use of biodiversity; in terms of both agriculture contribution to biodiversity and biodiversity contribution to agriculture. To be successful, organic agriculture needs functional groups of species and essential ecosystem processes as its main "input" to compensate for the restriction on synthetic chemicals input use. In fact, a close relationship exists between organic agriculture and the maintenance of biodiversity.

A healthy soil is the base for food production and a rich diversity of birds on land prevents pest and disease outbreaks. Although organic agriculture is committed to the conservation and enhancement of biodiversity, many systems today remain limited to input substitution. Currently our agricultural system demands high amounts of inputs (fertilizers, herbicides, pesticides, etc.) and heavy, expensive machinery. This method is unsustainable and unhealthy for the environment and for humanity. Farmers seem to be trapped in a cycle increasing inputs expecting increased outputs. For the suppliers of these products this is a good cycle as business, but not to the farmers and others, including non-human beings. Sustainable agricultural methods need to be renewed and popularised to get out of this vicious cycle. We need to re-learn the benefits that come from these sustainable farming practices from our ancestors who knew the wisdom behind such practices.

Producing food and fibre while, at the same time, sustaining biodiversity and ecosystem services is a challenge. Research and decision-support tools are needed to facilitate development of policies and infrastructures to support sustainable agriculture and to facilitate conservation of bird diversity in agroecosystems. A conservation vision for the future is needed that embraces the realities



of both natural resource limits and human desires for improved quality of life. The positive relationships between people, birds, and sustainable farms may be a key starting point to develop such a vision. The fundamental role of maintaining biodiversity is demonstrated through birds' ecological services such as pollination of crops biological control of pests, maintenance of soil fertility and other services vital to the food web. Natural faunal and floral species have strong connections with agriculture, whatever their habitats are, especially as agricultural fields occupy much of the earth's land surface.

There is no doubt that farmers are the most important managers of natural resources. Several studies indicate that organic agriculture safeguards non-agricultural biodiversity and offers a viable alternative in protected area categories where human activities are allowed. Most importantly, the huge land surrounding protected areas requires an agro-ecosystem management that preserves the safety and integrity of the landscape. If farm land bordering and connecting protected areas employ organic methods, there is no reason to fear about the loss of wildlife or contamination of air, water and soil. These buffer zones are critical to the success of conservation in the protected areas. Organic agriculture enhances people's ability to live in harmony with nature and to derive economic benefits.

Natural wetlands are among the most threatened ecosystems in the world. Their high productivity and the morphologic characteristics make wetlands excellent areas for many human activities, especially agriculture. Often the damage caused by land reclamation for agriculture or unsustainable practices leads to the disappearance of wetlands and corresponding biodiversity. Suitable management is therefore a critical priority to save these fragile ecosystems.

Organic agriculture can help wetland conservation, by providing suitable habitats for bird species, reducing water pollution and, at the same time, offering a valid economic alternative to the exploitation of natural resources. Organic land management and bird conservation programmes exist in several northern countries. Examples include: organic crop and livestock production in Brandenburg, Germany where the higher presence of skylarks has been observed; and organic farming inside a wildlife corridor that connects Adirondak National Park and Lake Champlain in the State of New York, USA.

Organic agriculture has demonstrated its ability to not only produce commodities but also to "produce" biodiversity at all levels. Organic agriculture should be considered simply as the most appropriate starting point from which additional conservation needs, where they exist, can be built. Its widespread expansion would be a cost-efficient policy option for biodiversity.

Research and development is necessary to better understand the complex ecological processes as well as the management capacity of farmers. If organic agriculture is given the consideration it merits, it has the potential to transform agriculture as the main tool for natural resources conservation.

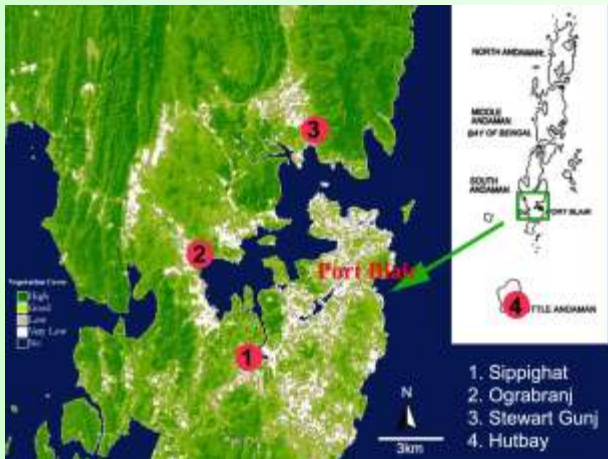
*The dependency on protected areas and its diversity of life forms imposes ecological farming policies. If nature is to be protected successfully, protected area dwellers should be taught agricultural practices which are economically rewarding and not environmentally destructive. It is to be noted that the relationship between wild biodiversity and agriculture is reciprocal.*



Bird life and agro-ecosystem, Photo courtesy Dr. S. Muralidharan

## Four potential wetlands for waterfowl conservation in South and Little Andaman Islands

The Andaman and Nicobar islands are embodied with tropical rain forests. Although they are isolated from adjacent land masses the Islands are astonishingly enriched with more than 270 species of birds. The Tsunami inundated low level lands in particular agriculture fields and modified the wetlands of Andaman Islands. We explored four potential wetlands in South and Little Andaman Islands depending on the waterfowl abundance. A record of all birds and the human interferences in the wetlands were made. Of this we identified four wetlands, Hutbay, Ograbranj, Sippighat and Stewart Gunj wetlands that are good habitat for waterfowl conservation. Among these four wetlands, Hut Bay and Stewart Gunj are fresh water wetlands and the other two are tidal wetlands. Andaman Teal, Common Moorhen, Purple Swampfen and Lesser-whistling Duck were the main waterfowl species using these inundated wetlands. We used online Goolge map to measure the area of wetland as well as the area presently used by the waterfowls.



Location of wetlands at South and Little Andaman Islands

Sippighat wetland is one of the good tidal mudflats used by waders as wintering ground. We have record of 57 bird species from this wetland including 21 migratory birds and 16 resident water birds like Lesser Whistling Duck, Common Moorhen, Andaman Teal, White-breasted Waterhen and Purple Swampfen. The Stewart Gunj and Hutbay wetlands provide good feeding ground for Andamn Teal and the Lesser-whistling Duck. Andaman Teal is considered as an endemic species to these Islands and a large population of these visit these wetlands in particular Sippighat and Ograbranj.

All the four wetlands are facing serious threat from human activities especially due to habitat destruction; this may lead to the disappearance of these wetland in the near future. Prior to inundation, this area was used as agricultural land and this is one of the main reasons for the current human interferences in this wetland. It is required to initiate awareness among the villagers living around these wetlands on the value of the wetlands and the waterfowl species.

### Sippighat.

Islands : South Andaman

Location : N 11° 36' 47" E 92° 41' 32"

Total area : 1.14 sq km

Presently used by waterfowls: 0.72 sqkm

Wetland Character: Grass with stagnant water (~1m depth), tidal mudflat (0.5m water depth during high tide). One side is mangroves and other side Andaman Trunk Road.

Major waterfowls: Lesser Whistling Duck, Common Moorhen, Andaman Teal, White-breasted waterhen and Purple Swampfen

Other common birds: Migratory birds (Waders), Egrets, Common Mynas, Jungle Crows and Andaman Teal.

Main threats: Hunting and fishing



Photo courtesy Mr. P. Rajan





Photo courtesy Mr. P.Rajan

### Hutbay

Islands : Little Andaman  
 Location : N10° 35' 64" E 92° 31' 95"  
 Total area : 0.34 sq km  
 Presently used by waterfowls: 0.10 sqkm

Wetland Character: Grass and water lilies with water (~1m depth), fresh water; road divides this wetland into two and is surrounded by human settlement.

Major waterfowls: Lesser Whistling Duck, Common Moorhen, Andaman Teal, White-breasted Waterhen.

Other common birds : Little Egrets, Large egrets, Pond heron, Pacific Swallow.

Main threats : Fishing

### Stewart Gunj

Islands : South Andaman  
 Location : N 11° 43' 62" E 92° 42' 52"  
 Total area : 0.47 sq km  
 Presently used by waterfowls: 0.26 sqkm

Wetland Character: Grass land, some parts grass with stagnant water. This wetland is surrounded by human settlement.

Major waterfowls: Lesser Whistling Duck, Common Moorhen, Andaman Teal, White-breasted Waterhen and Purple Swamphen

Other common birds: Little Egret, Large egret, Cattle Egret, Median Egret, Pond heron, White-bellied Sea-eagle.

Main threats: Cattle grazing



Photo courtesy Mr.P. Rajan

### Ograbranj

Islands : South Andaman  
 Location : N 11° 39' 34" E 92 ° 39' 76"  
 Total area : 0.63 sq km  
 Presently used by waterfowls: 0.25 sqkm

Wetland Character: Tidal mudflat, tsunami inundated area with dead trees, surrounded by human settlement, mangrove. Road is dividing this wetland into two.

Major waterfowls: Andaman Teal

Other common birds: Little Egret, Large egret, Cattle Egret, Median Egret, Pond heron, Common Myna, Asian Glossy Starling

Main threats: Fishing



Photo courtesy Mr. P. Rajan

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## News Article

### River Dolphin, India's national aquatic animal

The Government of India has declared dolphins a national aquatic animal in order to raise awareness and save the rare freshwater species from disappearing from the country's aqua map.

"Like we have tiger as a national animal and peacock as a national bird, we have declared dolphins as a national aquatic animal as it represents the health of the rivers, particularly Ganga in the country," Union Environment and Forest Minister Jairam Ramesh told media persons in New Delhi. He said the decision was taken at the first meeting of the National Ganga River Basin Authority (NGRBA) chaired by Prime Minister Manmohan Singh to streamline steps to rejuvenate the river Ganga. "Bihar Chief Minister Nitish Kumar had proposed naming dolphins as national aquatic animal at the meeting, which was approved by the Authority," Ramesh said.

He felt that by declaring dolphins as a national aquatic animal, the government is not only ensuring the survival of the species, which are endemic to river Ganga but also seeking cleansing of the river. Ramesh maintained that as the big cat is a symbol of ecosystem in forests, the presence of river dolphin in a river system too signifies a healthy aquatic life in rivers. "Since the river dolphin is at the apex of the aquatic food chain, its presence in adequate numbers symbolises greater bio diversity in the river system," the minister added.

Source: <http://news.rediff.com/report>



Photo courtesy Mr. Zahangir Alom

### About the River Dolphin

River Dolphin is the National Aquatic Animal of India. This mammal is also said to represent the purity of the holy Ganga as it can only survive in pure and fresh water. *Platanista gangetica* has a long pointed snout and also have visible teeth in both the upper and lower jaws. Their eyes lack a lens and function solely as a means of detecting the direction of light. Dolphins tend to swim with one fin trailing along the substrate while rooting around with their beak to catch shrimp and fish. Dolphins have a fairly thick body with light grey-brown skin often with a hue of pink. The fins are large and the dorsal fin is triangular and undeveloped. This mammal has a forehead that rises steeply and has very small eyes. River Dolphins are solitary creatures and females tend to be larger than males. They are locally known as *susu*, because of the noise it makes while breathing. This species inhabits parts of the Ganges, Meghna and Brahmaputra rivers in India, Nepal, Bhutan and Bangladesh, and the Karnaphuli River in Bangladesh.

River dolphin is a critically endangered species in India and has been included in the Schedule I for the Wildlife (Protection) Act, 1972. The main reasons for decline in population of the species are poaching and habitat degradation due to declining flow, heavy siltation, barrages causing physical barrier for this migratory species.

Source: [http://india.gov.in/knowindia/national\\_symbols.php](http://india.gov.in/knowindia/national_symbols.php)