



**Action plan for the conservation  
of the endemic birds of the  
Andaman and Nicobar Islands**



05.7.04



Salim Ali Centre for Ornithology  
Natural History



### **Acknowledgements**

Officials of the Forest Department of Andaman & Nicobar Islands and other staff gave full support and showed keen interest during the study. The District Administration including various departments was helpful. Scientists of the BSI, ZSI and CARI, Port Blair provided useful information. We benefited from the discussions with the members of the Man and Biosphere Programme, MoEF, the Research Advisory Committee of SACON and the Species Specialist Groups of IUCN and BirdLife International. The sincere and hard work of the Research Fellows K. Sivakumar and V. Murugan contributed greatly to the success of the project. The assistance and encouragement from the staff of SACON, especially the Director V.S. Vijayan is gratefully acknowledged.

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Design & Layout : K.K. Ramakrishnan

# Action plan for the conservation of the endemic birds of the Andaman and Nicobar Islands

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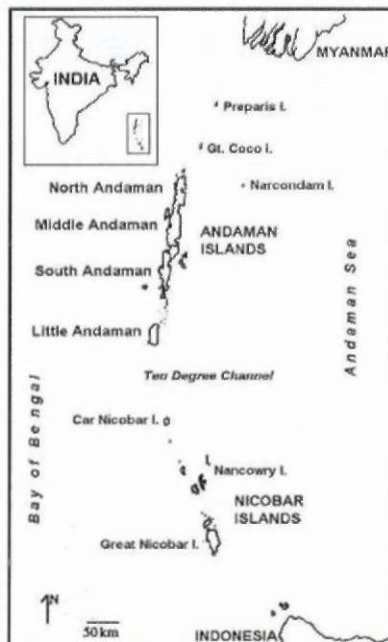


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2001

## INTRODUCTION

Island ecosystems are highly fragile and vulnerable to any disturbance. Species become threatened much faster than those in the mainland. Andaman and Nicobar Islands form a major group of oceanic islands in the Bay of Bengal, India. The entire island group covers 8,249 km<sup>2</sup> with a total coastline of about 1962 km. These islands have a varied and rich flora and fauna with a high degree of endemism. Among birds, about 37% are endemic including subspecies. While the Andaman and Nicobar Islands account for only 0.2% of the landmass of South



Location of Andaman & Nicobar Islands



Typical habitat in the Andamans

Asia, they have

12% of the endemic avifauna of the region, thus making the islands a high priority area in the conservation of avifauna. The BirdLife International has reported the Andaman and Nicobar Islands as two of the 218 Endemic Bird Areas of the World. It is all the more important in the Indian context as these islands hold more than 25% of the endemic species of Birds in India. Having realized the paucity of information on the endemic birds of the Andaman



Nicobar Islands for their conservation, a project was taken up during 1993 - 99 to: 1) assess the status of endemic avifauna in the Andaman and Nicobar Islands and to identify the taxa which are rare or threatened, 2) study the ecology of the Nicobar Megapode *Megapodius nicobariensis*, Andaman Teal *Anas gibberifrons albogularis* and Narcondam Hornbill *Aceros narcondami* and 3) prepare a conservation management plan for the rare endemic avifauna of the Andaman & Nicobar Islands.

During the first phase of the project, a survey of the endemic birds with special emphasis on the Andaman Teal and Nicobar Megapode was conducted with a small grant from SACON and MoEF, Govt. of India. Ecological studies on these species were done in detail during 1995-98 while the Narcondam Hornbill could be studied only during one breeding season in 1997. Major findings and specific recommendations for conservation are given below.

## SALIENT FINDINGS

### Avifauna

1. More than 284 species including subspecies were recorded from the Andaman and Nicobar Islands, of which 106 are endemics with 14 common to both the groups of islands. Only 18 are full species endemics, 8 exclusive to Andamans, 6 to Nicobars and 4 common to both.
2. Two species in Andamans, namely the Andaman Banded Crane *Rallina canningi* and Narcondam Hornbill *Aceros narcondami* are globally



Andaman Banded Crane (Endangered)

threatened. The Andaman Teal *Anas gibberifrons albugularis*, although an endemic subspecies is also considered as threatened.

3. In Nicobars there are five threatened species, namely the Nicobar Megapode (Scrubfowl) *Megapodius nicobariensis*, Nicobar Sparrow-Hawk *Accipiter butleri*, Nicobar Serpent Eagle *Spilornis minimus*, Nicobar Bulbul *Hypsipetes nicobariensis* and the newly described Nicobar Scops-Owl *Otus alius* (by P.C. Rasmussen in 1998).
4. Major threat to the species and the island ecosystem as well, has been the increasing human population mainly of the settlers from the mainland and the subsequent degradation and destruction of natural habitats. Hunting, especially of the larger species, is yet another serious problem by poachers from inside and outside the country. Introduced species and illegal trade in wildlife also affect the birds adversely.



Edible-nest Swiftlet (trade on the nest affects the population, but could be farmed and exploited sustainably)

### Nicobar Megapode

1. The Nicobar Megapode builds mounds of sand, loam, coral bits and rotting vegetation within which eggs are buried and incubated by the heat from Sun and geothermal sources.

Megapode is the only group of birds which do not incubate its eggs.



Nicobar Megapode on its mound

2. *M. nicobariensis*, endemic to the Nicobar islands has two subspecies, namely *M. n. nicobariensis* present on the Nancowry group of islands north of the Sombrero Channel, and *M. n.*



*abbotti* on the Great Nicobar group of islands to the south; the total population of the former was estimated to be between 1200 and 2100 adult birds with around 300 mounds while the latter was between 3500 and 6200 with over 900 active mounds.

3. The densities of active mounds ranged between 30 and 36 mounds/ km<sup>2</sup> in six islands; Great and Little Nicobar, Trax, Nancowry, Teressa and Bompoka. In all other islands, densities ranged between 3 and 22 mounds/ km<sup>2</sup>.
4. While most pairs used only one mound, some pairs laid eggs in more than one mound (up to three mounds) at a time. The peak period of the egg-laying was between February and May. The average number of eggs laid in a mound was 4.5; incubation period was 70-81 days and hatching success 59%.



Deserted mound in coconut plantation

5. Primary threat to the Megapodes is loss of habitat being most acute in the Nancowry group of islands with conversion into coconut and rubber plantations. The most immediate threat in the Nicobars is the proposal to make Great Nicobar a free port and to create a dry dock and refuelling base for international shipping at the mouth of the Galathea River.



Hunting of the Megapode

### Andaman Teal

1. Population of the Andaman Teal is estimated to be between 500 and 600, having declined at an alarming rate during the 19th



Andaman Teal

and 20th centuries. The numbers fluctuated at all locations and the maximum number sighted was around 580.

2. Andaman Teal inhabits inland or coastal wetlands, ponds, lakes, marshes or swamps. The major habitats are in the South Andaman,

namely Dhaninala (Rutland), Redskin, Katakatchang, Sippighat-Bimblitang, Jackson Creek (Little Andaman) and in North Andaman, namely North Reef, Interview, Hanspuri and Mohanpur.

3. The Andaman Teal preferred sparse vegetation at a depth of 20-50cm for feeding, mainly on molluscs and arthropods and to a less extent on plant matter.



Feeding and breeding habitat of the Andaman Teal

4. Nests were mainly on reeds, *Phragmites karka* and on *Eleocharis* spp., *Scirpus* spp. and *Acrostichum* sp and paddy, placed 20-30cm above water. The nest- site was near the edge of a reed

patch, 20-50 cm inside from an open water area. Seven to ten eggs were laid in a nest during August to October; incubation period was 22 to 26 days and nesting success 85 %.



Degraded nesting habitat

5. Destruction of its natural habitats by conversion into



agriculture and plantations, and by other development programmes such as construction of roads, dams and buildings forms the major threat, besides hunting.



Teal habitat converted to coconut plantation

### Narcondam Hornbill

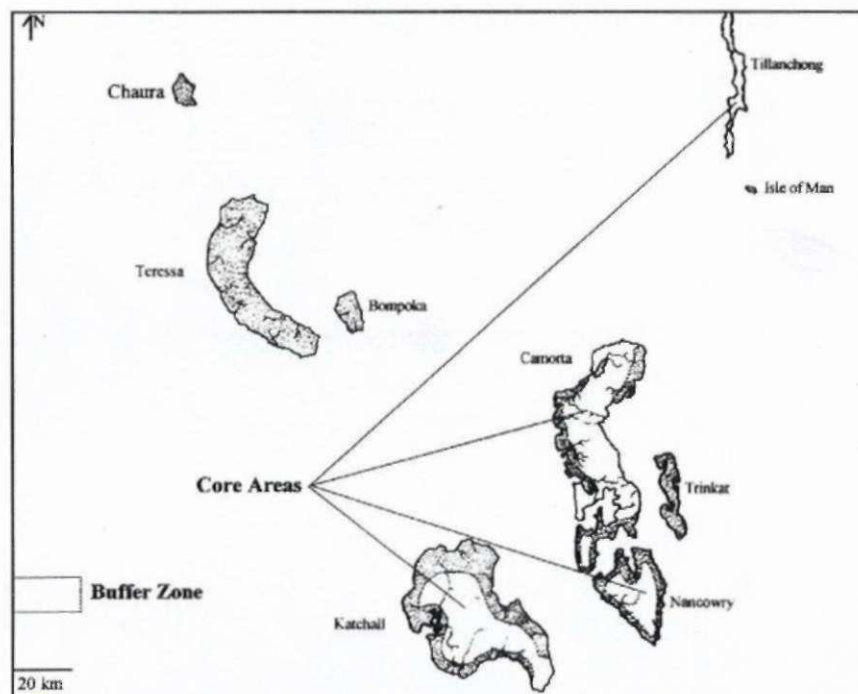
1. The Narcondam Hornbill shows a high degree of endemism occurring only in the Narcondam Island of 6.82 km<sup>2</sup> in North Andaman. Population of the Narcondam Hornbill is between 330 and 360, showing a decline from the 400 in 1972. The estimated breeding population is 46 to 53%.
2. The Narcondam Hornbill was observed feeding on a wide variety of fruits and animal matter (during breeding) that included mantids, spiders, cicada (?), ground crab, and lizard (?). Among fruits *Ficus* spp formed a significant proportion of its diet; those with larger fruits were of three species of Myristicaceae followed by *Sterculia rubiginosa* and *Caryota mitis* while many others were utilized opportunistically.
3. Specific problems in the Narcondam Island are: a) introduced goats (about 135 - 150 at the camp and over 200 feral) causing loss of regeneration, b) felling of trees for firewood, and c) hunting of the Narcondam Hornbill and pigeons.



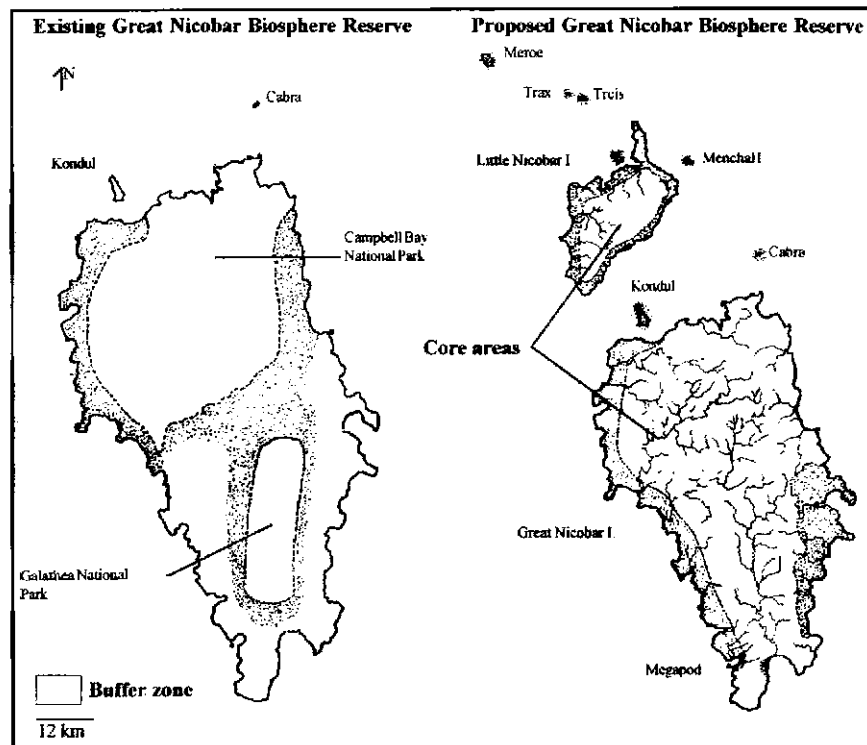
Narcondam Hornbill in the island

## RECOMMENDATIONS AND ACTION PLAN

1. The two island groups in the Nicobar, namely the Great Nicobar and Nancowry are equally distinctive with respect to the endemic avifauna but with higher conservation priority for the Nancowry group. Hence, the Nancowry Biosphere Reserve is proposed consisting of core areas on Camorta, Katchall, Nancowry and Tillanchong which would protect the threatened birds such as the Nicobar Bulbul, Nicobar Sparrow-Hawk, North Nicobar Megapode and Nicobar Serpent Eagle and other fauna and flora in these islands. The buffer zone should cover all inhabited areas around the core zones and include all islets and other islands in the subgroup. The buffer zone would foster the interests of the people but deter the programmes which would damage the habitats.



Proposed Nicobar Biosphere Reserve



2. Great Nicobar Biosphere Reserve should be redesigned with a single core area including the two existing National Parks and the southern tip of the island, and another core area on Little Nicobar. All inhabited areas surrounding the core zone should be the buffer zone. This would help in the conservation of the rare endemics such as the South Nicobar Megapode, Nicobar Scops-Owl, Nicobar Serpent Eagle, Nicobar Sparrow-Hawk, Nicobar Parakeet and many other endemics.
3. The proposal to make Great Nicobar a free port and to create a dry dock and refueling base for international shipping at the mouth of the Galathea River should not be implemented at any cost, as it would be disastrous to the population of the Nicobar Megapode, other endemics and the whole island ecosystem.
4. Dhaninala and nearby areas in Rutland Island (where the maximum population of the Andaman Teal was found) needs

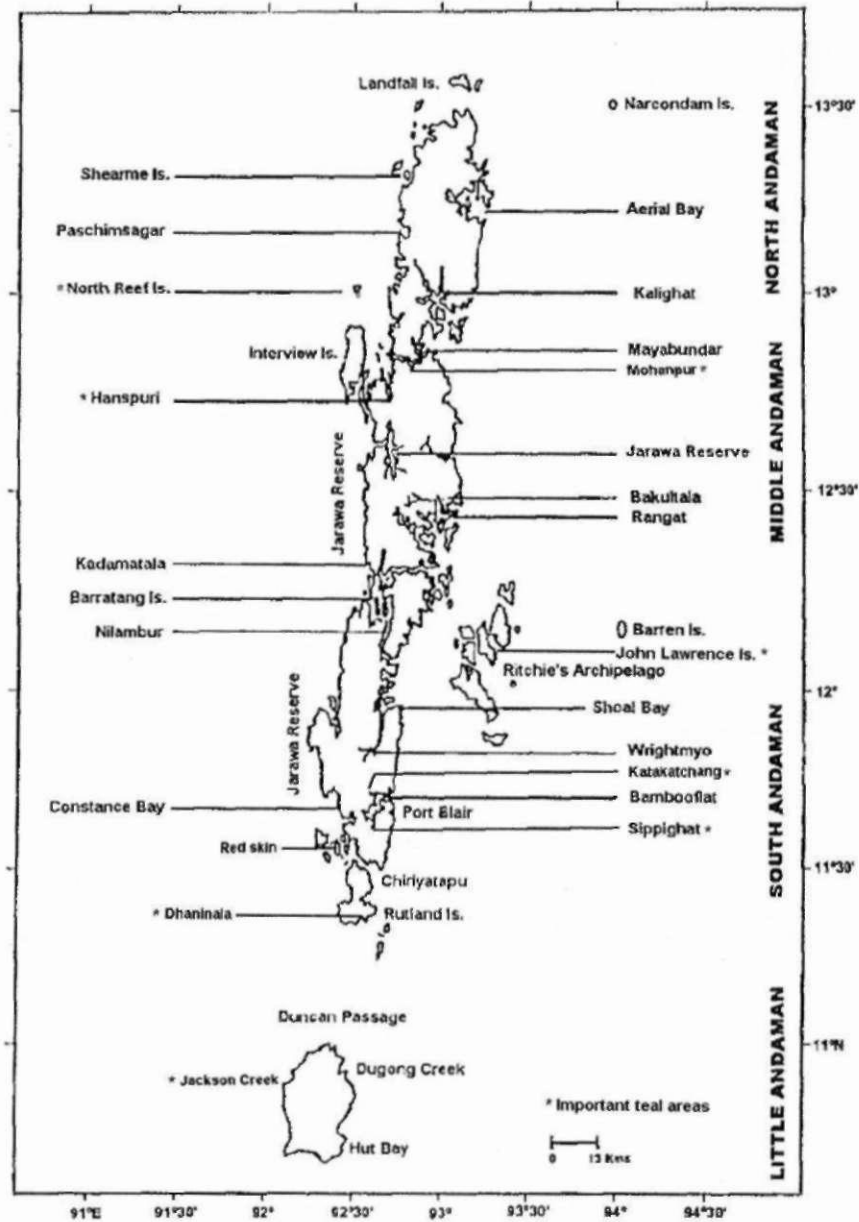


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to be protected either including it in the Mahatma Gandhi Marine National Park or as a separate Andaman Teal Sanctuary.

5. The Teal breeding areas such as Mohanpur, Hanspuri (N. Andamans), Katakatchang, Sippighat- Bimblitang (S. Andaman) may be declared as "Andaman Teal Conservation areas" and protected with the participation of the local people.
6. Jackson Creek in Little Andaman needs increased protection status for the conservation of the Andaman Teal and other fauna such as the endangered Saltwater Crocodile.
7. Some of the reserve forests and mangrove forests in the main Middle Andaman island near Rangat, especially where the endangered Andaman Crake was sighted may be given better protection status.
8. Goats introduced in the Narcondam island must be removed immediately under the supervision of a DCF / ACF of the A & N Forest Department so that total complicity is assured.
9. Measures should be taken to stop hunting of the Narcondam Hornbill forthwith.
10. Directive needs to be issued to the personnel of the protection force that trees should not be cut. Cooking gas/ solar stoves must be provided to run the kitchen at the camp on Narcondam.
11. Detailed surveys and ecological studies have to be taken up on priority on the rare endemic birds.
12. Environmental education and public awareness programmes also should be conducted intensively.

(Source: L. Vijayan, R. Sankaran, K. Sivakumar & V. Murugan. 2000. *A study on the Ecology, Status and Conservation Perspectives of Certain Rare Endemic Avifauna of the Andaman and Nicobar Islands*. Final Report. SACON. pp 184)



Andaman Teal areas



Proposed area for Andaman Teal Sanctuary



### **About SACON**

The Sálim Ali Centre for Ornithology & Natural History (SACON), situated in the sylvan surroundings of Anaikatty, 24 km northwest of Coimbatore city, within the Nilgiri Biosphere Reserve, is an autonomous centre of excellence funded by the Ministry of Environment and Forests, Government of India. SACON is registered under the Societies Registration Act, 1860 and its objectives are:

- design and conduct research in ornithology covering all aspects of biodiversity and natural history,
- develop and conduct regular courses in ornithology and natural history for M.Sc., M.Phil. and Ph.D and also, short-term orientation courses for the in-service personnel,
- create data bank on Indian Ornithology and Natural History, and
- disseminate knowledge relating to ornithology and natural history for the benefit of the entire community.

The administration of SACON is vested in a Governing Council chaired by the Secretary, Ministry of Environment and Forests, Govt. of India and comprises leading wildlife biologists, ornithologists, ecologists and administrators. SACON's research activities are moderated by a Research Advisory Council, constituted by renowned wildlife scientists, forest managers and policy makers.

The thrust areas identified for the major research divisions are:

#### **Avian Ecology**

Conservation and management of the rare and endangered birds, island avifauna, basic ecology of species and communities, and economic ornithology.

#### **Conservation Biology**

Restoration and management of fragmented ecosystems and populations, especially of the rain forest and the smaller mammals.

#### **Ecotoxicology**

Comprehensive assessment of the ecotoxicological impacts of pesticides and heavy metals on the biodiversity, especially on birds.

#### **Environmental Impact Assessment**

Quantitative assessment of the impact of development projects on the ecological, environmental and socio-economic milieu. Recommend mitigating measures/alternatives whenever possible.

#### **Terrestrial Ecology**

Basic and applied aspects of sustainable biosphere initiative including ecosystem structure and function with the help of remote sensing and GIS tools.

#### **Wetland Ecology**

Conservation of India's wetland biodiversity and its sustainable utilization.



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