

MANAGEMENT PLAN FOR
Ranganathittu Bird Sanctuary
for the period from 2011-12 to 2015-16

PART - I
CHAPTER-1

Introduction to the area:-

Ranganathittu Bird Sanctuary is situated in Srirangapatna taluk of Mandya district. This sanctuary comprises of 6 (six) Islands and 6 (six) Islets in the river Cauvery. The Islets are the main breeding ground for variety of local and migratory birds. The comparative isolation of the Islets during the monsoons and the abundance of aquatic insects make Ranganathittu a favourite haunt for birds. The variety of birds at the sanctuary is infinite. The sanctuary attracts number of tourists both from India and abroad.

Ranganathittu attained the status of a Bird sanctuary at the instance of Dr. Salim Ali during his survey of the birds of Mysore in 1940. The area of the sanctuary is 0.67 Sq.Kms.

The Islets are surrounded by water of a reservoir formed by the construction of a weir across River Cauvery. It was built between 1645 & 1648, when Kantirava Narasaraja Wodeyar was the Ruler of Mysore. The sanctuary is just 3 Kms away from the historic town of Srirangapatna, where Tippu Sultan made his last stand against the British in 1799 and was slain in the battle.

The soil along the river is soft and loamy, ideal for aquatic insects. The sanctuary is also surrounded by vast stretch of irrigated agricultural fields where aquatic insects are available in plenty. Abundance of these insects attracts numerous birds to the sanctuary. Ranganathittu island, and the islets surrounded by back water of the weir has been developed and is actively managed as a tourist place. Four islands situated downstream side, about 14 Kms away from Srirangapatna is yet to be developed as tourist centre.

1.1 Name, Location, Constitution and the Extent of the Area :-

The sanctuary is located 18 Kms away from Mysore City and 3 Kms away from the historical place Srirangapatna. The sanctuary lies between north latitude 12° 22' to 12° 25' and east longitude 76° 39' to 76° 49' in Mandya District of Karnataka State.

The area is not made into compartments. The area of the Ranganathittu Bird Sanctuary is 0.67 Sq.Kms. The developed part of the sanctuary is near the village Palahally of Srirangapatna Taluk. Three islands in the Cauvery river with an extent of 32.46 Ha. is the nuclear portion where the majority of birds roost. The other portion is near Mandyakoppalu in Gendehosahally and Arakere Village limits. This part is formed by a cluster of four islands in same Srirangapatana Taluk with an extent of 34.65 Ha. An area of 3.25 Ha. has been acquired on the bank of Cauvery near Ranganathittu islands, to develop the sanctuary and promote tourism.

Ranganathittu Bird Sanctuary was declared as a 'Bird sanctuary' on 1st July 1940 No.A.F/19/FT/243/39-40 by General & Revenue Secretariat, Bangalore by the Government of His Highness the Maharaja of Mysore (Annexure -I). Later final notification as 'Ranganathittu Bird Sanctuary' was issued vide No.A.F-19/FT/243/39-40 dated:1.9.1998 by the Government of Karnataka. (Annexure - II)

1.2 Approach & Access :

The sanctuary located 18 Kms from Mysore City & 3 Kms away from the historical place of Srirangapatna can be approached by all weather Bangalore – Mysore road. It is 125 Kms away from Bangalore, a cosmopolitan city.

The nearest Railway station is in Srirangapatna which is about 4 Kms away from the sanctuary. In Mysore, as well as in Srirangapatana, all civic amenities are available.

1.3 Statement of Significance:

Ranganathittu Bird Sanctuary located on the islands of river Cauvery, surrounded by lush green paddy and sugar cane fields is a place of high scenic beauty. Located very near to Bangalore-Mysore road, just 125 Kms away from cosmopolitan city of Bangalore, 18 Kms away from Mysore draws hundreds of tourists, bird watchers and school children. It has given a good opportunity to create awareness among the public regarding wildlife to be specific in avifauna. It is a good example of riverian ecosystem. In addition to avifauna, presence of different species of fishes, otters and marsh crocodiles provide an additional ecological significance.

CHAPTER-2

BACKGROUND INFORMATION AND ATTRIBUTES

2.1 Boundaries :

The boundaries are intact, since the area of the sanctuary is well defined by existence of islands. These islands are well protected, but the riverine stretches, up and down streams to few kms has to be protected which is a fishing ground for local fisherman who use small explosives to catch the fish easily, which inturn disturb the other riverine fauna & flora.

2.2 Geology, Rock & Soil :

The surface soil in the central part of the islands is sandy and alkaline and shows salt pans bereft of any vegetation. There are numerous pebble beds on the surface indicative of flash floods. The predominant pebbles are quartz, granite, gneiss, amphibolite, pegmatite and felcite.

The soil along the river margin is soft and loamy. It is made up largely of alluvium - which also forms a good habitat for aquatic insects. We also find altered alluvium called illuvium and these two together with pebbles form a mixture called colluvium.

The other types of soils that we find here are black cotton soil in dolerite rich areas formed due to periodic weathering and red gravelly soil which is formed from granite and calcarite soil with more of calcium.

One of the most interesting findings in these islands is the presence of human artifacts such as stone implements, beads, pieces of pottery, and microliths. These are indicative of the existence of prehistoric human settlement along the river. Such a curious discovery leads one to infer that this part of land was once an ideal 'Firm Ground' where perennial water supply was assured and adequate food could be procured. Thus this place was suitable and congenial for human habitation.

The sanctuary is a flat piece of land whose underlying rock is igneous in origin and is known as Ring dyke formation similar to that of Sri Rangapattana island. It is said to extend to a depth of about 75 km. and to be 2.9 billion years old. It belongs to Dharwarian super group. It is composed of several types of rocks such as peninsular gneiss, granite, quartzite, diorite, porphyry, felcrite, amphibolite, dolerite and hornblende schist. Gneisses have become canker due to extensive chemical weathering and desiccation as evidenced by the presence of hard canker formations. The gneissic rocks of Gendehosahally show presence of amphibolites and xenoliths as well as pegmatite veins.

In the river highly resistant black coloured dolerite projections can be seen giving a prominent profile to the river. Some dolerites on the left bank of the first island in Gendehosahally show periodic weathering as a result of which we find black cotton soil. We can also see older formations of Sargur type of rocks (3.3 billion years old) - Banded Ferruginous Garnetiferous Rock (Spassarine) as a marker of horizon rich in manganese.

2.3 Terrain:

The altitude varies from 690 m 715 m, from MSL. The terrain is almost flat. Because of the flood water of river Cauvery, the island bank is susceptible for soil erosion.

2.4 Climatic factors:

2.4.1. Rainfall: The area receives rain both from south west and north east monsoon. The south west monsoon commences from June with interruption and continues till September. North east monsoon brings rain during October and November. The mean annual rainfall is about 700-800 mm.

2.4.2. Temperature: Ranganathittu has a moderate climate with 3 seasons.

- a) Summer - March to May.
- b) Monsoon - June to October.
- c) Winter - November to February.

The temperature varies from 15° C to 30° C.

Wind: The monsoon winds which blow over the sanctuary are:

- i) South westerly wind between June to September.
- ii) North easterly wind between September and December.

2.5 Nature and distribution of sources of water:

The river Cauvery is the main source of water. The K.R.S. dam constructed across river Cauvery on the upstream side, about 8 Kms. from Ranganathittu has created a huge reservoir. Water is continuously let out of the dam and as such the water level around Ranganathittu does not go below minimum level. When there is heavy rain in the catchment area of river Cauvery & when the water level in the dam goes above maximum level, water is let out of the dam creating floods in the down streams side. This is the only major threat to the sanctuary. During 1991, few islets were partially eroded and many nests were washed away.

2.6 Range of Wildlife, Status Distribution and Habitat :

Ranganathittu, a riverine island, surrounded on all sides by the branches of the river Cauvery has developed into an interesting habitat, offering proper shelter for a vast assemblage of plants, both flowering and non flowering as well as to birds and other animals.

2.6.1 Vegetation:-

The area consists of Deciduous Scrub Forests (5DSI – champion & seth classification) Because of Alkaline soil, large gaps exists in the area.

The flora of Ranganathittu Bird Sanctuary consists of two types of vegetation : 1) Thorny Scrub Jungle in the central part of the islands where desert conditions prevail and 2) Broadleaved deciduous forest in the margins where the soil is fertile and water is plenty.

2.6.1.1 Flowering Plants :

Among the plants, the flowering ones take the pride of place both in number and variety of species. There are 400 species of dicotyledonous plants belonging to 79 families. Of these the family Fabaceae (Leguminosae) with 69 species stands

first. The families Asteraceae (Compositae) and Euphorbiaceae, with 28 species each, stand second and the family Acanthaceae with 20 species takes the third place. The monocotyledonous plants belong to 114 species distributed among 14 families. Poaceae (Graminae) with 55 species and Cyperaceae with 27 species stand first and second among the monocotyledons.

The scrubby vegetation is made up of thorny plants such as *Capparis* sp., *Dichrostachys cinerea*, *Pterolobium hexapetalum*, *Flacourtia indica*, *Plecosperrum spinosum*, *Zizyphus* sp., *Toddalia asiatica*, and *Acacia* sp. There are also plants like *Dodonaea viscosa*, *Cassia auriculata*, *Hardwickia binata*, *Maytenus emarginata*, *Grewia tiliaefolia* which show xerophytic features. The bushes and trees are festooned with several types of climbers such as *Ichnocarpus frutescens*, *Gymnema sylvestre*, *Secamone emetica*, *Marsdenia volubilis*, *Argyreia speciosa*, *Ipomea* sp., *Diplocyclos palmatus*, *Cassytha filiformis*, *Cocculus hirsutus*, *Cissampelos pareira*, *Passiflora foetida*, *Cissus quadrangularis*, the leafless *Sarcostemma intermedium* and others. Special mention must be made of an interesting new find from this area - *Iphigenia mysorensis* belonging to Liliaceae. This is an entirely new species described for the first time in 1972. However it escapes notice because of its inconspicuous appearance.

Other plants of interest that are found here include *Hydrocotyle conferta* (Apiaceae) which appears to be a new addition to the flora of Karnataka and *Heliotropium subulatum* (Boraginaceae) which looks like *Oldenlandia* of Rubiaceae.

The alluvium rich marginal areas of the islands harbour broad leaved trees like *Syzigium cumini*, *Barringtonia racemosa*, *Terminalia arjuna*, *Vitex leucoxydon*, *Commiphora caudata*, *Bauhinia racemosa*, *Samanea saman*, *Ailanthus excelsa*, *Holoptelea integrifolia*, *Pithecellobium dulce*, *Albizia amara*, etc.

Pandanus fascicularis (Screwpine) is a very common plant and forms impenetrable thickets along the water margins. It is interspersed with *Combretum albidum*, *Crateva magna*, *Caesalpinia bonduc* and *Acacia sinuata*.

Here and there one may find *Aegle marmelos*, *Limonia acidissima*, *Atalantia monophylla*, *Salix tetrasperma*, *Guazuma ulmifolia*, *Phoenix sylvestris*.

While the open ground is covered with different types of grasses, succulents like *Bryophyllum*, *Kalanchoe*, *Caralluma*, *Opuntia*, grow under the bushes and trees.

The marshy inlets which are periodically flooded with water harbour plants such as *Cryptocoryne retrospiralis*, *Alternanthera sessilis*, *Centella asiatica*, *Eclipta alba*, *Spilanthes calva*, *Aeschynomene aspera*, *Enicostemma hyssopifolium*, *Portulaca oleracea*, *Pouzolzia pentandra*, *Scoparia dulcis*, *Ammannia* sp., *Polygonum* sp., *Rotala* sp., *Commelina* sp., etc.

Several species of medicinal plants are also seen in the sanctuary. The most notable ones are *Hemidesmus indicus*, *Asparagus racemosus*, *Trichodesma indicum*, *Hybanthus enneaspermus*, *Evolvulus alsinoides*, *Tinospora cordifolia*, *Trianthema portulacastrum*, *Alangium salvifolium*, *Gymnema sylvestre*, *Acalypha indica*, *Phyllanthus fraternus*, *Tephrosia purpurea*, *Boerhavia diffusa*, *Bacopa monnieri*, *Scilla hyacinthina* and *Cynodon dactylon*.

The water plants include *Hydrilla verticillata*, *Ottelia alismoides*, *Vallisneria spiralis*, *Lemna perpusilla*, *Najas graminea*. The riverbank is covered with *Crinum defixum* and several types of sedges.

2.6.1.2 Non-Flowering Plants :

The non-angiospermous plants are few in numbers. But still one can see a rare and curious plant called Horsetail Fern (*Equisetum ramosissimum*) belonging to Equisetaceae. It grows under the Bamboo clumps and along the bunds of the adjoining paddy fields. Other common ferns are *Pteris* sp. *Azolla pinnata*, and *Marsilea minuta* which favour marshy areas. Bryophytes such as *Riccia* sp. And *Funaria* sp. are also seen.

Among the lower groups of plants *lichens*, *morels* and *mushrooms* are the more prominent ones. These become more conspicuous during rainy season.

2.6.2 Animals:

The diverse vegetation of the sanctuary naturally offers a wide variety of habitats for different types of animals. Among the animals, the birds are the most abundant and varied. In fact the sanctuary has gained importance because of its avian fauna.

2.6.2.1 Birds :

There are 221 species of birds belonging to 61 families. They include both resident and migratory birds. The most frequently seen breeding birds that are encountered here are the three types of Cormorants, four species of egrets, darter, white ibis, spoonbill, herons, and openbilled stork. During the past decade, the population of painted storks has shown a steady and noticeable increase. Indian river tern, great stone plover, cliff swallow, streaked weaver bird, the four types of kingfishers - small blue, lesser pied, white breasted and storkbilled - are the other resident breeders of this area. Terrestrial birds such as red wattled lapwing, grey partridge, quails, pipits also successfully breed here. The cool and shady areas under the trees of the marginal vegetation offer good feeding places for the beautiful Paradise flycatcher, Tickell's Blue Flycatcher, White browed Fantail Flycatcher, Babblers, Warblers, Iora, etc. Many types of birds of prey like Changeable Hawk - eagle, Crested Serpent Eagle, Shahin Falcon, Brahminy Kite,

Marsh Harrier are regularly seen. Several species of owls are seen or heard. Other birds that one may encounter in this area include Lesser Whistling Teal, Spotbilled Duck, Bronze winged Jacana, Black winged Stilt, Sandpiper, Pied Crested Cuckoo, Bluefaced Malkoha, Indian Pitta, Rosy Pastor, Golden Oriole, Blyth's Reed Warbler, Chiffchaff, Bluethroat, Forest Wagtail and Redheaded Bunting. Many of these are winter migrants.

2.6.2.2 Other Animals :

The sanctuary is also home for other types of animals such as mammals, reptiles, fishes and arthropods.

The mammals of the islands include Bonnet Macaque, Common Mongoose, Common Otter, Palm Civet and Fruit Bat.

The reptiles are represented by snakes (both poisonous and non-poisonous), turtles, Common Indian Monitor, and of course the most common one - Marsh Crocodile.

The nutrient rich waters of Cauvery river naturally constitute the most favourable feeding and breeding ground for 30 species of fishes. Some of them are commercially important.

The arthropod fauna of the islands comprises different kind of insects. There are 61 species of butterflies (Lepidoptera) which range in size from the largest - Southern Bird Wing - to one of the smallest - Gram Blue. There are several species of Dragonflies and Damselflies (Odonata), Crickets, Grasshoppers, Mantids and Walking sticks (Orthoptera), Termites (Isoptera), Earwigs (Dermaptera), Bugs, Waterboatmen, Waterscorpions (Hemiptera), Cicadas, Treehoppers, Aphids (Homoptera), Ant lions (Neuroptera), Beetles (Coleoptera), Flies and Mosquitoes (Diptera) and Ichneumons, Bees, Wasps and Ants (Hymenoptera).

Arthropods other than insects are also well represented and include Crabs, Millipedes, Centipedes, Scorpions, Spiders and Mites. They are not only too numerous to be listed but also call for expert taxonomic identification, which is beyond the scope of this survey.

This is only a basic survey and the list of plants and animals are neither complete nor final. A more thorough field survey would certainly bring to light many more species and would also add more information.

In conclusion it may be stated that Ranganathittu Bird Sanctuary represents a unique riverine ecosystem wherein different species of plants and animals live in complete harmony maintaining a delicate natural balance. It needs scientifically sound protection and any interference will definitely upset this balance and cause irreparable loss to the biodiversity of the area.

CHAPTER-3

HISTORY OF MANAGEMENT & PRESENT PRACTICES

3.1 General:

The sanctuary area is very small and consists of 67.49 Ha. as in the notification. Ranganathittu bird sanctuary was initially notified under Section 4 of Mysore Game & Fish Preservation Act 1901 vide No. AF 19 PT. 243-39-4 (01) dated 1.7.1940 and the same was confirmed vide Government Notification No. FEE 58 FWL 96 dated 1.9.1998 under Wildlife Protection Act 1972. The intense Management which is in practice suggest the acquisition of land around the sanctuary and develop the area on Eco-Tourism line.

The sanctuary is more or less surrounded by agricultural field irrigated by water from Krishnarajasagara dam. The safety of islands is given top priority because the trees there, are the main perching and roosting area for majority of migratory birds. Stabilization of the edges of island with periodic repairs is done. Many developmental works are carried out to promote tourism. The boating facilities are provided for bird watching from nearest point.

Devaraja islands of the sanctuary require adequate water throughout the season to be isolated from the main land. No developmental works are carried out in this part of the sanctuary Gendehosahally island portion of Ranganathittu Bird Sanctuary is 20 kms away from the existing tourism area of the sanctuary. Extensive planting of trees on this islands were done in previous years. It has given a forest ambience to this sanctuary. With proposal to develop this part as another tourism zone of this sanctuary to reduce the pressure on the existing tourism part, few development works like construction of paragolas and watch tower were taken up in the past management plan period.

3.2 Other programmes and activities: Boating is the only activity provided for visiting tourists for bird watching.

3.3 Forest Protection :

3.3.1 Legal status:

Ranganathittu bird sanctuary was initially notified under Section 4 of Mysore Game & Fish Preservation Act 1901 vide No. AF 19 PT. 243-39-4 (01) dated 1.7.1940 and the same was confirmed vide Government Notification No. FEE 58 FWL 96 dated 1.9.1998 under Wildlife Protection Act 1972.

3.3.2 Hunting :

No hunting of birds is noticed in the sanctuary.

3.3.3 Illegal activities :

3.3.3.1 Poaching:

No poaching activities are noticed. But adequate caution has been taken to prevent illegal fishing by using small explosives in the river which may also threat the population of otters in the downstream.

3.3.3.2 Illegal cutting of trees :-

In Gendehosahally part of the sanctuary, illegal cutting and smuggling of sandal wood trees were noticed in previous years. Appropriate legal action has been taken to counter such activities. Surrounding villagers rarely sneak into the Gendehosahally portion of the Ranganathittu Bird Sanctuary to collect small fire wood.

3.3.3.3 Illegal removal of NWP :

There is no any illegal removal of Non Wood Forest Produce (NWP) from this sanctuary as noticed.

3.3.4 Domestic livestock grazing :

The sanctuary is surrounded by river Cauvery. The sanctuary is also surrounded by 24 villages and towns with a population of about 87,585 (Annexure- III) and livestock population of about 67228. The lands adjacent to the sanctuary are irrigated, where paddy and sugarcane are extensively grown with coconut and Arecanut grown in pockets. Though there is no direct access to the islands, when the water is low, straying of cattle in to the Island are not uncommon. There are about 15 wild cattle inside Ranganathittu island. It is proposed to translocate the cattle outside the sanctuary.

In Devaraja Island there are few cattles which in habitated this Island long back. There is a custom of leaving cattles to God out of sentimental values. These cattle have become wild and rarely cross the island during summer to the near agricultural fields for grazing. It has been suggested to translocate them. But by and large this big island is free from nesting of migratory birds except bats.

3.3.5 Wild fires :-

There are no fire incidents so far. But adequate precaution has been taken to prevent any such fires during summer.

3.3.6 Insect attack and pathological problems :

Until now no epidemics have been noticed in resident or migratory birds.

Ranganathittu bird sanctuary has a colourful variety of birds. Because of the protection, availability of shelter, ideal condition for roosting and availability of abundant aquatic insects, the local and migratory birds visit Ranganathittu bird sanctuary for breeding.

3.4 Tourism and Tourism Development:

At present tourist facility has been provided at Ranganathittu which includes light & heavy vehicle parking places, paragolas, gardens, butterfly gardens, drinking water facility, toilet, canteen and boating facility to go round the islets and islands. Since the sanctuary is very close to Mysore city and historical place of Srirangapatna which are also tourist places themselves and lie close to Mysore – Bangalore highway, lot of tourists visit the sanctuary. The details of number of tourists visited the sanctuary and the revenue realized for the past 5 years are as per Annexure

Gendehosally islands which are part of Ranganathittu Sanctuary has not been developed as tourist centre. Three temporary Pargolas, three permanent Paragolas have been constructed in the past to provide resting place to the bird watchers. It is proposed to develop it as Eco-tourism place.

3.5 Research, Monitoring & Training :

3.5.1 Research, Monitoring

No research work has been carried out in Ranganathittu Bird Sanctuary . A detailed research has to be carried out to explore the nativity and other behavioral changes of migratory birds without disturbing the habitation.

Ranganathittu Bird Sanctuary is more or less surrounded by irrigated agricultural fields. The agricultural activities depend upon the release of water from the Krishnarajsagar Dam. The effect of usage of chemical fertilizers & pesticides on avian fauna is not studied. Adequate knowledge may be imparted to farmers regarding use of bio-fertilizers like Wormy Compost etc.

3.5.5 Summary of threats to Wildlife:-

The major threat to wildlife in this sanctuary is the release of excess water during monsoon from Krishnaraj sagar dam located upstream side. Release of water increases the water level around the islands causing damage to the eggs and young ones of roosting birds.

In Gendehosahally portion of this sanctuary, cattle grazing is a problem since the area is surrounded by irrigated agricultural fields. During summer season, there will be no virtual isolation of islands from adjacent fields due to very low of water.

CHAPTER-4

THE PROTECTED AREA AND THE INTERFACE LAND USE

4.1 The existing situation in the Zone of influence:

The people residing around the sanctuary are not using this area directly for any purpose. Since there is no dependency on the Protected area, people around the Protected area are much co-operative. Because of the round the year irrigation facilities, farming is the major occupation.

Farmers are actually benefited by birds, because to certain extent they feed on the insects in these fields and control the pest population.

But usage of chemicals and fertilizers and pesticides by farmers to protect the agricultural crop may influence the population of insects and other amphibians and fishes, which are the feeding grounds of some migratory birds. The after effects are not yet studied. But these activities have no influence on the population of the migratory birds as per the census. Even then the farmers may be educated and encouraged in using bio fertilizers and other less harmful pesticides.

PART – II
PROPOSED MANAGEMENT
CHAPTER-5

Plan Objectives and Problems :

Raganathittu is Karnataka's famous water bird sanctuary. There is ample scope for developing this sanctuary. Only a small portion of the sanctuary is opened for tourist. Hence this plan is drawn up for a period of five years for the period from 2011-12 to 2015-16

5.1. Objectives:

1. To protect eco-system and conserve the Floral and Faunal diversity.
2. To restore the existing islands by consolidation of bund and recouping by filling with external soil.
3. To develop eco-tourism for recreation, education and scientific exploration.
4. To involve the local people in the implementations of conservation and developmental programmes so that a balanced relationship is developed between man and nature.
5. To develop Wetland / Marshy land in the main island for winter migratory birds.

5.2 Problems in achieving objectives:

Flood is the major threat. During monsoon Krishna Raja Sagar Dam constructed on upper side of the stream poses threat. To maintain the safety of the reservoir excess water will be released periodically in monsoon season. If the release of water crosses one lakh cusecs, certainly it damages the nesting trees and nests may be washed away by the water current.

In Gendehosahally part of the sanctuary, since the inflow of water is very low during summer and virtually no barrier for the illegal entry of cattle, grazing by cattle driven by adjacent farmers is posing a serious problems.

The profuse regeneration of exotic plants like subabul found in Gendehosahally islands is hindering the growth of fruit yielding and other trees suitable for nesting of birds.

CHAPTER-6

THE STRATEGIES

6.1 Boundaries:

The tourism part of Ranganathittu is Ranganathittu state forest, an island amidst of Cauvery river with an extent of 26.6 Ha. Other two islands are called Devaraja islands in river Cauvery located near Krishnarajsagar dam, with an extent of 6 Ha. Gendehosahally part of the sanctuary comprises of four islands and islets in the midst of river Cauvery with an extent of 34.25 Ha. But recent survey conducted by Working Plan, Mysore reveals the area is about 86.28 Ha. This has been recommended for Section 4 notification. Since all these islands of the sanctuary are encircled by river Cauvery, the external boundaries are well defined.

6.2 Zonation :

As such the habitat is restricted to islands these area can be treated as core zone which is having a zero disturbance. Fishing activities are banned in these premises. Hence absolutely, the area is free from threat of illegal cutting. Adding to this, the population of marsh crocodiles is in a mutual symbiotic existence with birds. No fisherman dares to come for fishing. Crocodiles also pose no threat either to birds or to tourists. Since the area is provided round the clock protection, the increase in fish population provides food for crocodiles.

The acquired area at Ranganathittu which is outside the protected area can be treated as tourism zone. One fully furnished canteen and pargolas, pay and use toilet, parking areas have been constructed. The remaining area is beautified by landscaping. It is also proposed to acquire further area near existing Ranganathittu and Gendehosahally, which will ease the congestion of tourists during vacation season.

There are number of villages surrounding the sanctuary where most of the fields are irrigated by Krishnarajasagar dam. The crop pattern is very much favourable to be good bird forage grounds. This area can be treated as buffer area. Paddy and sugarcane fields are suitable for birds to prey on insects, frogs etc for themselves and to feed their chicks.

Restoration Zone: Birds in this sanctuary have selected the islands which are totally isolated and covered by deep water for nesting activities. Hence small islets have to be created and consolidated mechanically and planted with suitable vegetation which will improve the habitat for nesting and breeding of birds. An area of 2 Ha. near Ranganathittu and 4 Ha. near Gendehosahally has to be purchased for further development of the sanctuary and use it as administrative zone.

6.3 Theme Plans :

The following strategies are proposed for meeting the objectives of management.

6.3.1 Habitat improvement :

Habitat improvement will be based on the following considerations.

1. Protecting area against biotic degradation.
2. Improving the habitat for birds and other fauna.
3. Conserving, protecting and increasing the bio diversity.
4. Extensive planting of NeerANJI cuttings in the islands during November and December.
5. The trees presently being used by birds for nesting should be protected from flood waters, duly strengthening the islets by constructing rubble stone revetment.
6. Tree planting with suitable species should be taken up to ensure the future availability of good nesting sites. The barren patches in the island because of alkaline soil need be planted with trees after suitably treating the soil.

- Exotic weeds found in the islands especially at Gendehosally need to be replaced with fruit species and species suitable for roosting.
7. New islets are to be created artificially and planted with suitable tree species for providing roosting sites for birds at Gendehosally.
 8. Measures for controlling predators like monkeys, to be taken up by catching and translocating them to elsewhere.
 9. Creation of new island and strengthening of existing islands to facilitate to nesting and breeding of birds.
 10. Development of Wetland in Ranganathittu Bird Sanctuary

6.3.2. Strategies to overcome protection problems:

6.3.2.1 Control of illegal fishing:

Fishing is totally banned within the sanctuary area. Day and night patrolling is done to book cases of illegal fishing. Boats used for tourism are being used for night patrolling.

6.3.2.2 Control of illegal grazing :

Since the sanctuary is surrounded by villages and irrigated fields, in summer when there is very inflow of water, cattle are driven inside the sanctuary for illegal grazing. To control this, the following strategies have been proposed

1. Erection of chainlink mesh all along the boundary of the Gendehosally island

6.3.2.3 Control of illegal removal of timber, fuel wood and NTFP:

As such there is no big problem of illegal removal of timber, fuel wood and NTFP the sanctuary area, strict vigil and patrolling is done by the staff and employing watchers to contain this problem.

6.3.2.4 Fire Protection: Since the Islands of the sanctuary is comprised of deciduous scrub forest with lot of grass, the islands are vulnerable for fire. Hence clearing of Fire line along the road side and other vulnerable places needs to be taken up in advance during the summer. Fire patrol watchers need to be engaged to put off any accidental fire.

6.3.2.5 Publicity to create awareness:

To spread the message of conservation of wildlife, publicity material like brochures, handbills should be prepared and distributed freely among the tourists, general public, school children and the people surrounding villages to create awareness regarding the importance of conserving wildlife.

CHAPTER-7

TOURISM, INTERPRETATION AND CONSERVATION EDUCATION

General:-

Ranganathittu Bird Sanctuary happens to be a famous tourism spot for watching birds. Perhaps the other tourism spots like Srirangapattana, Mysore Palace, Chamundihills, K.R.S, Zoo etc are other linked places of attraction. Boating all along the side of the islands closely watching various resident and migratory, birds is a wonderful experience to the tourists. The Rowing boats which are not at all disturbing the peaceful existence of birds is a unique feature. In future, also motor boats should not be used for this purpose. This is a good example for riverine eco system. Presence of marshy crocodiles, otters, various species of fishes, and abundant water plants and algae is a unique feature. From point of view of conservation education Ranganathittu Bird Sanctuary is adjudged a best spot.

7.1 Objectives:

- (a) To develop eco-tourism for recreation, education and scientific exploration.
- (b) To provide wilderness experience to genuine enthusiasts in particular and to the public in general.
- (c) To educate the people especially living nearby the sanctuary areas regarding the need to maintain such sanctuary and their by enlisting their co-operation.
- (d) To develop love for all forms of birds, wild life and plants and to inculcate the idea of conservation of bio diversity in the minds of the public in general and children in particular.

7.2 The Strategies:

The sanctuary has got good approach from Bangalore, Mysore and Mandya. Only Raganathittu portion of Raganathittu bird sanctuary has been opened for tourists.

Four large Islands situated at Gendehosally about 14 Kms. south east of Srirangapatna, which are also part of Raganathittu bird sanctuary, are yet to be developed as tourist centre. Due to the effort of the Forest Department, the Islands, which were once almost barren are now covered with tree growth. A weir (Ramaswamy Anicut) constructed across river Cauvery by His Highness the Maharaja of Mysore, the then ruler, has created a reservoir close to the islands. This area also attracts variety of aquatic birds. Good number of Peafowls also herbivore these islands. Temporary paragolas & permanent pargolas constructed in the past provide resting place for picnic goers and bird watchers. This area, if developed, has got tremendous potential as tourist centre. It is planned to develop eco-tourism in this area. Hanging bridge connecting the islands, Drinking Water facility, Toilet, Resting places, Parking Area, Staff Quarters, Boating, Library, Watch towers, Nature Camp with audio-Video facility etc., can be developed in this area. A weir/check dam if constructed down stream at Gendehosahally which will really isolate the islands even during summer attracting more birds. Then boating facilities may be provided to watch the birds from the close distance.

Ranganathittu Bird Sanctuary is open to tourist throughout the year. Tourists are allowed inside at 8.00 A.M. and sanctuary is closed at 6.00 P.M. Thus the regulation of visitors is planned to minimize the disturbance during sensitive periods. Boat rides are restricted for 15-20 minutes per ride strictly. Boat men are strictly warned to keep visitors silent during the ride not disturbing the roosting birds. Instructions have been given to boatmen to maintain the routine restricted movements. There is a old small canteen leased out on rent near the boating place to provide refreshment to the visitors. Action has been initiated to close this

canteen, as the gathered visitors and their noise is likely to disturb the birds in the sanctuary. The newly formed canteen is considerably away from river bank which is leased out for providing refreshments to the tourists. The number of dustbins has to be increased, to avoid the litter in refreshment area.

The use of plastic inside the sanctuary area is strictly banned. Adequate number of caution boards area displayed.

To create awareness and educate the visitors, laminated boards are displayed regarding migratory birds. This has to be updated by constructing a interpretation centre with audio visual equipments. The old canteen area can be utilized for this purpose. The proposed area to be acquired also can be utilized for this purpose. To generate resource for management of park there should be a periodical change in fees. At present following is the pattern of fees charged

Entrance Fees Indians:

Adult: Rs. 50/-
Children: Rs. 25/-

Entrance Fees Foreigner:

Adult: Rs. 300/-

Parking Fees:

Bus: Rs. 125/-
LCV – Rs. 75/-
Car: Rs. 30/-
Motorcycle: Rs. 15/-
Bicycle: Rs. 5/-

Boating: (per person per trip)

Indians

Adult: Rs. 50/-
Children: Rs. 25/-

Foreigner

Adult: Rs. 300/-

Camera charges:

Large Video Camera Rs. 500/-

The number of visitors and the revenue realised is tabulated for the last five years

It is also proposed to make wide publicity by displaying informations about the sanctuary at suitable places. It is also planned to bring brochures with valid informations regarding the history and birds visiting the sanctuary. Barricades have to be raised round the garden area. Repairs to ponds and paragolas and sitting benches have to be done periodically. The approach road which is widened has to be remettalled and asphalted. And also the light vehicle parking area has to be remettaled and asphalted. The boatmen are to be given proper training as guides by resource persons.

7.2.1. The following strategies have been proposed for promoting tourism

1. Development of acquired land
2. Acquisition of adjacent lands for widening of road and development of sanctuary
3. Maintenance of existing Garden area.
4. Purchase of boats for tourism activities
5. Maintenance of existing boat including wages of Boatmens
6. Maintenance of existing signages
7. Purchase of 25 KV Generator
8. Opening of Gendehosally Island to tourists
9. Providing electricity line to Gendehosally Island.
10. Development of Children park at Ranganathittu Bird Sanctuary

CHAPTER-8

ECO-DEVELOPMENT

8.1 Objectives :

- i) To involve the fringe villagers, in and around the sanctuary in PA planning, protection and conservation, by educating them on the values of the protected area.
- ii) Developing, site specific eco-development micro-plans, with the participation of the villagers.
- iii) Develop alternate sources of bio-mass and income to divert pressure on the protected area, while strengthening the economic condition of the villagers.
- iv) Wean villagers away from the traditional dependence on protected area by providing alternate sources of livelihood and training.
- v) To build up awareness among the villagers towards conservation, by appropriate education programmes.

8.2 Broad Strategies:

Dependence of villagers for small timber, fuel wood, grazing grounds on protected area has to be addressed properly. Ranganathittu Bird Sanctuary surrounded by about 24 villages with nearly 1 lakh population. Following activities may be taken up as a strategy for lessening the dependency of neighbouring village community on park area and ensure cordial relationship with them.

- 1) To reduce the dependency on firewood, fuel efficient smokeless chulas, biogas, LPG have to be provided.
- 2) Providing safe drinking water by digging borewells to improve hygiene and health of the villagers and also to avoid the women from walking long distance in search of water.

- 3) To supply fruit yielding, medicinal and agro forestry species of plants to attain self sustainability and generate income in course of time.
- 4) Rejuvenation of village cattle ponds

8.3 Monitoring and evolution:

The monitoring of eco-development activities are important to achieve the annual physical and financial targets, the output and effects until the beneficiaries reach a position of maintaining and continuing the programmed activities.

The evaluation of the impact of eco-development on the sanctuary area and on surrounding area help in further planning.

CHAPTER-9

RESEARCH, MONITORING AND TRAINING

9.1 Research and Monitoring :

As mentioned earlier, research has had a very low priority in the PAs of the State. Higher order investigations can be developed through consultancy programmes with Universities, specialist Institutions and through contractual arrangements. A portion of the land may be utilized to study population dynamics, seasonal migration and also bio-diversity etc., The documentation of all their process is a must.

9.1.2 Objectives :

- i) To reduce progressively, the extent and degree of uncertainty on which management decisions and strategies are based.
- ii) To develop the consultative process and mechanism to ensure that research, addresses information needs that are critical to this project and to the long term management of the sanctuary.
- iii) To develop, interest in research and expertise in local institutions around the sanctuary.
- iv) To ensure that sanctuary supports and attracts sustained research that would meet the information needs from time to time.

9.1.3 Research Facilities:

The sanctuary, has no basic facilities for research. To start with, a field laboratory or research station with a Researcher is very essential. The laboratory should be equipped with basic equipments like computers, refrigerator, microscopes, oven, weighing machine, veterinary instruments etc. A vehicle, has to be kept at the researchers control, enabling him to coordinate all the research works and their findings. Additional field stations should also be set up based on the requirements of research.

9.1.4 Topics for Research:

The following topics can be considered for research in the sanctuary, priority wise :

- i) Assessment of bio-diversity of lesser known and functionally important groups.
- ii) Microbial ecology of lentic/lotic aquatic bodies.
- iii) Survey of ticks and mosquitoes.
- iv) Floristic diversity and regeneration studies.
- v) Communicable disease and health monitoring in both migratory birds and surrounding village and commercial poultry birds.
- vi) Monitoring the impact of fire occurrence and fire prevention activities on habitat and species distribution.
- vii) Eco-tourism strategy, visitor management, interpretation centre, publicity and propaganda.
- viii) Assessment of bird diversity in the sanctuary.
- ix) Human impact due to grazing, collection of fuel wood, bamboo and small timber.
- x) Habitat degradation and infestation of exotic weeds
- xi) Migration and seasonal movement patterns of birds.
- xii) Carrying capacity of the sanctuary for migratory birds.
- xiii) Impact of seasonal flood on bio-diversity.
- xiv) Monitoring prey population in the forage grounds.

9.1.5 Monitoring:

Monitoring through a consistent set of measures would periodically do the following:

- i) Provide an integrated view of the present status of bio-diversity in the sanctuary.

- ii) Provide a view of socio-economic conditions and interactions between PA and people around the PA that are relevant to the project.
- iii) Evaluate whether the project activities have had the desired effect.
- iv) Identify inadequacy, ineffectiveness which cause non-compliance with expected values.

It is not necessary that all monitoring and research is to be carried out by the researchers. Monitoring can also be done by the field staff on a day to day basis of:

- i) Birds health and diseases by the departmental veterinarian.
- ii) Impact of Tourism.
- iii) Feeding behaviour of Avian fauna.
- iv) Migration pattern of birds.
- v) Changes in vegetation to be monitored as per ecologists advice.
- vi) Thinning, removing of exotic species like subabul.
- vii) Interaction between people inside & outside the PA.
- viii) Whether project activities have had the desired effect.

9.2 Training:

Generally, all the staff posted in the sanctuary, that is, watcher upwards would have undergone professional training in forestry before joining the department. But as Wildlife management has, over the years encompassed many disciplines like ecology, tourism, public relations, Wildlife management, land use planning etc, it is very necessary to carry out refresher courses for all the staff at various level and bring them abreast of the day to day requirements.

9.2.1 Study tours :

It is worthwhile if study tours are conducted for the staff of PA to visit other PAs within and outside the State to learn how other PAs are managed.

9.2.2 Training programmes of Wildlife Institute - Dehradun:

Wildlife Institute of India runs many refresher courses and workshops in different PAs all over the Country. This should be taken advantage of and officers from the PAs sent regularly to attend these courses. Following are some of the courses conducted by the Wildlife Institute of India.

9.2.3 Strengthening Prosecution capabilities of the staff:

Several of our offence cases, fail in courts of law due to improper recording, inadequate processing and wrong interpretation of legal provisions. Prosecution capabilities of the staff are required to be strengthened. A few sample cases of both success and failure can be selected by the officers of the Forest Department and with the assistance of a Legal Advisor, discussed with other lower staff periodically, so that a set of guidelines are prepared as to how a case is to be dealt with. A week training at ATI, Mysore by legal experts will be an advantage.

CHAPTER-10

ORGANISATION AND ADMINISTRATION

10.1 Structure and Responsibilities:-

This sanctuary is under the administrative control of Principal Chief Conservator of Forests, Wildlife, Bangalore and Conservator of Forests, Mysore Circle, Mysore.

Range Forest Officer Mysore Wildlife Range is in charge of Ranganathittu sanctuary functioning under Deputy Conservator of Forests, Wildlife Division, Mysore. There are two Foresters in this sanctuary. One is in charge of Raganathittu area which is managed as tourist centre and the other is in charge of Gendehosally Islands. For proper management and protection of the sanctuary, existing staff is inadequate.

The proposed organisation pattern is as under:

Sl.No.	Designation	Proposed	Existing	Required
1.	Range Forest Officer	1	1	-
2.	Forester	2	2	-
3.	Forest Guards	6	6	-
4.	Forest Watchers	6	2	2
5.	Boat man	15	10	5
6.	Sweeper	4	2	2

10.2 Staff amenities :-

Even though the sanctuary is small, construction of residential quarters and construction of cottages can be considered by acquiring sufficient land away from the sanctuary area. Existing structures can be converted to watchman sheds.

In Gendehosahally part of the sanctuary adjacent agricultural field has to be acquired to facilitate for Eco-Tourism activities. This will ease out the congestion at tourism area of Ranganathittu during peak season. Protection of the sanctuary from illegal fishing and grazing etc., has to be taken on priority. As such there are no staff quarters construction staff quarters can be taken up. The staff may be provided with walkie-talkies and other instruments like binoculars, weapons for effective patrolling.

CHAPTER-11

THE BUDGET

11.1 The Plan Budget:-

Proposed budgetary provisions for operations of management plan strategies are appended separately.

Annexure - I

Government of His Highness the Maharaja of Mysore

No. A.F. 19/FT/243.39-40

General & Revenue Secretariat,

Dated: Bangalore the 1st July 1940

NOTIFICATION

The Government of His Highness the Maharaja of Mysore are planned to declare the Provisions of Section 4 (b) of the Mysore Game and Fish Preservation Act (II of 1901) that the areas, the boundaries of which are set forth in the Schedule annexed hereto shall be deemed to be a "Bird Sanctuary" under the Provisions of the said Act.

SCHEDULE

Taluk	Name of the place	Survey No. and Class	Area Ac. G.	Name and situation of the block included in the Bird Sanctuary
French Rocks	Puttayyana Koppal	Assessed Raste 22	66 16	Ranganathittu State Forest an island in the Midst of Cauvery River about 2 miles west of Srirangapatna
	--	Karab	15 --	Two island called Devaraja Islands in the Midst of Cauvery river about 6 furlongs East of Krishnaraja Sagar Dam.
Srirangapatna	Arakere	Karab 496 497	24 05 15 11	
	Gandehosahalli	270 271	20 13 26 34	
			<u>85 . 63</u>	
	Total		166 . 79	

Boundaries: North, East, South, West – Cauvery River. All the above six Islands are surrounded by the Cauvery river on all sides.

Remarks: In the above islands, grazing of cattle, killing or capture of birds and removal of eggs of birds are prohibited.

By Order,
Sd/-
J. Appaji Gowda,
General Secretary to Government.

Government of Karnataka

No. A.F. 19/FT/243.39-40

Karnataka Government Secretariat,
Sachivalaya – II,
Bangalore dated 1.9.1998.

NOTIFICATION

Whereas the Government of his Highness the Maharaja of Mysore in exercise of the powers vested in it by clause (b) of Sec. 4 of the The Mysore Game and Fish Preservation Act, 1901 (Act No. 11 of 1901), declared the area fully described in the schedule to the said Government's Notification No. AF 19 FT 243-39-40 dated 1.7.1940, as a Bird Sanctuary.

And whereas the Assistant Commissioner, Pandavapura Sub-Division, Pandavapura, in exercise of the powers conferred on him by Sec. 21 of the Wildlife (Protection) Act, 1972 (Central Act No. 53 of 1972) (herein after referred to as 'The Act') issued a proclamation vide his Notification No. MAG.CR. 35/90.91 dated 25.8.1990 requiring any person claiming any right mentioned in Section 19 of the Act to prefer such claims before him.

And whereas, the aforesaid Assistant Commissioner has reported that he has not received any claim in pursuance of the aforesaid proclamation issued by him;

And whereas the Deputy Commissioner, Mandya district, Mandya has recommended that the State Government Notification dated 1.7.1940 as "Raganathittu Bird Sanctuary."

And whereas, the Chief Wildlife Warden, Karnataka has concurred with the aforesaid recommendations of the Deputy Commissioner;

Now, therefore in exercise of the powers vested in it by clause (a) of sub-section (1) of Sec. 26-A of the Wildlife (Protection) Act, 1972 (Central Act No. 53 of 1972), the Government of Karnataka hereby declare the area fully described in the schedule to Government Notification dated 1.7.1940 aforesaid, as "Raganathittu Bird Sanctuary" with effect from the date of this Notification.

BY ORDER AND IN THE NAME OF
THE GOVERNOR OF KARNATAKA
(W.Joseph),
Desk Officer, (Forest.A),
Forest, Environment & Ecology Dept.,

Annexure - II

List of Villages around Ranganathittu Bird Sanctuary

Sl.No.	Name of the Village
1	Yennekoppalu
2	Doddagowdana Kopplu
3	Srirangapatna
4	Karimanti
5	Palahalli
6	Hosally
7	Karepura
8	Rampura
9	Bidrahallyhundi
10	Chennahalli hundi
11	Mahadevapura
12	Arakere
13	Shanttu kopl
14	Kodagally
15	Gendehosally
16	Mandyakoppal
17	Chinnegowdanakoppal
18	Hondahalli
19	Shanthi koppalu
20	Gobbaragala
21	Moodrahalli
22	Magegowdana hundi
23	Hangarahalli
24	Belagola

Annexure - III

The details of number of tourists visited and the revenue realized for the past five years

Sl. No.	Year	Particulars	
		Revenue Realised from Visitors (Rs.)	No. of visitors
1	2006-2007	72,85,580.00	2,07,489
2	2007-2008	98,87,572.00	2,04,781
3	2008-2009	86,69,176.00	1,81,244
4	2009-2010	1,14,79,942.00	2,62,610
5	2010-2011	1,53,35,472.00	3,16,459

ANNEXURE - IV
RANGANATHITU BIRD SANCTUARY
BUDGET PROPOSALS FOR IMPLEMENTATION OF MANAGEMENT PLAN
FROM THE YEAR 2011-12 TO 2015-16

(Rs. in Lakhs)

Sl. No.	Particulars of Works proposed	2011-12		2012-13		2013-14		2014-15		2015-16		Grand Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I. Budget for Boundary Demarcation													
1	Boundary demarcation, Chain link, fencing /compound at Ranganathittu	500 mtr	17.50									500 mtr	17.50
Total -I			17.50										17.50
II . Budget for strengthening of Network of protection Roads													
1	Maintenance and Repair works to existing protection roads	4 km	0.80	4 Km	0.90	4 Km	1.00	4 Km	1.10	4 Km	1.25	4 Km	5.05
2	Construction of Culverts in protection roads	1 No.s	2.00									1 No.s	2.00
Total- II			2.80		0.90		1.00		1.10		1.25		7.05

1	2	3	4	5	6	7	8	9	10	11	12	13	14
III. BUDGET FOR COMMUNICATION NETWORK													
1	Vehicles												
a)	Maintenance of existing protection vehicles (One Jeep & one Tractor)	2 No	3.00	2 No.	3.30	2 No.	3.65	2 No.	4.00	2 No.	4.40	2 No.	18.35
b)	Maintenance of existing Two wheeler	1 No.	0.10	1 No.	0.12	1 No.	0.14	1 No.	0.16	1 No.	0.18	1 No.	0.70
	Sub Total		3.10		3.42		3.79		4.16		4.58		19.05
2	Wireless Network												
a)	Maintenance of Existing Wireless Network (repairs and purchase of batteries)	L.S.	0.25	L.S.	1.25								
	Sub Total		0.25		1.25								
	Total - III		3.35		3.67		4.04		4.41		4.83		20.30
IV. Budget for Fire protection works													
1.	Maintenance of existing firelines to the width of 3 mtrs.	10 Km	0.08	10 Km	0.09	10 Km	0.10	10 Km	0.11	10 Km	0.12	50 Km	0.50
2.	Engaging Fire watchers from January to March every year	6 mem.	0.93	6 mem.	1.00	6 mem.	1.10	6 mem.	1.20	6 mem.	1.30	30 mem.	5.53
	Total- IV		1.01		1.09		1.20		1.31		1.42		6.03

1	2	3	4	5	6	7	8	9	10	11	12	13	14
V. Budget for Habitat Improvement													
1	Planting cuttings of Ficus, plumeria seedlings etc. & watering 4 times in summer	2000 Cuttings	1.00	2000 Cuttings	1.10	2000 Cuttings	1.25	2000 Cuttings	1.40	2000 Cuttings	1.60	1000 Cuttings	6.35
2	Removing exotic weeds like Eupatorium & lantana\ parthenium \subabul	10 Ha	1.00	10 Ha	1.10	10 Ha	1.25	10 Ha	1.40	10 Ha	1.60	50 Ha	6.35
3	Construction of revetment around Islands	3 No.	6.00	3 No.	6.00	3 No.	6.00					9 No.	18.00
4	Strengthening of existing Islands	3 No.	6.00	15 No.	30.00								
5	Rehabilitation of Monkeys	Ls	0.50	Ls	2.50								
6	Development and maintenance of Wetland at Ranganathittu Bird Sanctuary	8 Ha.	10.00	8 Ha.	2.00	8 Ha.	18.00						
7	Creation of New Islands at Gendehosally to facilitate nesting of birds	2 No.	6.00	2 No.	6.60							4 No.	12.60
8	Creation of Island at Ranganathittu Bird Sanctuary					2 No.	7.00	2 No.	7.70	2 No.	8.50	6 No.	23.20
Total- V			30.50		23.30		24.00		19.00		20.20		117.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14
VI. EMPLOYMENT OF MAN POWER													
1	Engaging Boatmens on daily wage to operate the departmental boats	15 No.	10.45	15 No.	11.50	15 No.	12.50	15 No.	13.75	15 No.	15.00	15 No.	63.20
2	Engaging Gate lifters on daily wages	2 No.	1.25	2 No.	1.40	2 No.	1.60	2 No.	1.80	2 No.	2.00	2 No.	8.05
3	Engaging Sweepers on daily wages	2 No.	1.25	2 No.	1.40	2 No.	1.60	2 No.	1.80	2 No.	2.00	2 No.	8.05
4	Engaging protection watchers on daily wages	11 No.	6.90	11 No.	7.60	11 No.	8.25	11 No.	9.10	11 No.	10.00	11 No.	41.85
5	Engaging daily wage Driver.	2 No.	1.40	2 No.	1.60	2 No.	1.80	2 No.	2.00	2 No.	2.20	2 No.	9.00
6	Engaging Literate Assistant	1 No.	0.70	1 No.	0.77	1 No.	0.85	1 No.	0.95	1 No.	1.05	1 No.	4.32
7	Engaging Office Peon & Night Watchman	2 No.	1.25	2 No.	1.40	2 No.	1.60	2 No.	1.80	2 No.	2.00	2 No.	8.05
8	Engaging Computer Operators on Contract	2 No.	1.70	2 No.	1.90	2 No.	2.10	2 No.	2.30	2 No.	2.50	2 No.	10.50
Total- VI			24.90		27.57		30.30		33.50		36.75		153.02

1	2	3	4	5	6	7	8	9	10	11	12	13	14
VII. Budget for Conducting Birds Census													
1	Conducting Tiger Census & Elephant and other herbivore animals census	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	1.25
Total-VII			0.25		0.25		0.25		0.25		0.25		1.25
VIII . Budget for publicity, Nature awareness programmes etc.													
1	Providing Signage Boards	2 No.	1.50	2 No.	1.50							4 No.	3.00
	Maintenance of existing signages	Ls	1.00	Ls	1.00	Ls	1.00	Ls	1.00	Ls	1.00	Ls	5.00
2	Conducting of awareness programme for school children and general public	10 Camps	0.50	10 Camps	0.50	10 Camps	0.50	10 Camps	0.50	10 Camps	0.50	50 Camps	2.50
3	Printing of brochures/ handbills/ publicity	Ls	1.50	Ls	1.50	Ls	1.50	Ls	1.50	Ls	1.50	Ls	7.50
Total-VIII			4.50		4.50		3.00		3.00		3.00		18.00
IX. Budget for Amenities to Staff													
1	Construction of Quarters												
a)	Construction of Quarters to staff			2 No.	15.00	2 No.	16.50					4 No.	31.50
3	Uniforms and field equipment	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	1.25
Total-IX			0.25		15.25		16.75		0.25		0.25		32.75

1	2	3	4	5	6	7	8	9	10	11	12	13	14
X. Eco tourism activities													
1	Providing Drinking water facilities, Water supply Electrical Works at Ranganathittu Bird Sanctuary	Ls	5.00	Ls	25.00								
2	Construction of Reception Centre & maintenance at Gendehosahally.			1 No.	5.00	1 No.	0.50	1 No.	0.50	1 No.	0.50	1 No.	6.50
3	Purchase of Boats to Gendehosally and Ranganathittu Bird Sanctuary	2 No.	5.00	2 No.	5.00	2 No.	5.50	2 No.	6.00	2 No.	6.50	10 No.	28.00
4	Construction of boat landing place at Gendehosally	1 No.	2.00									1 No.	2.00
5	Construction of Night watchmen shed at Gendehosally			1 No.	2.50							1 No.	2.50
6	Maintenance of existing Trekking paths	4 Km	0.80	4 Km	0.90	4 Km	1.00	4 Km	1.10	4 Km	1.20	4 Km	5.00
7	Repair and maintenance of boats	Ls	1.00	Ls	1.10	Ls	1.25	Ls	1.40	Ls	1.55	Ls	6.30

1	2	3	4	5	6	7	8	9	10	11	12	13	14
8	Providing separate transformer to Gendehosally island	1 No.	3.00									1 No.	3.00
9	Maintenance of Public Toilet and Treatment of Toilet water at Ranganathittu Bird Sanctuary	Ls	5.00	Ls	5.50	Ls	6.05	Ls	6.75	Ls	7.50	Ls	30.80
10	Maintenance of existing garden area	7 Acres	6.00	7 Acres	6.60	7 Acres	7.25	7 Acres	8.00	7 Acres	8.80	7 Acres	36.65
11	Repair works to watch towers	3 No.	0.50	3 No.	0.55	3 No.	0.60	3 No.	0.70	3 No.	0.80	3 No.	3.15
12	Maintenance of existing internet facility	Ls	1.00	Ls	1.00	Ls	1.00	Ls	1.00	Ls	1.00	Ls	5.00
13	Development and maintenance of newly acquired land at Ranganathittu Bird Sanctuary	Ls	75.00	Ls	25.00	Ls	25.00	Ls	25.00	Ls	25.00	Ls	175.00
14	Acquisition of additional land for development of Ranganathittu Bird Sanctuary and widening of existing road	3.36 Acres	75.00	-	25.00							3.36 Acres	100.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	Development of proposed additional acquisition land					3.36 Acres	25.00	-	25.00	-	25.00	3.36 Acres	75.00
16	Developing and maintenance of children park and mini water sports like lazy river etc.,	Ls	25.00	Ls	5.00	Ls	5.00	Ls	5.00	Ls	5.00	Ls	45.00
17	Construction of New Ticket Counter at Gendehosally and Ranganathittu Bird Sanctuary	1 No.	2.50	1 No.	2.75							2 No.	5.25
18	Maintenance of Interpretation centre , Restroom, Canteen Building and other structures at Ranganathittu Bird Sanctuary	Ls	5.00	Ls	5.00	Ls	5.00	Ls	5.00	Ls	5.00	Ls	25.00
Total			211.80		95.90		88.15		90.45		92.85		579.15
XI . Budget for Eco development activates													
1	Rejuvenation of village cattle ponds	2 No.	2.00	2 No.	2.20	2 No.	2.50	2 No.	2.75	2 No.	3.00	5 No.	12.45

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	Providing Borewells with Handpumps in villages for providing safe drinking water	4 No.	2.80	4 No.	3.10	4 No.	3.40	4 No.	3.80	4 No.	4.10	50 No.	17.20
Total			4.80		5.30		5.90		6.55		7.10		29.65
XII	Research Monitoring and evaluation	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	0.25	L.S.	1.25
Total-XI			0.25		0.25		0.25		0.25		0.25		1.25
Grand Total			301.91		177.98		174.84		160.07		168.15		982.95

Deputy Conservator of Forests
Wildlife Division
Mysore

ABSTRACT OF FINANCIAL REQUIREMENT FOR THE PERIOD FROM 2011-12 TO 2015-16

(Rs. in Lakhs)

Sl. No.	Particulars of Works proposed	2011-12	2012-13	2013-14	2014-15	2015-16	Grand Total
1	Budget for Boundary Demarcation	17.50	-	-	-	-	17.50
2	Budget for strengthening of Network of protection Roads	2.80	0.90	1.00	1.10	1.25	7.05
3	Budget for Communication Network	3.35	3.67	4.04	4.41	4.83	20.30
4	Budget for Fire protection works	1.01	1.09	1.20	1.31	1.42	6.03
5	Budget for Habitat Improvement	30.50	23.30	24.00	19.00	20.20	117.00
6	Employment of Man power	24.90	27.57	30.30	33.50	36.75	153.02
7	Budget for Conducting Birds Census	0.25	0.25	0.25	0.25	0.25	1.25
8	Budget for publicity, Nature awareness programmes etc.	4.50	4.50	3.00	3.00	3.00	18.00
9	Budget for Amenities to Staff	0.25	15.25	16.75	0.25	0.25	32.75
10	Eco tourism activities	211.80	95.90	88.15	90.45	92.85	579.15
11	Budget for Eco development activates	4.80	5.30	5.90	6.55	7.10	29.65
12	Research Monitoring and evaluation	0.25	0.25	0.25	0.25	0.25	1.25
	Total	301.91	177.98	174.84	160.07	168.15	982.95

Deputy Conservator of Forests
Wildlife Division, Mysore

Annexure - V
Map of Ranganathittu Bird Sanctuary

