

CHAPTER-I

1.1 Introduction and Background

Introduction of exotic species on an island is known to cause significant changes in its biodiversity and affects the fragile eco-system of the island. The Interview Island located on the western side of the Middle Andaman is such an example. The elephants brought to this island by a timber company around sixty years ago were abandoned and these have now become feral and as such this island was declared as a Sanctuary for these feral elephants. Besides this, island is also a habitat of some other unique biodiversity particularly Andaman Teal and Edible-nest Swiftlet and therefore needs management practices aimed at minimizing the impact of exotics on the one hand and conserving habitat of its unique biodiversity on the other.

The island with an area of 133 km² and dense tropical forests was considered suitable for extraction in early fifties and the work of timber extraction was given to a private contractor agency- the M/s P.C. Ray and Company who brought a few elephants to this Island along with other machineries for extraction of timber. However realizing that the extraction of timber and its transport to mainland would not be a profitable venture, the agency did not carry out the extraction in this Island and left abandoning the machineries and the elephants in the Island. Because of the perennial availability of water resources and plethora of food plants on this Island, the elephant grew in number. In 1977, the Island was declared as a reserved forest and subsequently a Wildlife Sanctuary in 1985 with main objective of protection of the elephant on this Island (Appendix-II).

1.1.1 Name and Situation

Location and Approach

Interview Island Sanctuary is situated North-West of the Middle Andaman Island and is separated by approximately 20 K.M of sea from

Mayabunder-a township of Middle Andaman (location map is given in Appendix-I). Mayabunder is connected to Port Blair by road and sea. There are regular bus and taxi services from Port Blair. There are frequent ferry services (2 times a week) from Port Blair. In recent times, helicopter service (once a week) from Port Blair has also started to Mayabunder. From Mayabunder one has to go to Interview Island by boat only. There is a wooden Jetty at Interview Island on east coast, constructed during 2010-2011 and a landing site on the western coast of the Island.

1.1.2 Status

The entire area of the Interview Island Sanctuary is a Reserve Forest constituted vide Notification No. WP/2/G-1(M) 327 dated 12.7.1977 (Appendix-III). Declared a sanctuary in January 1985 vide Notification No. CF/WL/50-Vol. I (Notification) with the main objective of protection of the feral elephant on this Island (Appendix-II).

1.1.3 Scope of the Plan

This management plan primarily deals with the long term impact and dynamics of the introduction of a large herbivore (elephant) into an island ecosystem of which tropical rain forests is a major habitat. It also deals with the preservation and conservation of the bio-diversity within the limits of the Sanctuary.

1.1.4 Plan Period

The plan period of this sanctuary is 10 years i.e., from 2014-2025.

1.2 Distribution and Area

The Andaman & Nicobar group of Islands, rocks and islets of 572 consists of large and small Islands, between 6°45' and 13° 41' North Latitudes and 92° 12' and 93° 57' East longitudes. The Andaman Group of Islands are located in the North of 10° North Latitudes while the Nicobar Group of

Islands are located in the South of 10° North Latitude, the main Islands form a chain extending over 754 km from North to South and separate Andaman Sea on their East Coast from Bay of Bengal on the West. The total geographical area of these Islands is 8249 sq km of which 7171 sq.km 86.93% area is covered under Forest. The total coastline of these Islands is 1962 km long. As per the 2011 Census, only 37 Islands are inhabited, 25 islands in Andaman Group and 12 islands in Nicobar Group.

The Interview Island sanctuary covers an area of 133 km². The Island sanctuary is famous for its dense tropical forests due to which it was considered suitable for extraction in early fifties and the work of timber extraction was given to a private contractor agency- the M/s P.C. Ray and Company. The Island sanctuary also has a good cover of evergreen forests, mangroves and littoral forests. The Island sanctuary is approachable by sea from Mayabunder & Tugapur covering a journey of 02 hrs in water craft.

1.3 Location and Boundary

Interview Island Sanctuary is situated North-West of the Middle Andaman Island and is separated by approximately 20 K.M of sea from Mayabunder. The Interview Island Sanctuary covers an area of about 133 sq.kms and is located in Bay of Bengal between

North Latitude : 12°46'15" to 12°59'02"

East Longitude : 92°39'04" to 92°43'23"

1.3.1 Boundary of Sanctuary:-

Since the Entire sanctuary is an island surrounded by territorial waters as its natural boundary, there is no need of demarcation of boundary.

1.4 Configuration of the ground

1.4.1 Topography

The terrain in most parts of the Island is flat except for steep rugged hills towards the south-east. Some gentle undulations are permanent toward the north-western side which is criss-crossed by a number of seasonal streams. The western side of the Island sanctuary is open towards the Bay of Bengal. Prior to Tsunami, the west coast of the Island sanctuary had a very rich coral reef ecosystem which was subsequently damaged after tsunami due to upliftment of the land. The north eastern part of the island sanctuary has got sandy patches covered with Casuarina. The Island sanctuary has got a very good network of seasonal & perennial source of water in the form of sweet water nallahs flowing across the island, which is the one of the main reason for existence of a rich wildlife. The island is mostly covered with evergreen forests, mangroves and littoral forests.

1.4.2 Geomorphology

The general elevation of this Island Sanctuary varies from 0 to 87 meters with gentle undulation found at places. The rocks are mostly of the sedimentary series characterized by a combination of clay and limestone. The soil is a combination of clay and limestone having low water retention capacity.

1.4.3 Soil

The top soil is of a high base status of less nutrient value and low exchange capacity. The sub soil is sandy loamy, soft and usually of fine texture. The water holding capacity of the soil is low.

1.5 Climate

The Sanctuary does not experience extremes of climate though the south-west monsoon is particularly harsh as can be seen by the wind blown appearances of the forest particularly on the north-western & western portion

of the island because of strong winds. The climate is mostly wet tropical and warm and generally humid for most parts of the year. There are pronounced dry and rainy season, though extremes of winter and summer are practically unknown. The period from January to April is the ideal time for visits as the weather is clear. Data of main climate parameters like rainfall, temperature, humidity etc of the nearest point i.e., Port Blair is given in Annexure I.

1.5.1 Temperature:

The temperature is at its peak during April, which declines with the onset of the south-west monsoon. However the mean annual temperature ranges between 22°C and 28°C.

1.5.2 Rainfall:

This Island Sanctuary receives both the south-west and north-east monsoons resulting in almost a continuous wet spell from May to November with high rainfall during June to September. The dry season (January-April) is felt badly in this area as most of the seasonal streams dry up and the scarcity of water is felt by the elephant population therein.

1.5.3 Cyclone

The Bay of Bengal is the seat for most of the cyclones which subsequently hits the coastal areas of the mainland, but it seldom affects these Islands. However, mild effects of the cyclone are often noticed which leads to breaking of crowns and up-rooting of trees and thus tends to push the elephant herd to the coastal areas of this Sanctuary.

The recent tropical cyclones “Nargis” & “Thane”, which initially developed as a tropical disturbance, within the monsoon trough of Bay of Bengal & later on developed as a full fledged tropical cyclone, hitting the south western coast of Indian Subcontinent and had a varied effect on the Interview Island Sanctuary leading to uprooting of trees within the sanctuary.

1.5.4 Wind

This sanctuary receives strong north east wind between November & December. The wind speed exceeds 25km/hour but the usual range is between 5 to 15km/hour in different month. The south westerly wind between the months of May and October does not affect the sanctuary much as it gets shelter from the ridges on the western side of Middle Andaman Islands. The data collected from the metrological Department Port Blair on mean wind speed is placed at **Annexure I**.

1.6 Water Resources

Although rainfall is fairly high and spreads over 6-7 months of the year, fresh water supply is scarce during dry period as there are very few perennial pools/streams in the island. Soil with good drainage and covered with luxuriant vegetation such as those found on the south-west portion of the Island are often the source of perennial water in the form of streams. There are 12 perennial and many seasonal streams which criss-cross the Island. There is a perennial fresh water pool near the western coast of the island located inside a shallow cave and as legend goes this pool has never been fathomed.

1.7 Tides and Current

As per the pre-Tsunami record tidal waves varies from, 2.5 to 3.02 m with an average of 2.7 m. This generates to a certain extent a vast surface current particularly during spring tide.

1.8 Rights and Concessions

There is no habitation inside the sanctuary. Since the entire area of the Sanctuary is a Reserve Forest, it is free from all rights and concessions.

1.9 Major components of flora and fauna and species of particular importance:-

1.9.1 General

Interview Island is one of the largest Islands of Andaman groups of Islands and has a very rich biodiversity. The area has very dense forests including tropical rain forests, littoral forests and mangrove swamp vegetation. The fauna includes a variety of mammals, birds, reptiles, butterflies, insects, etc. The sea water around the Island shows variety of coral reefs, reef fish and other marine fauna.

1.9.2 Flora

The major vegetation types found in the Interview Island Sanctuary are the Andaman Tropical Evergreen, Andaman Semi-evergreen, Littoral and mangrove forests. List of important floral species is given in **Annexure II & III**. Following Forest Types are found:

- (i) $_1A/C_2$ -Andaman tropical evergreen Forest.
- (ii) $_2A/C_1$ - Andaman Semi evergreen Forest.
- (iii) $_4A/L_1$ -Littoral Forest.
- (iv) $_4B/TS_2$ Mangroves (Tidal swamp forests)

1.9.3 Fauna

List of faunal species found in this Island sanctuary is given in **Annexure IV**. A brief description is given in the following paragraphs:

1.9.4 Mammals:

The feral elephant is the most prominent species in this Sanctuary. The other important species of mammals found include the Andaman Wild Pig, Cheetal, Andaman palm civet etc.

1.9.5 Avian fauna:

A variety of birds are found on this Island sanctuary. The Andaman Teal and edible-nest Swiftlet are among the most important ones. At places the Nicobar Pigeon which is endemic to Nicobar group of Islands has also been reported here. A list of important species of birds is given in **Annexure V**.

1.9.6 Reptilian fauna

The reptilian fauna is represented by a variety of snakes, water monitor lizard, salt water crocodile, sea turtles etc. The Salt Water Crocodile is found along most of the creeks where mangroves are luxuriant, though no systematic survey has been done so far on this species. The Hawksbill turtle is reported to nest in the southern shores of this Sanctuary. The Olive Ridley Turtle also occasionally nests here.

1.10 Past and present forms of land use including Forestry/Marine Resources-

Prior to the declaration of this Island as a Wildlife Sanctuary, prescription of the Working Plan as applicable to the North Andaman Division were being followed for harvesting of timber during the early sixties. These prescriptions involved commercial/production forestry oriented activities and very little attention was paid towards conservation of the natural flora and fauna. As a result many of the important plant and animal species started declining in number. In the early sixties a lot of difficulties were felt in carrying out timber operations and they were subsequently abandoned by the contractor agency that left all the domestic elephants brought for timber extraction in this Island. The elephants so left became feral over a period of time and their population also grew in number. This Island was subsequently declared as a Wildlife Sanctuary in 1985 mainly to protect the elephants. Another objective had been to monitor the impact of introduction of a large herbivore into an Island ecosystem.

Ever since the declaration of this Island as a Sanctuary all commercial exploitation of forests and forest produce have been stopped. At present only a few activities are being undertaken and these are aimed at improving the habitat of the elephant, protection of sanctuary from poachers and conserving the habitat of the wild animal population therein.

Following are some of the ongoing activities under plan and central sector schemes which are being undertaken:

1. Integrated Development of Wildlife habitat
2. Recovery Programme for Saving the Critically Endangered Species & Habitat-Edible Nest Swiftlet.

The present practices include the following:-

1. Maintenance of existing protected areas, beach cleaning, protection of feral elephant etc. at Interview Island Sanctuary.
2. Raising of Bamboo & other fodder spp. at Interview Island Sanctuary.
3. Construction of Check Dams at Interview Island Sanctuary to serve as water holes for large mammals & to augment water facilities during dry spell.
4. Protection measures including patrolling in Interview Island Sanctuary.
5. Clearing & Maintenance of Inspection path at Interview Island Sanctuary.
6. Protection of flora & fauna at the West coast area of the Interview Island sanctuary.
7. Protection of flora & fauna at the East coast area of the Interview Island sanctuary.
8. Deepening & maintenance of the water bodies/water holes at the Interview Island sanctuary.
9. In situ conservation of edible nest Swiftlet at the Interview Island sanctuary by providing round the clock watch & ward during the nesting season.

10. Repairing & maintenance of the existing infrastructure at the Interview Island sanctuary.
11. Conducting nature education and awareness programme among the school students, P.R.I members & general public to create awareness.
12. Development of additional water holes and providing round the clock protection to caves which harbor edible-nest Swiftlets during the nesting period etc

The Department of Environment & Forests has undertaken a collaborative programme with Salim Ali Centre for Ornithology and Natural History (SACON) since 1999 where one major cave harbouring around 260 breeding pairs of edible nest swiftlet was selected. The programme involved both in-situ and ex-situ conservation measures. Details of the programme are given in Chapter 8

1.11. Status of Wildlife

Due to its isolation and difficult approach, anthropogenic pressures like habitation, tourism etc is not significant. However, impact of introduction of elephants has been observed on the vegetation of this Island. Presence of perennial source of water and availability of food plants have led to increase in the population of elephants in this Island. The preliminary census of the feral elephants was carried out during April 1989 by the Department using direct sighting method. According to the said report 38 animals were actually seen either in herd or in solitary at various locations in the Interview Island. The census of elephants done by Shivaganesan (1994) estimated the population of elephants to be around 70 animals. Subsequent survey done by Rauf Ali in 2001 estimated the population of feral elephants to be around 35. During April 2006 another census was conducted departmentally wherein Intensive block count/Total count by direct sighting method was adopted. The total No. of elephants actually seen during the said census was 30 Nos. A fresh census in

2012 has been done by SACON conducted by Dr. H.N.Kumara during April-July 2012, dung count method, tracking & photo trapping for identification of animals was adopted. The results of the present census showed a total population of 11 elephants. This number may not be accurate as the results obtained from the dung count method was not correlated & counter checked with the more reliable intensive block count/ direct sighting method. As in the results obtained during the previous census operation wherein the direct sighting method was adopted was found to be more precise & accurate.

Therefore to countercheck with the results obtained during the census of 2012 another census programme shall be undertaken during April-May 2015 (during peak summers chances of direct sighting of elephants near water holes increases thereby chances of estimating precise number of elephants increases) using direct sighting method/water count method. A few caves inhabiting edible-nest swiftlets are found towards the southern side of the Island. It has been a source of attraction to poachers for collection of nests which has high medicinal value particularly in the South-East Asian countries. Apart from this no survey/census on the population of other animals within the Sanctuary has been done/carried out so far.

CHAPTER-2

ECOSYSTEM AND ECOLOGICAL RELATIONSHIP

2.1 Introductions

Interview Island Wildlife Sanctuary having its rich and pristine biodiversity in respect of varied existence of endemic and rare flora and fauna is a priority ecosystem area. Apart from the unique biodiversity, the Island is gifted with rare and endemic Edible nest Swiftlets in the caves on the southern part of the Island. The forest in the Island is luxuriant and well distributed all through the Island due to insignificant anthropogenic and biotic pressure being distinctly located from Mayabunder. The ecosystem in the Island is varied from terrestrial to Marine due to the sea adjacent to the Island. The Island has Tropical Evergreen forest, semi evergreen forest, littoral forest, tidal and swamp forests housing various mangrove vegetation. Valuable and distinct medicinal plants, butterflies, birds, reptiles, and mammals of the Island add to its beauty. To maintain the serenity of the Island ecosystem, establishment of trade and commerce, industrial establishments and buildings is suggested to be kept at the barest minimum. The Island has good tourism potential and is a valuable resort for recreation and education. The sea adjacent to the Island is very rich in aquatic flora and fauna with the coral reefs.

2.2 Biodiversity

The Andaman & Nicobar Islands is one of the 221 priority areas concerning global biodiversity. It is not only very rich in both terrestrial and marine biodiversity but also exhibit high degree of endemism which makes biodiversity of these Islands very unique. In this particular sanctuary which is quite large in size, a lot of area is covered by thick dense forests and as a result there is a very rich diversity of both plants and animals.

2.2.1 Flora

The major vegetation types found in the Interview Island Sanctuary are the Andaman Tropical Evergreen, Andaman Semi-evergreen, Littoral and mangrove forests. List of important floral species is given in **Annexure II & III**. Following Forest Types are found:

2.2.1.1 ₁A/C₂ Andaman Tropical Evergreen Forests:

They are not as luxuriant as the Giant evergreen Forests, particularly in height, density and size of the giant top storey, which is very irregular and incomplete, but otherwise very similar in composition. There are fewer species in the top canopy where deciduous species are more frequent.

It is distributed mostly on the hill tops. The locality factors responsible for their distribution are rainfall of over 3000 mm, well distributed and a sufficiently deep soil with good internal drainage.

2.2.1.2 ₂A/C₁- Andaman semi- Evergreen Forests:

A luxuriant type of forest with many giant trees which include both deciduous and evergreen species often intimately mixed but frequently in groups, particularly the evergreen climbers are often heavy. Bamboos may or may not be present. Chengappa describes it as the densest forest in the Andamans.

2.2.1.3 ₄A/L₁- Littoral Forests:

Scattered smaller evergreen trees occur with fewer deciduous trees and these form the dominant canopy. There are numerous shrubs, and where the undergrowth is light, maritime grasses and surface creepers are conspicuous, binding the sand. In the depressions, which are swampy usually with saline water, the tidal species are poorly developed with dense undergrowth; if the

water is fresher, tall grasses (phragmites) occur. Tall grasses are seen at the entrance of east coasts and in some areas of the park.

2.2.1.4 4B/TS₂- Mangrove Forest (Tidal swamp Forests)

Typically a closed evergreen forest of moderate height composed of trees specially adapted to survive on tidal mud which is permanently wet with salt water and submerged during every tide. Stilt roots are very typical (Notably in *Rhizophora*), so also are leathery entire leaves and vivipary is exhibited by many species. Occur in the creeks along the edge of the water ways and sheltered muddy coasts.

In addition to above forest types, 36.4 ha of teak plantation was raised during 1956-63 and 4 -5 ha of *Lagerstoemia hypoleuca* was planted in early 1970.



Fig.1 : Mangrove Vegetation

2.2.2 Fauna

List of faunal species found in this island sanctuary is given in **Annexure IV**. A brief description is given in the following paragraphs:

2.2.2.1 Mammals:

The feral elephant is the most prominent species in this Sanctuary. The other important species found include the Andaman Wild Pig, Cheetal, Himalayan palm civet, Rats etc.



Fig. 2 Feral elephant

2.2.2.2 Avian fauna:

A variety of birds are found on this Island sanctuary. The Andaman Teal and edible-nest Swiftlet are among the most important ones. At places the Nicobar Pigeon which is endemic to Nicobar group of Islands has also been reported here. A list of important species of birds is given in **Annexure V**.

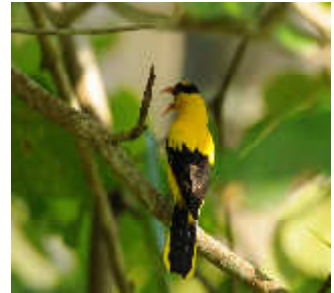


Fig. 3 - Andaman Black Wood Pecker Alexandrine Parakeet Black Naped Oriole

2.2.2.3 Reptilian fauna

The reptilian fauna is represented by a variety of snakes, water monitor lizard, salt water crocodile, sea turtles etc. The Salt Water Crocodile is found along most of the creeks where mangroves are luxuriant, though no systematic survey has been done so far on this species. The Hawksbill turtle is reported to nest in the southern shores of this Sanctuary. The Olive Ridley Turtle also occasionally nests here.



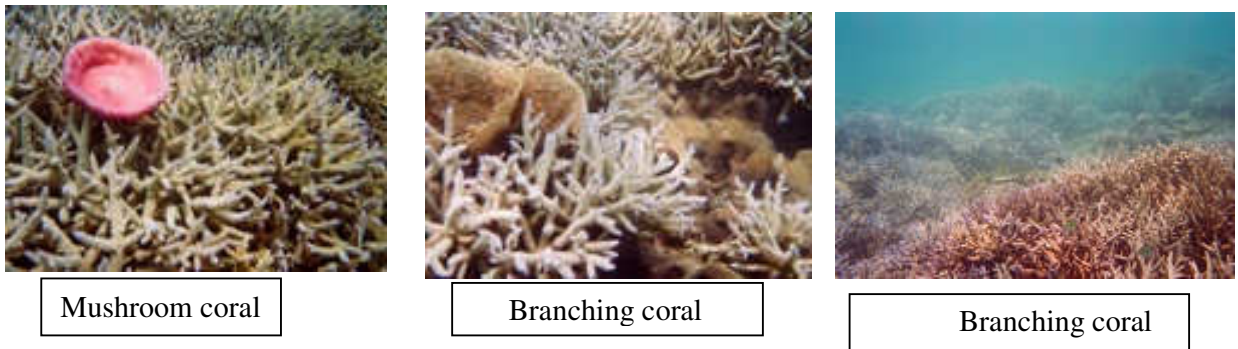
Fig.4 - Salt water crocodile Olive Ridley Turtle

2.2.2.4 Marine Fauna,

The Andaman Sea surrounding the island is a potential fishing avenue to the onshore inhabitants of north & middle Andaman Islands. The sea in the ambience of the islands is very rich & diverse in distribution of marine fauna.

A number of species of corals have been found in the western coastal part of the Island. Apart from this rare sea shells i.e Trochus, Turbo, Clamp shell, King shell, Panja Shell are also found in abundance due to which the Island always is under the threat of foreign poachers from Myanmar & other littoral countries. Among the fishes giant groupers being rare are one of the major attractions. No studies on the distribution of marine wealth in respect of flora & fauna have been conducted so far. At present the corals are found in a devastated state following the damages caused by massive earthquake followed by tsunami in the year 2004. Regarding the extent of damages of corals & disintegration of marine flora & fauna by the natural disaster in the year 2004 some studies & EIA (Environment impact assessment) needs to be done by ZSI & Natural Coral Reef Institute to arrive at an impeccable status of marine ecosystem & distribution of species.

Fig-5 Corals observed in and around interview island



2.2.3 Butterflies.

Butterflies are as equally attractive as birds here. Some endemic butterflies like Andaman Mormon, Great Mormon, Andaman Club Tail, Great Jay, Tailed Jay, Common Rose, Purple Sapphire etc. can be seen here. The list of butterflies distributed over the Island sanctuary is provided in **Annexure VIII.**

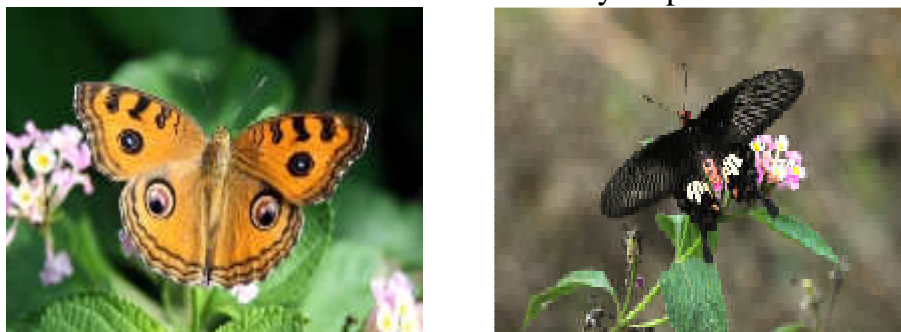


Fig. 6 - Butterflies

CHAPTER-3

3.1 SOCIO-ECONOMIC ASPECTS AND CULTURAL PRACTICES

The Island sanctuary is away from human settlement and therefore the threat of encroachment of land within sanctuary area is not significant. However, the main threats to this sanctuary is from local as well as foreign poachers who keep visiting this sanctuary and the surrounding sea water for illegal activities like collection of sea cucumber, poaching of deer, collection of edible nests of the Swiftlet etc. It has been the traditional hunting ground for the Karens, originally a Burmese tribe, now settled around Mayabunder. It is reported that they make temporary shelters in the Island on sites away from the reach of forest and police personnel, and spend several nights poaching deer and pigs. They are also believed to act as local guides to Poachers from other places and littoral countries.

The main attraction to the poachers both local as well as foreigners is presence of a few caves which is inhabited by the edible-nest swiftlets. This small bird makes its nest from its saliva and the product is a very good medicinal product. The poachers remove the nest before the eggs hatch and sometimes even before the eggs are laid. This affects the population of the birds. Presence of rich marine resources particularly the sea cucumbers in the surrounding waters also attracts foreign poachers. The surrounding coastal water is also at times visited by the local fishermen for the purpose of fishing.

CHAPTER-4

MANAGEMENT OBJECTIVES

4.1 Long term objectives

Interview Island was recommended by the Wildlife Advisory Board, A & N Islands for declaring it as a wildlife sanctuary with the objective of protection of elephants in this Island. However it was subsequently realized that this Island's biodiversity and the ecosystems were getting adversely affected by the elephants which were not the native inhabitants rather were exotic. The studies done by Sivaganeshan (1994) and by Dr Rauf Ali (2001) clearly indicate the adverse impact of this invasive species on the Island ecology. The Shekhar Singh Commission appointed by the Hon'ble Supreme Court has recommended containing the population of feral elephant through sterilization or translocation to mainland. The Wildlife Institute of India, Dehradun has however recommended to control or isolate the feral elephants rather than eliminating them. So until final decision is taken the main objective of this Sanctuary is the management of feral elephants within its jurisdiction.

In addition to the management of feral elephants, other objectives of the management include:

- a. Conservation of Andaman Teal and its habitat
- b. Conservation of Nicobari pigeon and its habitat.
- c. Conservation of wetland and Coastal birds.
- d. Conservation of mangroves and its habitat.
- e. Conservation of coral reefs and its habitat in around the interview group of islands.
- f. In-situ conservation of edible-nest Swiftlets
- g. Conservation of biodiversity of the Island.
- h. Protection of the area from local and foreign poachers.

- i. Promotion of eco-tourism and eco-development processes
- j. Developing and implementing appropriate nature education and awareness generation programmes
- k. Developing and implementing appropriate research, survey and monitoring programmes
- l. Improving Infrastructure to provide better mobility and communication, and capacity building of the forestry personnel through training at various level

4.2 Short term objectives

Prior to the declaration of this Island as a Wildlife Sanctuary, prescription of the Working Plan as applicable to the North Andaman Division were being followed for harvesting of timber during the early sixties. These prescriptions involved commercial/production forestry oriented activities and very little attention was paid towards conservation of the natural flora and fauna. As a result many of the important plant and animal species started declining in number. The elephants so left by the company became feral over a period of time and their population also grew in number. This Island was subsequently declared as a Wildlife Sanctuary in 1985 mainly to protect the elephants. Another objective had been to monitor the impact of introduction of a large herbivore into an island ecosystem.

Ever since the declaration of this Island as a Sanctuary all commercial exploitation of forests and forest produce have been stopped. At present only a few activities are being undertaken and these are aimed at improving the habitat of the elephant, protection of sanctuary from poachers and conserving the habitat of the wild animal population therein.

Following are some of the ongoing activities under plan and central sector schemes which are being undertaken:

1. Integrated Development of Wildlife habitat.
2. Recovery Programme for Saving the Critically Endangered Species & Habitat-Edible Nest Swiftlet.

Some of the works carried out so far includes:-

1. Raising of Bamboo & other fodder spp.
2. Construction of Check Dams
3. Protection measures including patrolling
4. Clearing & Maintenance of Inspection path
5. Protection of Flora & Fauna in West Coast area
6. Protection of Flora & Fauna in East Coast area
7. Deepening & Maintenance of Water Bodies
8. Construction of wooden jetty at East Coast, new labour barrack and Camp Office cum Residence at West Coast, development of additional water holes, providing round the clock protection to caves which harbor edible-nest swiftlets during the nesting period, construction of new quarter for staff & maintenance of the existing infrastructure etc.

CHAPTER-5

5.0 General

MANAGEMENT STRATEGIES

Interview Island was declared as a wildlife sanctuary with the objective of protection of elephants in this Island. Subsequently it was realized that this island's biodiversity and the ecosystems were getting adversely affected by the elephants which were not the native inhabitants rather exotic. Various studies done by scientific organization clearly indicated the adverse impact of introduction of a larger herbivore into this Island & its impact on the Island ecology. Also based on these studies various recommendations were made to control the population of the feral elephant by either translocating them to mainland or through sterilization. However till a final decision is taken in this regard the main objective of this Sanctuary shall be of the management of feral elephants within its jurisdiction & taking all steps ensuring providing a total protection & conservation to these introduced herbivores from all kinds of threats.

In addition to the management of feral elephants, other objectives of the management include:

- a. To provide maximum protection to the wildlife and their environment by enforcing effective legal provision of Indian Forest Act (1927), the Wildlife (Protection) Act, 1972 and the Wildlife (Protection) Rules, 2008 A & N Islands made there under and the Forest (Conservation) Act, 1980.
- b. Conservation of Andaman Teal and its habitat
- c. Conservation of wet lands birds and coastal birds in Interview Island.
- d. Conservation of coral reefs and there habitat in and around the Interview Islands.
- e. Conservation of mangroves and its habitat in and around the Interview Islands.

- f. In-situ conservation of edible-nest Swiftlets
- g. Conservation of biodiversity of the Island.
- h. Protection of the area from local and foreign poachers.
- i. Promotion of eco-tourism and eco-development activities & to create awareness among the local people about the importance for conservation of the wildlife with their active participation in protection of biodiversity, by organizing Nature Awareness Camp, allowing Eco- friendly tourism and Eco-development activities.
- j. Developing and implementing appropriate nature education and awareness generation programmes
- k. Developing and implementing appropriate research, survey and monitoring programmes
- l. Improving Infrastructure to provide better mobility and communication, and capacity building of the forestry personnel through training at various level
- m. To preserve the tropical rich rain/moist forest with vast variety of flora and fauna which represent remarkable bio-diversity and genetic resources of the country for posterity.

5.1 Boundaries

The sanctuary is located nearly 20 Km from Mayabunder the nearest town. Its difficult approach makes effective management quite difficult. It is also one of the largest island sanctuaries of this territory (the area being 133 km²) and has a long coast line. The size of the island with numerous creeks along the periphery which provide hiding place to poachers makes the task of protection very difficult.

5.2 Zonation

The entire area is kept in a single zone- the Conservation zone as at present there is no other activity than protection and habitat conservation. No tourism zone is defined as number of persons visiting this Island is very low and most of them are researchers. However apart from the conservation zone the area under the sanctuary limits can be further divided into following zones:-

(A) Tourism zone

The limits of this zone will be from the east coast camp covering a stretch of 02 km towards the west coast. All the tourism related activities shall be restricted within this zone only.



Fig. 7: Entrance to Sanctuary from Eastern Side

(B) Research/Scientific Zone

This particular zone shall overlap with the tourism zone & shall extend over the entire limit of the sanctuary. All the research related activities including scientific studies, survey etc shall be practiced under this zone.



Fig 8. Collection of elephant dung sample

CHAPTER-6

HABITAT IMPROVEMENT PLAN

6.1 General

The Island sanctuary is away from human settlement and therefore the threat of encroachment of land within sanctuary area does not exist. However, the main threats to this sanctuary are from local as well as foreign poachers. It has been the traditional hunting ground for the Karens, originally a Burmese tribe, now settled around Mayabunder. Presence of rich marine resources particularly the sea cucumbers in the surrounding waters also attracts foreign poachers. The surrounding coastal water is also at times visited by the local fishermen for the purpose of fishing.

The threats of non-anthropogenic origin to the natural vegetation are mainly from introduced species like elephants and deers. The elephants as explained earlier also were introduced in these Islands in late fifties and are affecting the natural vegetation as well as the fragile ecosystem of the Island. The deer (mainly the spotted deer or Cheetal) which were introduced by the Britishers in early part of the twentieth century (1905-1930) have flourished in this Island due to availability of water, plethora of food plants and absence of any predator. Increase in deer population is affecting the natural regeneration of many ecologically important plant species. No detailed scientific study of introduced species on vegetation and other aspects of Island ecosystems have been carried out so far and needs to be done on priority.

N. Sivaganesan and Ajith Kumar of SACON (Salim Ali Centre for Ornithology and Natural History) carried out a study on ‘Status of feral elephants in Andaman Islands, India’ in 1994 (**Appendix-VII**). They estimated the number of feral elephants to be 70 in Interview Island. They reported heavy destruction of habitat by these feral elephants in this Island and recommended controlling the population of elephants of this Island.

The minimum viable area for conservation of elephant is related to the minimum viable population size and to the carrying capacity of the habitat. The carrying capacity of the rain forest, such as that in Interview Island, is much lower in order to sustain the elephant population of such high number as 70 animals within an area of 133 km². The ideal habitat with a good mixture of grass land is one elephant per 2 km². The population of elephant is usually restricted to edge and shore areas which are the most heavily used habitats. Biotic pressures, availability of perennial water and terrain affect the habitat in this Sanctuary. Such habitat degradation causes considerable damage to the trees and eventually may alter the vegetation. Some of the major food species such as *Calamus* spp, *Areca triandra*, *Caryota mytis* and *Licuala peltata* are declining at an alarming rate in Interview Island because of the feeding pressure by elephants.

In Interview Island Sanctuary about a dozen tree species were subjected to up-rooting by elephant (N.Siva Ganeshan). The most affected species were *Pisonia excelsa* and *Artocarpus chaplasha* followed by *Pandanus tectorius*, *Artocarpus lakoocha* and *Odina wodier*. 5 major species of food trees seemed to be declining rapidly due to over-exploitation by elephants. Of these, *Pisonia excelsa* was severely uprooted due to repeated debarking by elephants. There has also been heavy mortality of *Calamus* spp. Some of the above species which were at one point of time abundant in many low lying and valley forest have now become rare in Interview Island Sanctuary. Up-rooting of trees by elephants often cause large gaps/openings in evergreen forest to the extent of 80% or more. Coastal areas were more heavily used than evergreen forests by elephants. Most of the evergreen forest was used for moving between habitats and to a lesser extent for resting purposes. A list showing food plants preferred by feral elephants is at **Appendix-VI**

Dr. Rauf Ali and Shreyas Krishnan also estimated population of elephants and its impact on vegetation of Interview Island in 2001. They

estimated the number of elephants to be around 35. They found that the basal area of tropical evergreen forest in Interview Island is very low compared to forest of similar nature elsewhere. Logging done in past is not the reason as there was no difference in the stem densities in worked and unworked areas. The probable reason of low biomass is attributed to damage done by the elephants.

6.2 Remedial Measures

The introduction of Exotics is always a threat to ecosystems, but it is a special to Island ecosystems, as is obvious in the Andaman & Nicobar Islands. Over the years, many exotic species of animals and plants have been introduced in the Islands, some deliberately and many accidentally. Some of those that have had a very destructive impact on forest regeneration include the spotted deer (Cheetal) and the elephant. The deer, reportedly brought for aesthetic purposes, have proliferated widely due to the absence of any natural predator in the Islands and have significantly retarded forest regeneration. The elephants were brought to the Islands by a timber logging company, which subsequently abandoned them. These elephants have become feral and are seriously impacting the forests in the regions where they are found. The introduction of the dogs and cats, many of which have turned feral, also pose a great threat to turtle breeding and other indigenous species.

There has also been infestation by various exotic species of weeds, particularly Eupatorium which could prove to be a major deterrent to the regeneration of degraded forest areas, especially areas freed from encroachment.

It is therefore proposed that

1. No exotic species of fauna or flora should be introduced into the sanctuary. Accordingly, a suitable set of guidelines and procedures will be developed for the purpose.

6.3 Habitat Improvement plan In Interview Island

The requirement of fodder is prerequisite for the survival of any species, keeping this in mind, based on this requirement, it was felt that fodder requirement of the elephant which has considerably reduced due to destruction caused by elephants should be supplemented by filling the gap areas (gap filling) and vacant land areas with those species which are edible and necessary for fulfilling the feed requirement of the elephants . The following activities can be carried out to meet the feed requirements of the elephants

6.4 Activities to be taken up for augmenting the feed requirements of elephants:

1. Surveying the coastal areas and areas where there is depletion and damage of forest and filling the gaps by planting edible species for elephants in these areas.
2. Regular monitoring of the planted tree species, every year to check there growth and to maintain it so that the feed requirement of elephants can be met
3. Gap filling of areas in between the forest trees with edible trees etc which can meet the nutritional requirements of the elephants.
4. Increasing the number of artificially created water holes so as to meet the requirement of water during the summer season.
5. Planting of grass species in open areas in addition to naturally occurring forest plants.
6. Prevention of invasion of exotics in the area and removal of exotics and filling of the gaps with fodder trees needed by the elephants.
7. Removal of exotics like deer which prevent natural regeneration of seedlings either by complete removal of this species or by containment of their number by annual culling process.

6.5 Activities taken up for meeting the feed requirement of elephants:

As discussed in the earlier chapters considerable areas have been damaged and exposed due to elephant feeding and uprooting of trees. These depleted areas can be replanted with fodder plants and seedlings to meet the feed requirements of the elephants.

Based on the above facts, the following action was taken up to supplement the needs of the elephants. The department on a trial basis has carried out fodder plantation in an area of 3 hectare of the following tree species.

1. Taung pienne (Artocarpous Chaplasha) – 1200 seedlings
2. Bamboo - 650 seedlings
3. Pandanus - 600 seedlings

A total No. of 2450 seedlings has been planted to meet the feed requirements of the elephants.

This 3 hectare area of plantation is being monitored and taken care of and if successful, it will be further augmented and replicated in the other areas of the park. It is also planned, to find out other areas for further augmentation of fodder plantation, to meet the feed requirements of elephants.

6.6 Activities related to Protection of Feral Elephants inside protected areas of Interview Island Wildlife Sanctuary

The protection of feral elephants in Interview Island needs to be carried out on a priority basis. The present pressing need is to conserve the island ecosystem and also to protect the feral elephants which were introduced in the island ecosystem. Necessary separate budget provisions for protection and management of feral elephants for the next 10 years are included in the management plan (2014 -2025).

Scientific study on population of feral elephants at Interview Island, was conducted recently by SACON and the census determined that, presently there are 11 Nos of elephants. Also the department plans to carry out further census every year in the month of April and May, 2015 by direct count, water hole census count method.

The elephants during their movement cause damage to the buildings near the camp site at East and West Coast, including temporary sheds constructed near edible Swiftlet nest. However, despite the above facts, the staffs of the forest department and police department are regularly monitoring their movement and providing full protection to the elephants in this Island.

The following activities need to be carried out for the protection of feral elephants

1. Establishment of temporary elephant protection camp with all infrastructures for implementation monitoring and research activities at North, south and central portion of Interview Island near the established water holes in the wildlife sanctuary.
2. Renovation and maintenance of existing old camps at east coast and west coast at Interview island for implementation, monitoring & research activities of the project.
3. Construction of Watch tower cum observatory tower for round the clock watch over of the sanctuary area as a protection measure and to also be used as tourism facility.
4. Procurement & supply of night vision binoculars 01 for each camp for observing the movement of elephant at night.
5. Establishment of VHF network at all camps for proper communication at beat level & Range level.
6. Provision for solar light (Home lights) which will be established for all the Camps.

7. Provision of .315 Rifles at North, South and Central east and west camps of Interview Island.
8. Desiltation and enlargement of existing water holes for providing water to the feral elephants during summer season.

In addition to this it is felt that research fellows should be engaged to carry out research work to understand the ethnology, ecology and management practices required for managing the elephants introduced in the island eco system.

CHAPTER-7

CONSERVATION AND MANAGEMENT PROGRAMME FOR IMPORTANT SPECIES

7.1 Conservation of Edible-nest Swiftlet

7.1.1 General

Two species of Swiftlet of economic importance are present in the Indian subcontinent. The Edible-nest Swiftlet *Collocalia fuciphaga* makes the 'white nests' and is found only in the Andaman & Nicobar Islands. The Indian Swiftlet *Collocalia unicolor*, found only in the Western Ghats and Sri Lanka, makes 'black nests' which have an admixture of feathers and are of a lesser commercial importance. Two other species are not of direct economic importance. The White-bellied Swiftlet *Collocalia esculenta* is restricted to the Andaman & Nicobar Islands and the Himalayan Swiftlet *Collocalia brevirostris* breeds in the Himalayas and winters south.

Because of the medicinal value of the nest, the trade of its nests from the Andaman and Nicobar Islands is believed to be going on since at least last 2-3 centuries. The earliest reference to trade in swiftlets nests appears to be from the late 17th and 18th Century when Malay and Burmese procured considerable quantities of these nests from the Andaman Islands, either collecting it themselves by trading it for tobacco with the aboriginals/natives. Consequent on the settling of people from the mainland during colonization schemes of 1942, 1955 & 1970, this species and its product started declining during the early seventies and in subsequent decades the collection of the edible-nest swiftlets became excessive and uncontrolled.

This species of swiftlets unlike other members of the same family build its nests wholly of mucilaginous secretion of the paired sub-lingual glands which enlarge during the breeding season. On drying, the saliva forms hard cement and secures the bracket shaped nest to the cave wall as well as forming

the cup. ‘Swiftlets’ nests have long been believed to have both aphrodisiac and medicinal properties. There are also claims that the bird’s nest can prolong life and ageing (Lau & Melville 1994). Though scientific research still needs to confirm many claims associated with the edible nest, its trade has attracted lot of illegal business. The product is used in soups and other drinks in South-East Asian countries.

7.1.2 Habitat

The nesting habitat of *Collocalia fuciphaga* is of two types :

- (i) the first type is found on caves of cliffs or rock along the shore where sea water either enters it during high tide or the floor of the cave gets submerged.
- (ii) the second type is found in hilly or undulating forests. This type seems to be rare probably because of the difficulty in locating such nesting places.

In interview Island, the former was found to be most common and occurring to the south and south-western portion of this Sanctuary where the population of the Swiftlets is quite substantial. This species prefers cliffs or rocks facing the streams which have guano rich water and such habitats are found to be more populated than those caves found at a distance from the shore. These Swiftlets come to nest deeper inside caves which were also frequented with bats.



Fig -9 Edible –nest swiftlets with its bracket shaped nest

7.1.3 Need for Conservation

Because of its medicinal properties, the nests of these Swiftlets have been a target of poachers, both by local and foreigners who have indiscriminately harvested more because of the high price that it fetches. The poachers collect the nests, before the eggs hatch and at times even before the eggs are laid. Such illegal and unethical collection of nests, has led to heavy decline in the population of this bird.



Fig-10 Insitu conservation of Swiftlets at Interview island

7.1.4 Present Efforts

There are 22 caves which harbours edible-nest Swiftlet population in Interview Island reported by SACON in its survey done during 1995-1997. These caves are mostly located in the south and south-western part of the Island. A Swiftlet conservation programme was initiated in 1999 by Department of Environment & Forests, A& N Administration in collaboration with SACON in Interview Island. This programme involved both in-situ and ex-situ conservation measures. Under the in-situ measures, one major cave was selected and provided round the clock protection during nesting period. It was observed that the population of breeding pairs declined from 260 in 1997 to 111 in 2005 even though this cave was given full protection. Further investigation revealed that the Brown Hawk Owl is one of the major predators seen every year preying on Swiftlet at the cave mouth and also inside on the man made scaffolding. The human disturbance was also a probable cause for decline in population. Red tailed Trinket Snake; the well known bird eating

snake was also recorded inside the cave near the nest on the scaffolding. After identifying the scaffoldings as major cause for the predation inside the cave, the same was removed in the year 2005. The protection camps above the cave were also removed and moved fifteen meters away from cave mouth to reduce the human interference. The population then started growing after the changes made and it has reached to 140 breeding pairs with total of 383 individuals.

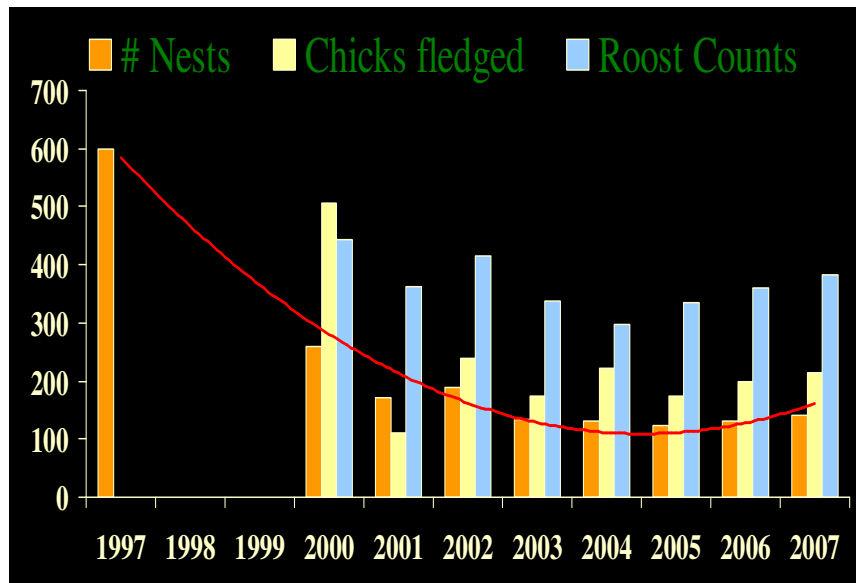


Fig 11 Year-wise trend of Swiftlet nests after commencement of in situ conservation programme.

The ex-situ conservation programme was started in 1999. It was based on the fact that though the white bellied swiftlet nests in caves in Andaman & Nicobar Islands but the non-commercial Glossy Swiftlet (*Collocalia esculenta*) breeding in the houses naturally, which can be used to incubate the eggs and to raise the chicks of Edible-nest Swiftlet by cross fostering (introducing the eggs of Edible-nest Swiftlet in the nest of Glossy Swiftlet for the incubation and the chick raising). The house with the natural population of Glossy Swiftlet was selected at Tugapur near Mayabunder. The idea was to establish the population of Edible-nest Swiftlets in the Swiftlet houses as additional population. The eggs of Edible-nest swiftlet were transferred from the cave of Interview Islands and also from other sites to the house in the nests of Glossy Swiftlets. More than 578 eggs were transferred between year 2000 to 2006

and on an average 70% of hatching success and 60% of fledging success was recorded. The nesting of Edible-nest Swiftlet has been commenced during April 2006, three half built nests and seven birds were observed in the house. One egg was laid in 2007 but it could not hatch. Certain renovation as proposed by the researchers in the swiftlet house was taken up & completed during the year 2011-12. During the year 2014, a total of 156 eggs were transferred from Pathi level and Interview Island, in the month of May and June 2014 into the ex-situ house of Tugapur; for cross fostering with *Collocalia esculenta*, 100 % fledging success of the chicks of edible nest Swiftlet *Collocalia fuciphaga* was observed .

Also as a part of ex-situ conservation programme of the edible nest swiftlet 02 new artificial swiftlet houses were constructed at Kharanallah & Baratang where as per the recommendations of the researchers of SACON music calls are played to attract the birds for nesting purpose. Also in these houses round the clock watch & ward is provided along with recording of temperature & humidity inside these houses. But so far no significant result of Glossy swiftlet nor edible nest swiftlet species presence has been noticed in the ex situ site house of Bartatng and Kharanallah .In the mean time this species was included in Schedule-I of the Wildlife (Protection) Act, 1972. This has adversely affected the research work which is meant for both conservation of the issues and economic upliftment of the local people who could have reared the bird in their back ground and harvest the nest after completion of hatching.

7.1.5 Conservation Plan

It is proposed to continue with the present in situ conservation efforts and more are proposed to be covered under this programme. The ex-situ conservation programme would also continue, so as to perfect the methodology of rearing the chicks of this species. Recently this species has been de-listed from the Act and once the rearing of chicks of *Collocalia fuciphaga* in ex situ condition becomes successful, the methodology for scientific marketing by means of ecocodevelopment committee, would be

transferred to local people, who would be benefited economically and also will contribute towards conservation of this species.

7.1.6 Marketing of Swiftlet:

The de-listment of edible nest swiftlet *Collocalia fuciphaga*, from the schedules of Wildlife protection act 1972, as opened up a channel for economic development of people, by conservation of edible nest swiftlet caves, as sites for community conservation. By scientifically harvesting edible nest Swiftlets and by making swiftlets marketing cooperation, ecodevelopment committee will be developed. These Ecodevelopment committee members, will act as scientific nests collectors. The collected nest will then be sold, by public auction at Port Blair and export of the edible nest to Singapore, Hong Kong or Taiwan will be done by following standard import export system has prescribed by MPEDA

7.2 Conservation of Andaman Teal

7.2.1 General

The Andaman Teal (*Anas gibberifrons albogularis*) is water fowl and is endemic to these Islands. It is



Fig.12.Andaman Teal at Interview Island

highly endangered species and included in Schedule-I of the Wildlife (Protection) Act, 1972. This species was reported to be very common in these islands earlier. However, now its population has declined sharply and is limited to few areas only. Loss of habitat particularly on or along fresh water and back water marshland has possibly contributed greatly to its increased rarity. The Andaman Teal is now perhaps the most threatened species of the wetlands of these Islands.

7.2.2 Habitat

In Interview Island, there are some pockets where Andaman Teal is reported. They are observed in pools along streams and in isolated ponds inside the forests. As these habitats dry up the teals desert the same and move

off, and quite a few remain in the deeper pools and ponds. The population estimated was around 50 (Vijayan, 1995).

7.2.3 Conservation Problems

The major problems faced by this species are habitat destruction and to a certain extent hunting. However, hunting pressure is site specific and restricted to only accessible areas where this species rests. Lack of awareness about this bird is also one of the reasons of its dwindling population.

7.2.4 Conservation Plan

Following conservation measures are proposed:

1. Understanding the ecology of the Andaman Teal with particular reference to habitat, feeding & nesting ecology and behaviour.
2. Providing/creating habitats favorable for teal nesting by erecting check dams and developing/ impounding water bodies
3. Strengthening the protective measures by way of supporting personnel, equipment, transport and communication facilities etc.
4. Studying the water quality seasonally for looking into parameters such as dissolved oxygen, carbon-dioxide, alkalinity, turbidity etc.
5. Educating the local people would certainly protect this endangered species.

7.2.5 Conservation of Mangroves at Interview Island

Mangroves are salt – tolerant ecosystem are found mainly in tropical and sub-tropical inter-tidal regions of the world. They are trees or shrubs that have the common trait of growing in shallow and muddy salt water or brackish waters, especially along quite shorelines and in estuaries. They exhibit remarkable capacity for salt water tolerance. Typically they produce tangled masses of arching roots that are exposed during low tides. Some mangrove roots extend above the water in the form of specialized vertical branches, called pneumatophores, which act as aerating organs and therefore are also known as respiratory roots. Among mangroves, there are some that prefer a daily tidal wash while others find their optimum conditions in shallow areas subject to occasional high tides. This process governs their distribution. Mangroves do not appear on sandy beaches and rocky shores.

About 6- species of mangroves occur through out the world. Asia is the richest region of mangrove species diversity with 44 species reported to occur. As per available information from various sources 27 tree species, 5 shrubs, 1 climber and 2 species of palms and ferns each belonging to 17 genera are reported to occur in the mangrove ecosystem of this Island. Important mangroves species found in these Island include-*Rhizophora mucronata*, *R. apiculata*, *Bruguiera gymnorrhiza*, *B. parviflora*, *Avicennia officinalis*, *A. marina*, *Ceriops tagal*, *Heritiera littoralis*, *Sonneratia caelaries*, *Sonneratia alba*, *Excoecaria agallocho*, *Xylocarpus granatum*, *Aegiceras corniculatum*, *Scyphiphora hydrophyllacea*, *Nypa fruticans* etc.

Due to the fragile ecosystem, there is a need to conserve the mangroves as there has been uplifting of the northern islands, due to tsunami resulting in change in the salinity of the area, which can affect the species composition of the mangroves in these areas. Seeing this it is felt that there is an urgent need for conservation of mangroves, in and around the Interview island sanctuary. Recovery of tsunami affected mangrove areas will be done by replanting the same in the affected areas .

7.2.6 Conservation of Corals

Andaman & Nicobar Islands is surrounded by fringing reefs on the eastern side and barrier reefs on the western side. They are covered by the 2000 Sqkm. There are about 179 species of corals belonging to 61 genera, the common genera contributing to the reef formation are *Acropora*, *Montipora*, *Pocillpora*, *Porities*, *Geniopora favia*, *Fungia*, *Millipora* etc. The Interview Island is also surrounded by corals especially at the west coast and northern tip of the island including the surrounding islands like south reef & north reef. After Tsunami there has been adverse effect in the corals as seen in the north reef & south reef islands. There is an urgent need for studying the adverse impact on the corals and its composition for its conservation in the near future. Already ZSI have undertaken study and monitoring of coral regeneration in North reef and surrounding areas and have got regular monitoring sites. A temporary camp will be built up in North reef Island, which will act as a base camp for protection and management of the sanctuary, coral reefs and other marine biodiversity in the nearby areas.

CHAPTER-8

PROTECTION PLAN

Due to its rich biodiversity both terrestrial and marine, the Island has been a prime attraction to the poachers. Therefore an appropriate action plan is required to provide effective protection to this sanctuary. The action plan should include daily patrolling of the vulnerable areas, check posts at vulnerable points, arming the patrolling staff with arms and ammunition, powerful binoculars, VHF sets and other equipments. One of the most important requirements of the protection plan is procurement of a sea-worthy (M.S. Act compatible) boat which is needed to chase and challenge the foreign poachers who often come in high speed boats. Adequate manpower is an important requirement of the protection plan. Also provision should be kept for providing small fire arms to the protection staff posted at the Island sanctuary as at times it becomes very difficult for them to carry heavy rifles & walk long distances within dense forest during routine patrolling operation.

PROTECTION

8.0 General

Interview Island Sanctuary has been the traditional hunting ground of Karens, originally a Burmese Tribe now settled at Webi, Mayabunder. They are people who act as guides to poachers that are coming from neighboring countries and are equipped with modern arms used for poaching deer, swiftlet nests, sea turtles, sea cucumber and to pick-up ropes, cans and other ship debris. The protection efforts should be directed towards stopping such activities and apprehending the culprits.

8.1 Protection Camps

Presently the protection is provided by limited forest staff (four executive and six workers) who are not fully equipped to meet the challenge from the armed poachers. The island is open to poachers from all sides.

There is one protection camp of forest on both side (East & West coast) and one police camp on the western side. The forest staff has one speed boat and a RIB (Rigid inflatable bottom) boat with them, one fixed and one handheld VHF set, one GPS and one 0.315 sporting riffle. There are three watch towers to keep a watch on the movement of feral elephants as well as movement of poachers. One temporary machan is also made on the southern western side to guard the swiftlet caves from poachers. The staff keeps patrolling the area regularly. The police personnel also help in protection efforts. In addition, the Coast Guard vessels also sometimes cover the western side searching for the foreign poachers. There is a need for additional three camps at the north and south side and central portion of the Island for which additional two protection camps need to built up for increasing the protection at the interview Island.

8.2 The Central Protection Unit

The present strength is felt insufficient for effective protection of the sanctuary considering the size of the Island and its circumference. Also a Central Protection unit should be formed which shall function from the Range Office & the Range Officer himself shall be the over all In-charge of the C.P.U. The unit should be provided with at least one sea-worthy vessel for patrolling in the open sea on the western side as well as for transport of materials. If possible, such boat can be hired for 8 months in a year. In addition, Dinghies with inboard engines are also required to give an impetus to the protection efforts as boats with OBM can not operate in shallow creeks particularly during the low tide. Provision should be there for providing small arms to the Range Officer & the camp officer for carrying out effective patrolling. The staff involved in the protection should be provided with all needed equipment like VHF hand held sets, GPS (Global Positioning System), arms etc.

The protection work should include regular patrolling along the coast as well as in creeks poachers of marine resources.

Also a utility van may be provided & kept at the Range headquarters for transporting of man & material from & to the jetty for onward movements as due to non availability of the same the staff & labours posted at the Interview Island sanctuary often have to hire private vehicles for transporting purposes. Sufficient infrastructure including means of mobility should be provided.



Fig-13 RIB boat for protection



Fig-14 Watch Tower at Interview Island

8.3 Providing incentive to the staff for doing exemplary protection works

Protection work requires lot of commitment & dedication on the part of the staff. Highly motivated staff can render exemplary services whereas disinterested staff even well equipped can prove ineffective. Hence it is very vital that the staff is provided lot of motivation & morale of staff is kept high. The following steps will be useful in this regard:-

1. Providing monetary incentive to the field staff as per the provisions of Wildlife (Protection) Act, 1972.
2. Maintaining records of performance of each staff & suitably rewarding selected number of staff annually for the highest number of cases booked, material seized etc.

3. Conducting annual training & moral boosting courses for the field staff.

8.4 Report on patrolling

There should be a system of periodical report of patrolling, highlighting the occurrence of the activities, steps taken to detect & apprehend, step taken to mitigate illegal activities. A protection duty proforma shall be maintained in which the details of the protection duties carried out by the staff shall be recorded. The said proforma should be send to the concerned Range every month and upon verification the same should be forwarded to the Division office. During the inspection of any senior official the said register containing the details of the proforma should be produced. The details of the proforma are placed at **Annexure –IX**.

8.5 Maintenance of field diary & offence register :

All the executive staffs should maintain the weekly diaries which should be written on a daily basis. The diaries should contain detailed information on the area visited, detailed observation in respect of forest vegetation, animal sighted, signs of unauthorized camping & any other relevant information. The copy of the same should be sent to the concerned Range officer.

Apart from the weekly diaries the Range officer should also maintain Range offence Register containing the details of the cases/offence booked under the particular Range Jurisdiction to facilitate better monitoring of the court cases.

CHAPTER-9

TOURISM

9.1 General Tourism activities

Year-wise information on the number of people visiting this sanctuary in last five years is given in **Annexure-VIII**. It appears from the data that the number of visitors is very less. The reasons for this are mainly the difficult approach, no regular transport and lack of facilities for tourists. There is a great potential in this sanctuary to attract a large number of visitors including tourists, nature lovers, wildlife enthusiasts, researchers, environmentalists etc. At Mayabunder, there is Guest House of APWD, a new Forest Rest House, a transit accommodation and a few hotels and lodges. These lodging arrangements are presently sufficient for providing accommodation to tourists, but in future more accommodation facility may be needed. Forest Department has recently constructed a new forest rest house at Mayabunder with all modern amenities. Also the department has an Inspection hut on the eastern side of the Interview Island also. Presently no night halt is allowed to tourists. Entry in the sanctuary is subject to a valid entry permit which is presently issued by the Range officer, Tugapur. The Administration has imposed ban on use of plastics in the protected areas.

In order to promote, ecotourism in this sanctuary, following action points are envisaged:

1. Publicity of this sanctuary needs to be done both through electronic and print media such as newspaper, radio and Doordarshan, public hoardings and banners, distribution of booklets and free pamphlets etc
2. Tour packages through private entrepreneurs may be encouraged with regular terms and conditions
3. Web based advertisement may attract lots of tourists.

4. Development of Nature Trails, foot paths, watch towers at important locations etc needs to be done.

a. Sustainable Tourism Opportunity :-

In addition to its rich biodiversity value, the sanctuary provides ample opportunities which may have significant impact on the socio-economy of people living in the nearby township i.e Mayabunder of the sanctuary

- a) The thick dense forest with a very good vegetation cover and the nature trail are good attractions for tourists who visit this area. Increase in number of tourists improves the economy of local unemployed youth of the nearby areas.
- b) The rich bio-diversity of the sanctuary will be a source of attraction to tourists, scientists, researchers, environmentalists, etc.
- c) It may provide new employment opportunities to local inhabitants of the nearby areas. The youth may be employed as tourist guide and also in providing tourism supporting activities outside the sanctuary area e.g., running private dinghies/speed boats for shuttling of tourists from Mayabunder to the sanctuary & return etc.

b. Objectives:-

- a) Responsible tourism can not only enrich the experience of the visitor but also win support for the sanctuary and for nature conservation.
- b) Multiple opportunities for Tourism and enjoyment, facilities like guided and un-guided nature trails, information centers, with proper signage will help in spreading the message of conservation among people & also will justify the department's mandate & its role in the entire conservation plan.
- c) Use of local material and involvement of local people to the extent possible in all the tourism related activities will also boost economy of people residing in the nearest township of the Sanctuary & will also provide ample opportunity for local unemployed youth.

c. Tourism Plan:-

- a) All the tourism related activities shall be restricted within the “Tourism Zone”.
- b) Every year separate funds should be allotted under this head with which various new facilities for the convenience of the tourists shall be constructed & also for maintenance of the existing infrastructure within the tourism zone of the sanctuary limits.
- c) Local unemployed youth from the adjoining area of the sanctuary may be trained as tourist guides who will also act as a source of employment for them.
- d) Under the tourism plan the department will create new infrastructure by using NTFP & Eco friendly material in terms of Round huts & rest rooms etc.

e) Ecotourism :

Ecotourism is an activity that helps in the understanding and appreciation of the importance of conservation through promotion of tourism. There is an increasing need for creating eco friendly projects, to highlight the need and importance for eco tourism. Ecotourism with environment friendly methods, with clear focus on conservation of forest and at the same time highlighting the importance of feral elephants, edible nest Swiftlets, Andaman teal, endemic butterflies and birds should be given importance. After identification of spots of good coral reefs like the North reef island etc adjoining the fringe of Interview Islands, these areas can be used for eco tourism, as it has tourism potential. The following activities shall be undertaken for promoting ecotourism

a) Wilderness Tourism:-

- i. Provision for a nature trail of 02 km within the “Tourism Zone” will cover this aspect suitably.

- ii. Ample scope for tourists & wildlife enthusiasts will also be there in terms of bird watching & also camping within the “Tourism Zone” only during day hours.

b) Conventional Tourism:-

- i. The thick dense vegetation cover of the sanctuary in itself will be a good attraction for tourists who visit this area.
- ii. The cruise through the creeks while on the way from Mayabunder to the Interview Island Sanctuary covering a very good area of mangrove forests also will be a source of attraction to tourists.

c) Diving/Snorkeling Tourism:-

- i. Diving/Snorkeling may not be permitted within the sanctuary limits as this may not be possible due to absence of clear sandy beach & presence of hard rocks near the shore area.
- ii. Viewing of Coral reefs by Glass Bottom Boats in the nearby coral reef areas outside sanctuary limits.

d) Photography:-

Photography within the sanctuary limits may be permitted provided on payment of the prescribed fee as may be notified.

e) Trekking:-

Provision for a nature trail of 02 km within the “Tourism Zone” will cover this aspect suitably.

f) Adventure-tourism:-

Provision of adventure tourism within the sanctuary limits may not be permitted as the same may cause any kind of adverse impact over the conservation & protection measures that are being adopted for the sanctuary.

9.2 Tourism Impact on Flora & Fauna:-

There is no restriction to entry of tourists. Tourists can enter the sanctuary with a valid permit. At present there is not much impact of tourism on this sanctuary as tourism is not much. The common problems in the area due to tourism are as follows-

- (i) The movement of people within the sanctuary limits shall cause disturbance to the wildlife.
- (ii) With the increase in the inflow of tourists within the sanctuary limits, the movement of dinghies will also increase which will cause unwanted pollution & disturbance in the otherwise very peaceful area.

To mitigate the above problems the following precautionary measures are to be adopted:-

- a) Tourists visiting the sanctuary should not be permitted to enter the sanctuary after sunset.
- b) Camping for the tourists should be permitted only at certain designated sites.
- c) The entire sanctuary limit is to be declared as a “Plastic free one”
- d) The Number of tourists visiting the sanctuary per day should be fixed.
- e) Only certain permitted water crafts/boat operators shall be authorized to ply their water crafts for transporting tourists to the Interview Island sanctuary as per the regular terms and conditions with respect to the Andaman and Nicobar Islands Wildlife Protection Rules 2008.

9.3 Interpretation:-

It is very important that a wildlife sanctuary has an Interpretation centre. The presence of an Interpretation centre ensures that the protected area serves

as an education centre, research base besides entertainment spot. The Interpretation center will provide a better scope for educating the visitors.

Presently an Interpretation Centre at Mayabunder is functioning which is providing information to the tourists visiting this area. Although the interpretation centre is small, it is displaying information on different kinds of wildlife found in the area and also provide general information on this sanctuary. Brochure and other publicity materials will also be distributed from this centre. Infrastructure setup in terms of new furniture & other display items, exhibits for the Interpretation center needs to be developed for which sufficient fund needs to be earmarked.

CHAPTER-10

ECO-DEVELOPMENT

10.0 Eco-development

10.1 Introduction

The most important component in conservation strategy is to attract people's participation. This can be achieved through measures like formation of Eco-development committees. The first & foremost step in carrying out Eco-development activities is to identify the dependency of the population outside the peripheral area & within the sanctuary limits over the protected area based on which Entry point Activities can be formulated & executed. This will not only reduce the dependency of the population on the sanctuary but also motivate the people to participate in a more positive manner towards the conservation measure.

In this case the dependency of the local people on the Sanctuary is nil hence the question of formulating & executing entry point activities may be ruled out. However the local people of Mayabunder and nearby villages can be actively involved in management activities of this sanctuary. Labour from these villages can be engaged in protection of swiftlet caves and other vulnerable areas, thereby generating employment opportunities to them.

10.2 Objectives

10.2.1 To encourage & motivate people who were previously involved in illegal activities within the sanctuary area to actively participate in the conservation & protection activities.

10.2.2 To motivate the people & increase their involvement in the conservation measures.

10.2.3 To provide alternate source of employment to the local unemployed.

10.2.4 To encourage the local people to improve the education standard of their children, this in turn will be helpful to win support for the sanctuary & conservation of nature & natural resources as a whole.

10.2.5 To educate the local people about the hazards that may be caused to the wildlife & nature by the daily activities practiced by them.

10.2.6 To spread the message of conservation & nature awareness & its importance for the survival of the mankind & future of their own children.

10.3 Eco-development plan for villagers

The locals from the nearby Mayabunder, Webi, Tugapur & Chainpur area can be actively involved in management of this sanctuary. Labour from these villages can be engaged in carrying out various works within this sanctuary thereby generating employment opportunities. Some Locals who are registered water craft owners can be further enlisted with this department & who can be further engaged in the work of plying their water craft to carry tourists to the Interview Island sanctuary. Unemployed youth may be imparted training and engaged as tourist guides. Youth may also be engaged temporarily for watch and ward & protection related works of the sanctuary. The department in coordination with the local P.R.I's would constitute one eco-development committee for each village, which would propose and finalize the eco-development activities to be undertaken.

10.4 Nature Education & Awareness Generation programme:-

The best way to conserve any protected area is through involvement of the local people and for this it is essential that they are educated properly about the importance of nature and environment. Lot of damage to the habitat in an ecosystem is done by the local people living around such area out of ignorance

only. If they understand the value of biodiversity and ecosystem, and how conserving the natural resources provide them tangible and intangible benefits, they will render their cooperation in conserving the nature and environment around them.

The following programmes are proposed to be taken up as part of nature education and awareness generation plan :

1. Organizing regular nature camps for school children, fishermen, PRIs (Panchayat Raj Institutions) etc.
2. Organizing workshops, seminars, film shows on biodiversity for the people in general and specially for students.
3. Printing of publicity materials in local languages and its distribution among locals and tourists.
4. Placing information boards and hoardings and signages at strategic points.
5. An information centre made entirely of local eco-friendly materials, for providing important information on the Island flora and fauna.
6. Involving local people particularly the youth as tourist guides.

CHAPTER-11

RESEARCH AND MONITORING

11.0 Introduction

Research & Monitoring is very important for studying effectively the Nature, Natural resources & thereby ensuring sustainable yield & utilization of resources. Also for studying the impact of conservation measures & its result it is a very important tool. Also to improve the management practices a need based study tool needs to be evolved.

There is unlimited scope for carrying out research work in biologically rich and diverse tropical ecosystems in Andaman & Nicobar Islands.

This Island sanctuary provides ample opportunities to researchers. So far, research works done by different research and survey organizations/ Institutes have been restricted mainly to survey of flora, corals, birds, census of elephants and *in-situ* conservation of edible-nest swiftlets. The surveys done for these species need to be updated. In addition many other research programmes can be taken up and information generated from these programme can be helpful in revising the management plans in future.

11.1 Research Priorities and Monitoring Areas

Following research programmes can be taken up on priority.

11.1.1 Research on Feral Elephants

In view of the conflict between the original objective of declaring this area as a sanctuary to protect the elephant population and recommendations given in recent time to remove the elephants from the island, it is essential that scientific research should be conducted in order to find out how the population of elephants has affected the flora and fauna of this Island and what should be the future course of action to control the elephant population. The first priority should be to conduct a census through a scientific method so as to accurately

estimate the number of population of elephants as the three censuses done earlier has wide variation. Survey and estimation of availability of food plants for elephants need to be done followed by the carrying capacity of the Islands for sustaining the elephants. If the final outcome is to manage a viable population of elephants in this Island, then appropriate measures for their population control will have to be taken. A different strategy would be needed in consultation with experts if the final outcome of the research would be the translocation of the elephants from the Island to mainland.

11.1.2 Research on Andaman Teal

It should include survey of existing population of Andaman Teal, status of its habitat, feeding ecology, behavior, identification of alternate sites for its relocation within the Island as well as in other islands, nesting behavior etc.

11.1.2.1 Research on Nicobar pigeon , wetland and coastal birds :

Nicobar pigeon(*Caloenas nicobarica*) is a stout short tailed pigeon with long blue black , metallic green and copper neck hackles; tail and its coverts are white; under parts are slaty grey and is common in Nicobar Group of islands. It lives in evergreen forest, chiefly in small uninhabited islands of the larger land masses. Keeps singly or in pairs of 3 or 4 and flocks of 20 or 30. This bird has also been found in the Interview Islands, which feeds entirely on the ground, walking briskly hither and thither, a steady uprightly gait flicking aside the leaves to expose fatten and berries .Walks like Emerald dove but with wings drooping low. Flight looks rather heavy, but in fact is swift and powerful. The bird makes a groaning croak.

The birds breed in the month of March to June making nest in forest trees , often several nest in forest trees and have an incubation period of 22 - 25 days, when compared to Common pigeon which has an incubation period of 18 -21 days. They lay 1 (one) egg , singleton , white , smooth textured, long elliptical , slightly pointed at either end .Colour of the membrane lining the shell give a delicate purple tinge to the egg. The size of the birds is 40cm in height , with female being heavier than the male. The birds reach adulthood at

1-2 years of age. There is an urgent need, to conserve this bird as its present population in this island is not known in the entire island and in various groups of our islands. It's an endemic species and needs to be protected and conserved. There is a need to study about the ethology, ecology and habitat requirement of this particular bird . In India, presently this bird is found only in Ahemedabad Zoo, that too with a high degree of homozygosity, due lack of new blood into the population.. In addition to these, many wetland and coastal birds which are commonly observed in interview island like pond heron , egrets , whistling teal , oceanic teal, plovers , water cock , sandpipers , terns , greenshank, sandpiper etc needs to be studied for its abundance , ecology and habitat. Therefore avian census and research study for bird population in this island has a good potential, keeping in mind the conservation of endemic bird species.

11.1.3 Assessment of Impact of Tsunami on Corals

Tsunami that occurred on 26th December 2004, had pronounced adverse affect on coral reefs through out Andaman & Nicobar Islands and Interview Island is no exception. The impact of tsunami on coral reefs of this Island needs to be studied and its monitoring at regular interval will reveal whether the coral reefs are reviving or not, or what steps are required for their revival. This Island is one of the important sites for regular monitoring of coral reefs under the coral reef monitoring action plan and therefore regular survey of coral reefs at a definite periodicity should be done in order to monitor the health of coral reefs. In addition to this, status of other marine life like reef fishes, dolphins, turtles, dugong etc could also be studied.



Fig.15 : Damaged coral reefs of Interview Island

11.1.4 Assessment of Impact of Tsunami on Mangroves

Tsunami has adversely affected the mangroves also. However, at many places these are slowly showing signs of regeneration. Interview Island is no exception. However a scientific study is needed to study the impact of tsunami on mangroves of this Island. This will show whether tsunami has led to any change in the species composition of the mangroves. This is expected because it is observed that tsunami has led to uplifting of land in the northern parts of Andaman & Nicobar Islands while in the southern part, the land has gone down. Therefore sea water level in the northern Islands has gone down. The species composition of mangroves in an area is dependent on the extent of salinity of the area and there is every possibility that the species composition might have changed and so also the regeneration of species. Scientific studies are needed to confirm this. This will further help in formulating appropriate strategies for eco-restoration of mangroves in degraded areas.

11.1.5 Census of Population of Spotted Deer, Salt Water Crocodile and Edible-Nest Swiftlet Caves

Census of other important species like spotted deer, salt water crocodile, edible-nest swiftlet etc may also be taken up and results of these censuses will help in evolving management strategies for these species. Spotted deer is an introduced species. Plenty of food plants, availability of water and absence of its predator species has led to increase in its population and it is affecting the natural regeneration of many ecologically important species. Scientific study on the impact of spotted deer on the vegetation of this island would facilitate to evolve strategy to control its population.

The survey done by SACON has shown presence of 22 natural caves in the Island harbouring edible-nest swiftlets. There may be more such caves which can be identified through proper survey. Population of edible-nest swiftlet needs to be assessed and study on their ecology should also be done in collaboration with expert organization like SACON.



Fig. 16 Spotted deer at Interview Island

11.1.6 Survey of Butterflies

This would be done in collaboration with Zoological Survey of India (ZSI) who has their establishment at Port Blair.

11.1.7 Survey of Medicinal Plants

This Island being very large in area and having very dense vegetation is likely to be a repository of many plants of medicinal value. A systematic survey in collaboration with the Botanical Survey of India (BSI), Port Blair is proposed.

11.1.8 Research and Survey

Facilities to carry out research, survey & monitoring works are almost non-existent. The executive staff posted in this sanctuary needs to be trained in various census and survey operation for elephants, spotted deer, Andaman Teal, swiftlet nests etc.

11.2 Action required during the Plan period:-

Sl. No.	Task	Agency	Time	Physical	Fund
1	Base line status surveys of the diverse flora and fauna	SACON	Two years	Entire Island	5.00 lakhs
2	Census of spotted deer, feral elephants, salt water crocodile, edible nest Swiftlet caves and corals.	SACON	Two years	Major species as mentioned	8.00 lakhs
3	Survey of exotic species & study of impact of exotic spp on native flora and fauna	BSI	One year	Entire Island	2.00 lakhs
4	Monitoring impact of biotic pressures on resources	ZSI BSI	One year	Flora and Fauna	2.50 lakhs
5	Maintaining data base	Forest Dept.	One year	Entire Island	3.00 lakhs

CHAPTER-12

ORGANIZATION AND ADMINISTRATION

12.0 Administration

Presently the Interview Island Sanctuary is under the administrative control of the Divisional Forest Officer (Wildlife), Mayabunder. The Range officer, Tugapur is in-charge of this sanctuary for management in addition to his other range work. The day to day works are looked after by a forester being assisted by three forest guard and six regular mazdoors. The works include patrolling and routine development works. There are two camps one on the eastern side and the other on the western side. Maximum staff is at eastern side. A temporary camp is established in the south western side for providing protection to the edible-nest swiftlet caves.

12.1 Sub-division

It is proposed that the ongoing arrangements will continue but the present staff is considered insufficient and needs to be strengthened in number. One Deputy Ranger should be posted at the Interview Island Sanctuary who will be overall in-charge of all the activities. There should be at least two Foresters, one for eastern camp and other for the western camp, each assisted by at least two Forest Guard and six regular Mazdoors would be minimum requirement. The Deputy Ranger will look after other nearby Protected Areas encompassing the Interview Island Group of Sanctuary – a cluster proposed by the Wildlife Institute of India. There are in all fourteen Wildlife Sanctuaries in this group and they include.

- (i) Interview Island
- (ii) Bennet Island
- (iii) South Reef Island Sanctuary
- (iv) Roper Island Sanctuary
- (v) Latouche Island Sanctuary

- (vi) Sea Serpent Island Sanctuary
- (vii) Bondoville Island Sanctuary
- (viii) Surat Island Sanctuary
- (ix) Spike Island Sanctuary
- (x) Ranger Island Sanctuary
- (xi) Snake Island Sanctuary
- (xii) North Reef Island Sanctuary
- (xiii) Buchanan Island Sanctuary
- (xiv) Entrance Island Sanctuary

12.2 Research Unit

Research, survey and monitoring are integral part of the management plan of any PA. The research activities would aim at studying the flora and fauna, assessment of impact of elephants on Island ecosystem, assessment of impact of spotted deer on natural regeneration of ecologically important species, census of important faunal species and preparation of checklist of important birds, reptiles and butterflies. Collection of data on rainfall, humidity, temperature, and wind speed etc at local level by installing required instruments at different points will also be a part of the research, survey and monitoring programme. The Department is already implementing a research programme on in-situ conservation of edible-nest Swiftlets in collaboration with SACON (Salim Ali Centre for Ornithology and Natural History). More such programmes will be taken up with other Institutes/ Organizations like Wildlife Institute of India (WII), Zoological Survey of India (ZSI), Botanical Survey of India (BSI), Andaman & Nicobar Environment Team (ANET), Centre for Marine Biology, Annamalai University, Indian Institute of Science (IISc), Bangalore, Reef Watch etc. There is a need to engage one Junior Research Fellow from reputed Universities as per research guidelines for the

next five years for close monitoring and observations for scientific management of the species and their habitat so that methodology can be developed for maintenance of flora & fauna in the natural habitat through proper scientific management practices.

In this regard a separate unit should be formed which shall be headed by a Deputy Ranger/ Forester & the unit shall be directly under the control of the concerned Range Officer & shall be based at the Range Head Quarters. This unit shall directly monitor all the Research, Survey & Monitoring works.

12.3 Staff posting

For ensuring effective implementation of the entire conservation & protection plan one of the major requisites is sufficient staff & labour strength. The present staff & labour strength of the Sanctuary is highly inadequate & the same needs to be strengthened. The following staff & labours would be essentially required exclusively for the management of the Sanctuary:-

- a) Deputy Ranger - 02 Nos.
- b) Forester - 02 Nos.
- c) Forest Guard - 04 Nos.
- d) Regular Mazdoor - 12 Nos.

12.4 Staff amenities

Infrastructure

As mentioned earlier, there are two camps one on the eastern side and one on the western side. The eastern camp has one Type-II quarter for the Camp officer, one labour barrack and one inspection hut. These have solar electricity connection as there is no electricity in this island. On the western camp, there is one new labour barrack constructed during the year 2011-2012. Following constructions are proposed to provide better housing facility to the staff of this sanctuary :

- (i) One Camp Office with Store Godown and labour barrack at eastern camp.
- (ii) One Type - II quarter for Forester on the western camp
- (iii) One pump house with 10 HP diesel engine for pumping drinking water & installing 01 No. 10 KVA D.G. set for electrification at east coast camp
- (iv) Barricading of the existing East coast camp & its infrastructure using solar powered fence to provide protection against feral elephant.
- (v) One pump house with 10 HP diesel engine for pumping drinking water at West coast camp
- (vi) Providing suitable solar connection for the newly constructed labour barrack at West coast camp
- (vii) Setting up of VHF repeater station at West coast camp to provide better communication facility between East coast camp & West coast camp.
- (viii) Procuring one sea-worthy vessel (M.S.Act compatible) for patrolling in the open sea on the western side as well as for transport of materials.
- (ix) Procuring Dinghies with inboard engines
- (x) Procuring speed boats with OBM engines.
- (xi) Providing small arms to the Range Officer & the Camp Officer for carrying out effective patrolling.
- (xii) The staff involved in the protection should be provided with all needed equipment like VHF hand held sets, GPS (Global Positioning System), night vision binocular, tents and other camping equipment etc.
- (xiii) Procuring a utility van which should be stationed at Range headquarters for transporting of man & material from & to the jetty for onward movements. Due to non availability of the same

the staff & labours posted at the Interview island sanctuary often have to hire private vehicles for transporting purposes.



Fig-17 Forest Rest House



Fig-18 Solar electrification at Interview Island –Eastern Camp

12.5 Capacity Building

One of the major constraint in effective management of most the PAs in Andaman & Nicobar Islands is lack of trained staff. This sanctuary is no exception. Census of species like feral elephants, spotted deer, survey of coral reefs etc is specialized job and needs training. Under the capacity building programme it is proposed to get the staff trained in these specialized jobs so that they can contribute more meaningfully towards achievement of the objectives of the management. Training on various management practices for species like feral elephants, spotted deer, survey of coral reefs etc. are specialized jobs and training need to be imparted to the staff and workers.

Under the capacity building programme it is proposed to get the staff trained in these specialized jobs so that they can contribute more meaningfully towards achievement of the objectives of the management. Training of various durations for officials of different levels can be arranged locally and some can be sent to Institutes like WII, SACON, Madras Crocodile Trust etc.

CHAPTER – 13

13.1 BUDGET OUTLAY FOR INTERVIEW ISLAND SANCTUARY

		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		2024-25		Total
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
I.	Protection Plan																							
A	Recurring																							
1	Protection of Flora & Fauna in West Coast area by engaging DRMs	LS	3.3	LS	3.6	LS	3.8	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	42.70
2	Protection of Flora & Fauna in East Coast area by engaging DRMs	LS	3.3	LS	3.6	LS	3.8	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	LS	4.0	42.70
3	Maintenance of watch towers at vulnerable areas (03 Nos.)	LS	0.8	LS	0.9	LS	0.9	LS	1.0	LS	1.0	LS	1.0	LS	1.2	LS	1.2	LS	1.3	LS	1.3	LS	1.3	11.90
4	Construction and Maintenance of temporary Swiftlet protection camp	LS	1.2	LS	1.2	LS	1.2	LS	1.3	LS	1.3	LS	1.3	LS	1.3	LS	1.3	LS	1.3	LS	1.3	LS	1.3	14.00
6	Protection to Edible Nest Swiftlet Cave by Providing watch & ward	LS	2.8	LS	3.0	LS	3.1	LS	3.1	LS	3.2	LS	3.2	LS	3.2	LS	3.2	LS	3.2	LS	3.2	LS	3.2	34.40
7	Renovation and maintenance of Artificial Swiftlet houses	LS	1.1	LS	1.2	LS	1.3	LS	1.3	LS	1.4	LS	1.4	LS	1.4	LS	1.4	LS	1.4	LS	1.4	LS	1.4	14.70
8	Procurement of arms & ammunition	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	22.00
9.	Repair operation (HSD procurement) & maintenance of water crafts	LS	2.2	LS	2.4	LS	2.6	LS	2.8	LS	3.0	LS	3.1	LS	3.2	LS	3.3	LS	3.4	LS	3.4	LS	3.4	32.80
10	Procurement of field ration for staff & labours	LS	1.5	LS	1.6	LS	1.7	LS	1.8	LS	1.9	LS	1.9	LS	1.9	LS	1.9	LS	1.9	LS	1.9	LS	1.9	19.90
	Total		18.2		19.5		20.4		21.3		21.8		21.9		22.2		22.3		22.5		22.5		22.5	235.10

B	Non Recurring																							
1	Procurement of one dinghy with inboard engine.	1	2.5							1	3.00								1	3.50				9.00
2	Procurement of one Sea Worthy Fiber Boat with out board Engine	1	8.0	-	-	-	-	-	-															8.00
3	Procurement of tents and camping equipments	LS	2.0	LS	2.0	-	-	LS	2.0					LS	2.0			LS	2.0			LS	2.0	12.00
4	Procurement of one Sea Worthy M.S .Act compatible Boat with out board Engine	1	20																					20.00
5.	Procurement of Communication set	LS	0.50	LS	0.50			LS	0.50			LS	0.50			LS	0.50			LS	0.50			3.00
	Total		33.00		2.50		0		2.50		3.00		0.50		2.0		0.50		2.0		4.00		2.00	52.00
	G/Total (A+B)		51.20		22.0		20.4		23.8		24.80		22.4		24.2		22.80		24.5		26.50		24.5	287.10
II. Habitat Conservation																								
A	Recurring																							
1	Raising of Bamboo & other fodder spp.	2ha	0.5	2ha	0.5	2ha	0.5	2ha	0.5	2ha	0.8	2ha	0.8	2ha	0.8	2ha	0.8	2ha	0.8	2ha	0.8	2ha	0.8	7.60
2	Deepening of water hole (3Nos.) and their maintenance	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	22.00
3	Construction & Maintenance of check dam	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	11.00
	Total		3.5		3.5		3.5		3.5		3.8		3.8		3.8		3.8		3.8		3.8		3.8	40.60
III. Nature Education, Eco-Tourism and Eco-development Plan																								
A	Recurring																							
1	Development of Nature Trails/ Inspection paths	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	LS	2.5	27.50
2	Organizing Nature Camps	4 Nos	1.5	4 Nos.	1.5	4 Nos.	1.5	4 Nos	1.5	4 Nos.	1.5	4 Nos	1.5	4 Nos	1.5	4 Nos	1.5	4 Nos.	1.5	4 Nos	1.5	4 Nos	1.5	16.50

3	Fabrication and display of signages/ Advertisement boards	LS	0.5	-	-	LS	0.5	-	-	-	-	LS	0.5	-	-	-	-	LS	0.5	-	-	LS	0.5	2.50
4	Development of facilities for tourists like resting sheds, tents etc.	LS	3.00	LS	3.00	-	-	LS	3.00	-	-	LS	3.00	-	-	LS	3.00	-	-	-	-	LS	3.00	18.00
5	Publication of brochure, booklets, posters etc	LS	2.00	L.S.	2.00	-	-	L.S.	2.00	-	-	L.S.	2.00	-	-	L.S.	2.00	-	-	-	-	L.S.	2.00	12.00
	Total		9.50		9.00		4.50		9.00		4.00		9.50		4.00		9.00		4.50		4.00		9.50	76.5
1V	Census of wild animals																							
	(a). Feral elephants	LS	4.0	-	-	-	-	-	-	-	-	LS	4.0	-	-	-	-	-	-	-	-	-	-	8.00
	(b). Spotted deer	-	-	LS	2.0	-	-	-	-	-	-	LS	2.0	-	-	-	-	-	-	-	-	LS	2.0	6.00
	(c). Salt water crocodile	-	-	LS	2.0	-	-	LS	2.0	-	-	-	-	LS	2.0	-	-	-	-	-	-	LS	2.0	8.00
	(d). Corals	LS	2.0	-	-	LS	2.0	-	-	LS	2.0	-	-	-	-	LS	2.0	-	-	-	-	-	-	8.00
2	Floral survey through BSI	-	-	-	-	-	-	-	-	-	-	LS	4.0	-	-	-	-	-	-	-	-	-	-	4.00
3	Survey of butterflies & moths (through ZSI)	-	-	-	-	-	-	-	-	-	-	-	-	LS	3.0	LS	2.0	-	-	-	-	-	-	5.00
4	Survey of reptiles through experts (e.g. Madras Crocodiles Trusts)	-	-	-	-	-	-	LS	3.0	-	-	LS	3.0	-	-	LS	3.0	-	-	-	-	LS	3.0	12.00
5	In-situ & ex-situ conservation studies with SACON	LS	5.00	LS	5.00	LS	5.00	LS	5.00	LS	5.00	LS	5.00	LS	6.00	LS	6.00	LS	6.00	L	6.00	LS	6.00	60.00
6	Maintenance of Database Centre (Procurement of Hardware & Software)	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	L	2.0	LS	2.0	22.00
7	Procurement of Research Equipment	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	LS	2.0	L	2.0	LS	2.0	22.00
8	Procurement of survey equipment like GPS			LS	2.0	-	-	LS	2.0			LS	2.0			LS	2.0					LS	2.0	10.00
	Total.		15.00		15.00		11.00		16.00		11.00		24.00		15.00		19.00		10.00		10.00		19.00	165.00

V. Infrastructure Development and Capacity Building																					
A Non recurring																					
1	(a). Construction of Camp - Offices cum store at east coast	-	-	LS	18.00	-	-	-	-											18.00	
	(b). Construction of camp office cum residence at west coast	1 No.	16.00	-	-	-	-	-	-											16.00	
	(c). Construction of Labour Barrack at east coast					1 No.	25.00	-	-											25.00	
	(d) Construction of Staff accommodation qtr. at east coast for staff			01 No.	20.00			-	-											20.00	
	(e) Providing protection to the existing camp at east coast from feral elephant by solar powered fencing	LS	05			LS	05			LS	05				LS	0.50			LS	0.50	16.00
	(g) Construction of One pump house with 10 hp diesel engine for pumping drinking water at east coast camp & 01 10 KVA DG set for electricity	LS	12	-	-	-	-	-	-												12.00
	(h) Construction of One pump house with 10 hp diesel engine for pumping drinking water at West coast camp	LS	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			10.00
	Total		43.00		38.00		30.00			05						0.50			0.50	117.00	
B Recurring																					
1.	(a)Maintenance of Camp Officer Qtr at east coast	1 no	3.0	-	-	-	-	-	0.5	-	-	-	-	-	1no	1.0				4.50	

	b)Maintainence of Labourbarrack at Eastcoast& Westcoast	1no	2.50	-	-	-	-	2.00	-	-	-	-	-	-	1no	2.00	-	-	-	-	-	-	1.0	7.50
	(c). Maintainence of camp office cum residence at west coast	-	-			-	-	1no	0.5	-	-	-	-	1no	0.5	-	-					1no	1.0	2.00
	(d) Maintenance of solar powered fencing			LS	3.0			LS	3.0			LS	3.0			LS	3.0	LS	3.0	L	3.0	LS	3.0	21.00
	(e) Operation & maintenance of pump house with 10 hp diesel engine for pumping drinking water at east coast & west coast camp	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	LS	1.0	L	1.0	LS	1.0	11.00
	(f) Repair & maintenance of existing infrastructure at west coast camp	LS	1.0	LS	1.0	LS	1.5	LS	1.5	LS	1.5	LS	1.8	LS	1.8	LS	1.8	LS	2.0	L	2.0	LS	2.0	17.90
	(g) Repair & maintenance of existing infrastructure at east coast camp	LS	1.0	LS	1.0	LS	1.5	LS	1.5	LS	1.5	LS	1.8	LS	1.8	LS	1.8	LS	2.0	L	2.0	LS	2.0	17.90
	Total		8.50		6.00		4.00		10.00		4.00		7.60		5.10		10.6		8.00		8.00		10.0	87.80
	Total A+B		51.50		44.00		34.00		10.00		9.00		7.60		5.10		11.10		8.00		8.50		10.0	198.80
VI	Training of executive staff			L.S	1.0			L.S	1.0			L.S	1.0			L.S	1.0		L.	1.0	L.S	1.0	6.00	
					1.0				1.0				1.0				1.0				1.0		1.0	6.00
	Grand Total		130.70		94.50		73.40		63.30		52.60		68.3		52.10		66.70		50.8		53.80		67.80	774.00

13.2 BUDGET OUTLAY FOR FERAL ELEPHANT OF INTERVIEW ISLAND WILDLIFE SANCTUARY

Sl. No.	Item of work	Location	2014-15		2015-16		2016-17		2017-18		2018-19		2020-21		2021-22		2022-23		2023-24		2024-25		Total Qty.	Total Amount (in lakh)	Site specific justification
			Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.			
NON RECURRING ACTIVITIES																									
1	Establishment of temporary elephant protection camp with all infrastructures for implementation, monitoring and research activities at North, South and Central portion of Interview Island near the established water holes in the Wildlife Sanctuary.	North, South and Central portion of Interview Island	1 No.	5.00	01 No.	5.00	01 No.	5.00	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	03 Nos	15.00	In order to protect the feral elephants from poachers round clock protection of the Interview Island is important for the management and protection of the feral elephants.
2	Renovation and maintenance of existing old camps at east coast and west coast at Interview Island for implementation, monitoring & Research activities of the project.	East Coast & West Coast at Interview Island (WL)S sanctuary	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	1.00	02 No.	10.00	As an ideal lo action, the existing buildings/est ablishment will be utilized for the project with maintenance & modification as required.

3	Construction of Watch tower cum observatory for round the clock watch over the area as an protection measures and to facilitate tourism facility.	North, South and Central portion of Intervie w Island	01 No.	2.00	01 No.	2.00	01 No.	2.00	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	03 Nos.	6.00	The watch tower will be constructed near the water holes for viewing the movement of animals in an around the Island and will help to keep watch the elephants and their movements the tourism can also be promoted from these sites.
4	Procurement & Supply of night vision binoculars 01 for each camps.	for the 3 camps	03 Nos .	3.00																		03 Nos.	3.00	It is required for effecting monitoring and watch over the elephants.
5	Establishment of VHF network including all cost.	for each camp	01 No.	2.5	01 No.	2.5	01 No.	2.5														03 Nos.	7.5	For proper communication and network in between all camps in this sanctuary.
6	Provision for solar light (Home lights) to be established for all 03 camps.	for each camp	03 Nos .	3.00	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	03 Nos.	3.00	For providing basic amenity to workers working in the camp.

7	Provision of .315 Rifles at North, South and central camps of Interview Island.	for each camp	03 Nos .	4.50	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	03 Nos.	4.50	For self protection and defense from elephants and poachers visiting the Island.	
Total :				21		10.50		10.50		1.00		1.00		1.00		1.00		1.00		1.00		1.00		49.00		
RECURRING ACTIVITIES																										
1	Annual maintenance of Camp established for the purpose.	All camps	03 Nos	1.00	03 Nos.	1.00	03 Nos.	1.00	03 Nos	1.00	03 Nos.	1.00	03 Nos	1.00	03 Nos	1.00	03 Nos	1.00	03 Nos	1.00	03 Nos	1.00	03 Nos.	10.00		
2	Engaging one Junior Research Fellow from any reputed and authorized University/Inst itution under taking Research work on Wildlife/Wildli fe Management @.12,000/- per month + 20% HRA for 3 years on yearly basis/full time as per Research guidelines.	For over all project area.	01 No.	2.5	01 No.	2.5	01 No.	2.5	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	03 No.	7.5	It is required for close monitoring & observation for scientific management of the species & their habitat. And to undertake census, development of methodology for management of natural habitat intervention of management practice.	

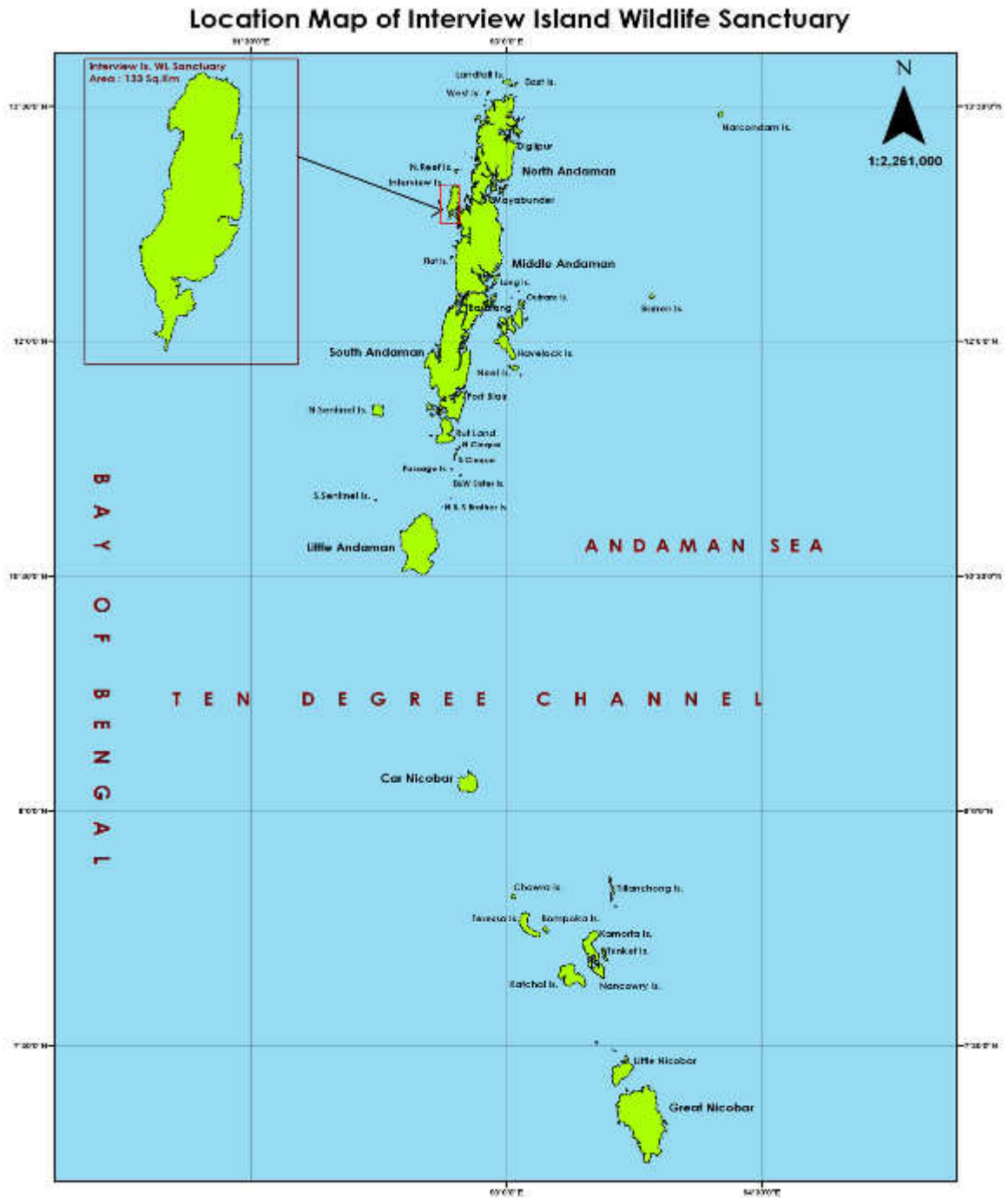
3	Office and administrative expenses for execution, monitoring, evaluation and documentation of project works including stores/office stationeries, consumables, equipments, Tools & Plants, Computer etc.	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	10.00	It is required to meet expenses for Tools & Plants, Stores, Stationeries which are required but not covered under any item of work.
4.	Development of a Elephant watchman 3 watch man for each camp for round the clock watch & ward, movement on elephant for seven month in a year for implementation of the scheme, initially for five years.	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	6.5	09 labours	65.00	
5.	Maintenance of Arms & Ammunition, including cost of POL, Lubricants etc.	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	10.00	
6.	Procurement of Ration, consumable stores, tools & plants. Etc.	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	0.30	LS	3.00	

7.	Destination & enlargement of existing water holes for providing water to the feral elephants.	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	10.00
			13.30		13.30		13.30		10.80		10.80		10.80		10.80		10.80		10.80		10.80		10.80		115.50
	Total (A & B)		34.30		23.80		23.80		11.80		11.80		11.80		11.80		11.80		11.80		11.80		11.80		164.50

ABSTRACT

(i) Total Expenditure - 774.00 + 164.50 = 938.50 lakh

LOCATION MAP OF INTERVIEW ISLAND SANCTUARY IN ANDAMAN & NICOBAR ISLANDS



Appendix- II

ANDAMAN AND NICOBAR ADMINISTRATION

(FOREST DEPARTMENT)

PORT BLAIR, January 1985.

NOTIFICATION

F.No. CF/WL/50-Vol.1

whereas the Wildlife Advisory Board, Andaman and Nicobar Islands has recommended to declare Sanctuaries in “Interview Island” for protection and propagation of elephant, in “Battimaly Island” for Protection and Propagation of Nicobar Pigeons, and in “Tillongchang and Megapode Islands” for protection and Propagation of Nicobar Megapode.

And whereas the Lt. Governor (Administrator), Andaman and Nicobar Islands considers that the aforesaid areas, which are either Protected Forests or reserved forests under the Indian Forest Act, 1927 (Act 16 of 1927), are having adequate ecological, faunal, floral, geomorphological, natural and Zoological significance for the purpose of protecting, propagating and developing wildlife and its environment for the respective purpose indicated above;

Now, therefore, in exercise of the powers conferred by sub-section (1) of section 18 of the Wildlife (Protection) Act, 1972 (Act 53 of 1972) read with clause (29) of Section 2 thereof, the Lieutenant Governor (Administrator), Andaman and Nicobar Islands is pleased to declare that the aforesaid areas, the situation and limits of which are specified in the schedule given below to be sanctuaries for the purpose as aforesaid.

SCHEDULE

1. **INTERVIEW ISLAND :**

An Island covering an area of about 133 Sq.kms located in between $92^{\circ}30'-0''$ West longitude and $92^{\circ}43'-47''$.East longitude and $12^{\circ}59'-28''$ North latitude and $12^{\circ}46'52''$ South latitude in the Bay of Bengal.

2. **BATTIMALV ISLAND :**

An Island covering an area of about 2.23 Sq.kms located in between $93^{\circ}-0''$ East longitude and $92^{\circ}45'-0''$ West longitude and $9^{\circ}0'-0''$ North latitude and $8^{\circ}45'-0''$ South latitude in the Bay of Bengal.

3.(A) **TILLONGCHANG ISLAND ;**

An Island covering an area of about 16.83 sq.kms. Located in between $93^{\circ}3'-0''$ West longitude and $93^{\circ}38'-0''$ East longitude and $8^{\circ}25'-0''$ South latitude and $8^{\circ}35'-0''$ North latitude in the Bay of Bengal.

(b) **MEGAPODE ISLAND :-**

An Island covering an area of about 0.12 Sq.kms 12.5 hectares located in the Nanjappa Bay between $93^{\circ}46'-49''$ West longitude and $6^{\circ}50'-33''$ South latitude in the West Coast of the Great Nicobar Island.

By Order.

(S.B.ROY)

Forest Secretary

Andaman & Nicobar Administration.

ANDAMAN AND NICOBAR ADMINISTRATION
(FOREST DEPARTMENT)
NOTIFICATION

PORT BLAIR, the 12th July, 1977/Asadha 21, 1899.

No. WP/2/G-1 (M) 327.- Whereas Shri Satjiwan Prasad, Assistant Commissioner (Forest Settlement) has been appointed by the Chief Commissioner, Andaman and Nicobar Islands as Forest Settlement Officer and directed to make inquiry into and record the existence, nature and extent of any rights alleged to exist in favour of any person in or over the forest land described in the Schedule below, or in or over its any forest produce as required by Sub-Section (1) of Section 4 of Indian Forest Act, 1927 and whereas the said Officer has, after inviting claims under Section 6 of the said Act, recorded that no private persons has any kind of right in or over the said forest land, or in or over its any produce, and has also recorded that the said forest land is the property of the Government and that the Government is entitled to its whole produce.

Now, therefore, exercise of the power, conferred by sub-section (1) of section 20 of Indian Forest Act, 1927 (Act XVI of 1927) read with Notification No. 69/49/50-AN dated the 7th November, 1951 of the Government of India in the Ministry of Home Affairs, the Chief Commissioner, Andaman and Nicobar Islands, is pleased to declare the entire forest lands specified in the Schedule below in North and Middle Andaman Group of islands Reserved Forests with effect from the first day of August 1977.

SCHEDULE

<u>Sl.No.</u>	<u>Name of the Islands</u>	<u>Location & Limits of forest land</u>
1.	Channel	The entire area comprised in each islands. The islands are situated in North and Middle Andaman group of islands.
2.	Land Fall	
3.	East	
4.	West	
5.	Peacock	
6.	White Cliff	
7.	Thorn Hill	
8.	Reef	
9.	Mayo	
10.	Paget	
11.	Pomt	
12.	Searme	
13.	Sugar loaf	
14.	Jub-Jub	
15.	Rowe	
16.	Snark	
17.	Kwang-Tug	
18.	Latouche	
19.	North Ree	
20.	Interview	
21.	Pondeville	
22.	Sea Serpen	
23.	Snake	
24.	Bachanan	
25.	Tree	
26.	Excelsior (Table Island group)	

27. Telgamo
28. Trilby
29. Temple
30. Turtle
31. Narcondom
32. Jungle
33. North
34. Wharf
35. South
36. OX
37. Chatham
38. Brush
39. Ross
40. Graggy
41. Bamboo
42. Blister
43. Gurlew
44. Goose
45. Gander
46. Stewart
47. Dot
48. Oyster
49. Oliver
50. Sount
51. Orchid
52. Crulew (Island Barkey Group)
53. Swamp
54. Dottrel
55. Egg
56. Entrance
57. Surat

58. Speke
59. Ranger
60. Roper
61. Bennett
62. South Reef
63. Anderson
64. Masl
65. Ruft
66. Hump
67. Flat
68. Gurjan
69. Parkinson
70. Oyster
71. Cone
72. Porlob
73. Guijar
74. Round
75. Barren
76. Chengappa

S.M. KRISHNATRY
Chief Commissioner,
Andaman and Nicobar Islands

By order and in the name of the Chief Commissioner

LALTHAN ZAMA
Forest Secretary,
Andaman and Nicobar Administration.

ANDAMAN AND NICOBAR GAZETTEE

EXTRAORDINARY

Published By Authority

Port Blair, the 8th September, 1993/12th Bhadra 1885

ANDAMAN AND NICOBAR ADMINISTRATION

Chief Commissioner's Secretariat

NOTIFICATION

Port Blair the 8th September 1963/12th Bhadra 1885

No. 115/47-5/60-DH – WHEREAS the forest land described in the Schedule below are not included in any reserved forests;

AND WHEREAS the Assistant Commissioner (Settlement) Port Blair was directed by the Chief Commissioner, Andaman and Nicobar Islands, to make a forms inquiry into and record the nature and extent of the rights of Government and of private persons in or over the said forest lands as required by Sub-Section (3) of section 29 of the Indian Forest Act, 1927, and the said officer has after making the inquiry recorded that no Private person has any kind of rights in or over the said forest lands and that the said forest Islands are the property of Government.

NOW, therefore, in exercise of the powers conferred by sub-sections (1) and (2) of Section 29 of the said Act read with the Government of India, Ministry of Home Affairs Notification NO. 69/49/50-AN dated the 7th November, 1951 the Chief Commissioner Andaman and Nicobar Islands has been pleased to declare the said forest lands to the protected forests to which the provisions of Chapter IV of the said Act shall apply with effect from the date of publication of this notification in the Gazette.

SCHEDULE

I. NORTH ANDAMAN PROTECTED FOREST :-

This protected forest includes :-

(1) The entire area of the following Islands :-

S. No.	Name of the Islands	S.No.	Name of the Islands
1.	Channel	19.	Shearme
2.	Landfall	20.	Sugar Loaf
3.	East	21.	Jub Jub
4.	Pecock	22.	Rowe
5.	West	23.	Snark
6.	Whit Cliff	24.	Kwang Tung
7.	Thorn Hill	25.	Latonche
8.	Reef	26.	North Reef
9.	Mayo	27.	Interview
10.	Paget	28.	Boudeville
11.	Ranger	29.	Mask
12.	Roper	30.	Tuft
13.	Homp	31.	Porlob
14.	Flat	32.	Guitar
15.	Gurjan	33.	Round
16.	Parkinson	34.	Barren
17.	Oyster	35.	Chengappa
18.	Cone		

P.O. The area under Middle Andaman main Island excluding the area of the following 44 villages :-

1.	Nimbutala	23.	Urmilapur
2.	Amkunj	24.	Kalsi
3.	Panchavati	25.	Bangaon
4.	Padmanabhpuram	26.	Syamkund
5.	Sivapuram	27.	Kadamtala
6.	Tiruvanchikkulam	28.	Uttara
7.	Ramchandra Nagar	29.	Santhanu
8.	Dharampur	30.	Koshalya Nagar
9.	Santhipur	31.	Shaktigarh
10.	Swadeshnagar	32.	Mayabunder
11.	Rangat	33.	Pokha Dera
12.	Janakpur	34.	Danapur
13.	Dasharatpur	35.	Rampur
14.	Sabari	36.	Lucknow
15.	Sitapur	37.	Latau
16.	Mithila	38.	Devpur
17.	Rampur	39.	Webi
18.	Parnasala	40.	Pahalgao
19.	Bharatpur	41.	Hanspuri
20.	Vishnupur	42.	Chainpur
21.	Bakultala	43.	Pudumadurai
22.	Lashmanpur	44.	Tugapur

(3) The area under Long Island excluding the area of the village Long Island.

By Order

P.V.APRAIM
Asst. Secretary to the Chief Commissioner
Andaman and Nicobar Islands

ANDAMAN AND NICOBAR GAZETTEE

EXTRAORDINARY

Published By Authority

Port Blair, the 15th March, 1971/24th Phalguna 1892.

ANDAMAN AND NICOBAR ADMINISTRATION

Chief Commissioner's Secretariat

Port Blair the 15th March, 1971/24th Phalguna 1892

NOTIFICATION

No. G/635-3 – In exercise of the powers conferred by clause (a) of the sub-section – I of section 4 of the Indian Forest Act, 1927 (Act XVI of 1927), the Chief Commissioner, Andaman & Nicobar Islands is the areas specified in the Schedule below in the North and Middle Andamans as Reserved Forests and under clause (c) of the said Sub-section to appoint Shri Lachman Singh, Assistant Commissioner, Mayabunder of the Forest Settlement Officer to enquire into and determine the existence, nature and extend of any rights alleged to exist in favour of any person in or over any land comprised within such limits, or in or over any forest produce and to deal with the same as provided in Chapter II of the said Act.

I. NORTH ANDAMAN RESERVE :-

This includes :-

(1) The entire area comprised in the following Islands :-

S. No.	Name of the Islands	S.No.	Name of the Islands
1.	Channel	21.	Boudeville
2.	Landfall	22.	Sea Serpent
3.	East	23.	Snake
4.	Pecock	24.	Buchanan
5.	West	25.	Tree
6.	Whit Cliff	26.	Excelsior (Table Island Group)
7.	Thorn Hill	27.	Delgarno
8.	Reef	28.	Tribby
9.	Mayo	29.	Temple
10.	Paget	30.	Turtle
11.	Point	31.	Narcondom
12.	Shearmer	32.	Jungle
13.	Sugar Loaf	33.	North
14.	Jub Jub	34.	Wharf
15.	Rowe	35.	South
16.	Snak	36.	Ox
17.	Kwang Tung	37.	Chatham
18.	Latonche	38.	Brush
19.	North Reef	39.	Ross
20.	Interview	40.	Graggy
41.	Bamboo	49.	Oliver
42.	Blister	50.	Sound
43.	Curlew	51.	Orchid
44.	Goose	52.	Grulew [Island barkely Group]

45.	Gandel	53.	Swamp
46.	Stewart	54.	Dottrel
47.	Dot	55.	Egg
48.	Oyster	56.	Smith

(2) The area under North Andaman main Island excluding the area of the following 29 villagers.

1.	Shyam Nagar	15.	Keralapur
2.	Radha Nagar	16.	Durgapur
3.	Swaraj Gram	17.	Shibpur
4.	Milan Gram	18.	Kalipur
5.	Lakshmipur	19.	Kishorinagar
6.	Madhupur	20.	Paranghara
7.	Krishnapuri	21.	Navagram
8.	Rajedrapalli	22.	Nichintapur
9.	Deshabandugram	23.	Kalighat
10.	Subhas Gram	24.	Madhyamgram
11.	Sita Nagar	25.	Jagannath Dera
12.	Kudhirampur	26.	Ram Nagar
13.	Ram Krishnagram	27.	Mohanpur
14.	Vidyasagarpalli	28.	Aerial Bay
		29.	Sagar Dweep

(3) MIDDLE ANDAMAN RESERVE :

This includes :-

(i) The entire area COMPRISED IN the following Islands :-

1.	Entrance	12.	Flat
2.	Surat	13.	Gurjan
3.	Speke	14.	Parkinson
4.	Ranger	15.	Oyster
5.	Roper	16.	Cone
6.	Bennett	17.	Porlob
7.	South Reef	18.	Guitar
8.	Anderson	19.	Round
9.	Mask	20.	Barren
10.	Tuft	21.	Changappa
11.	Homp		

(ii) The area under Middle Andaman main island excluding the area of the following 44 villages :-

1.	Nimbutala	23.	Urmilapur
2.	Amkunj	24.	Kalsi
3.	Panchavati	25.	Bangaon
4.	Padmanabhpuram	26.	Syamkund
5.	Sivapuram	27.	Kadamtala
6.	Tiruvanchikkulam	28.	Uttara
7.	Ramchandra Nagar	29.	Santhanu
8.	Dharampur	30.	Koshalya Nagar
9.	Santhipur	31.	Shaktigarh
10.	Swadeshnagar	32.	Mayabunder
11.	Rangat	33.	Pokha Dera
12.	Janakpur	34.	Danapur

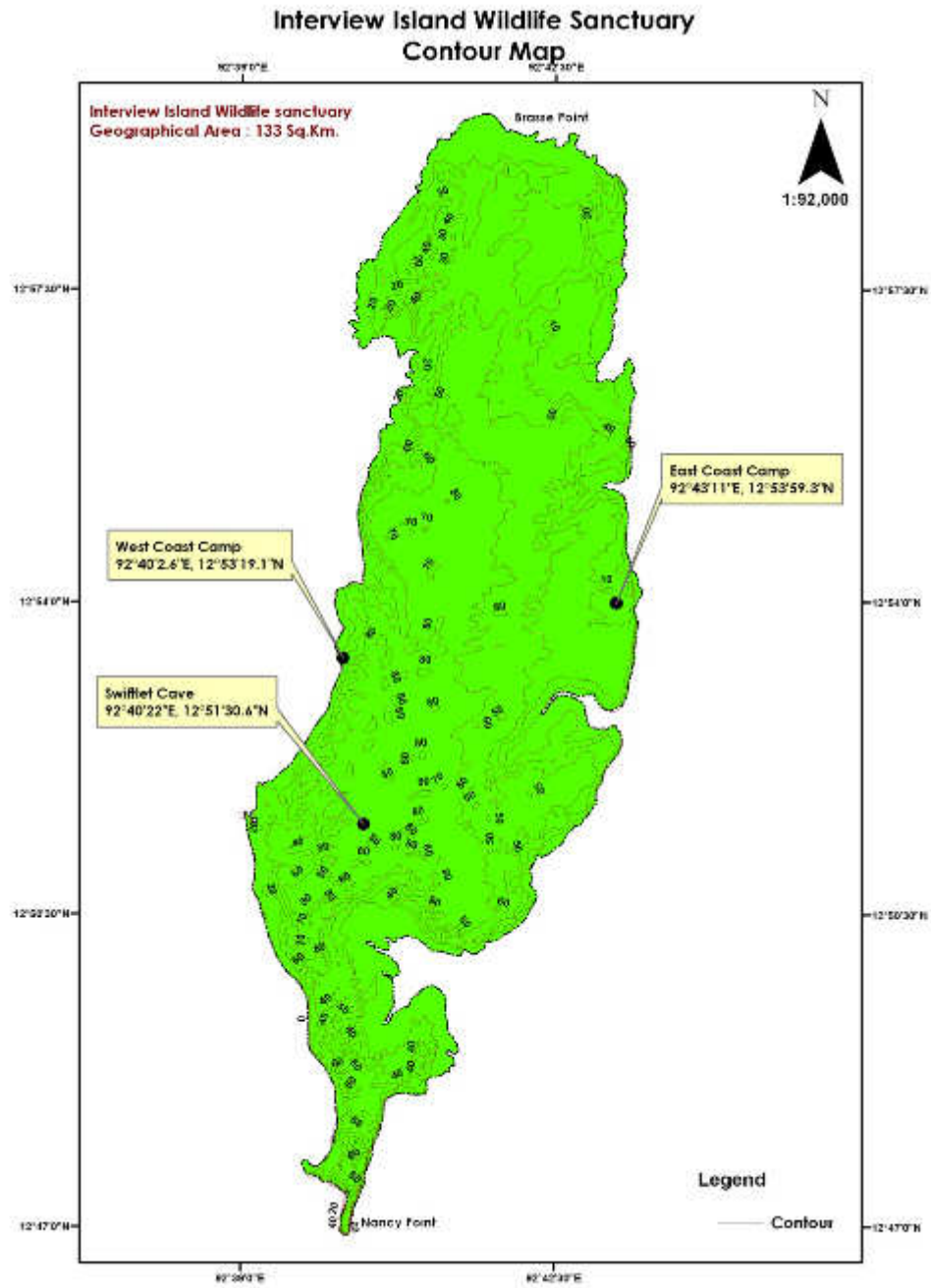
13.	Dasharatpur	35.	Rampur
14.	Sabari	36.	Lucknow
15.	Sitapur	37.	Latau
16.	Mithila	38.	Devpur
17.	Rampur	39.	Webi
18.	Parnasala	40.	Pahalgaoon
19.	Bharatpur	41.	Hanspuri
20.	Vishnupur	42.	Chainpur
21.	Bakultala	43.	Pudumadurai
22.	Lashmanpur	44.	Tugapur

(iii) The area comprised in the Long Island excluding the area of the village Long Island.

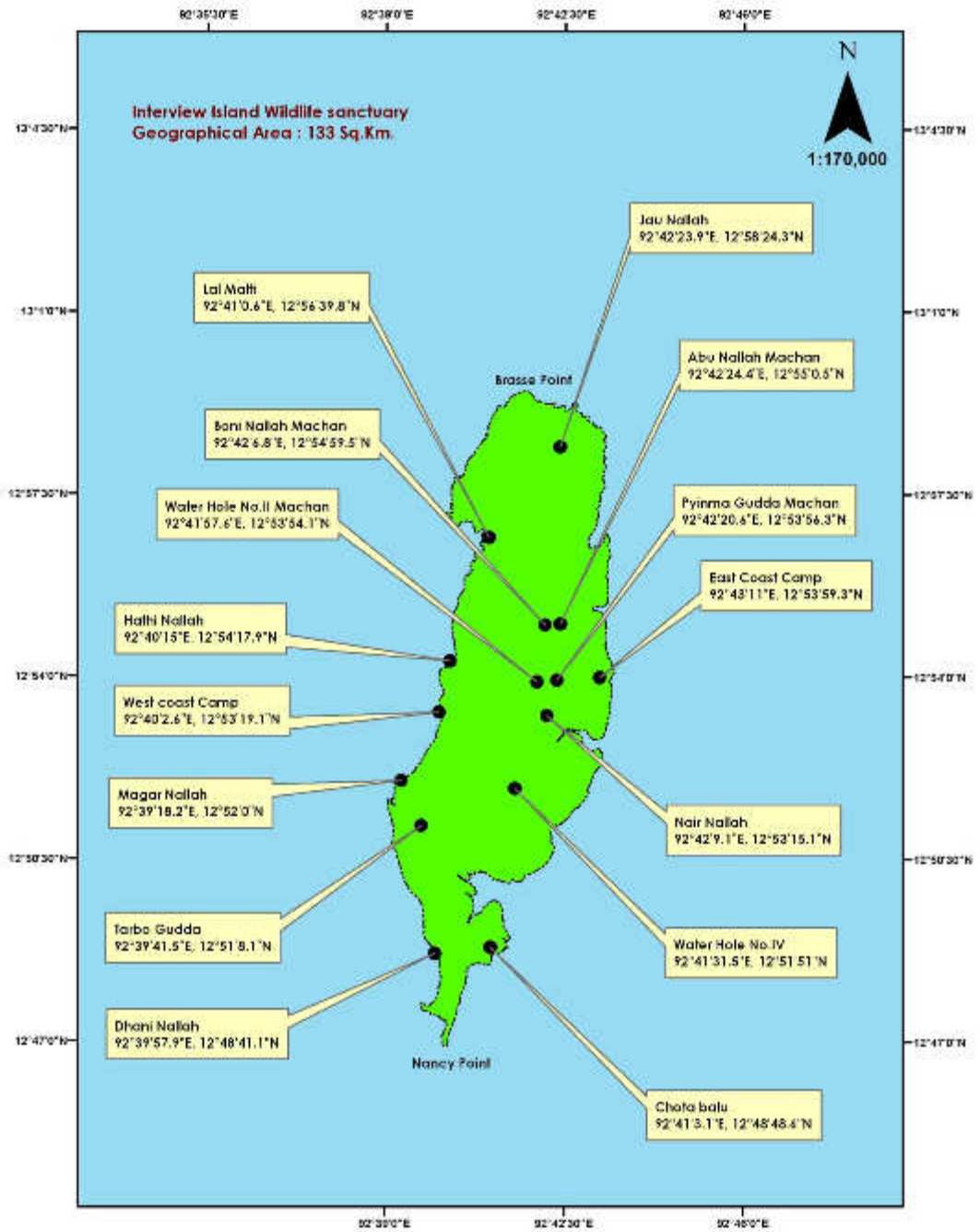
H.S.BUTALIA
Chief Commissioner,
By Order and in the Name of the Chief Commissioner

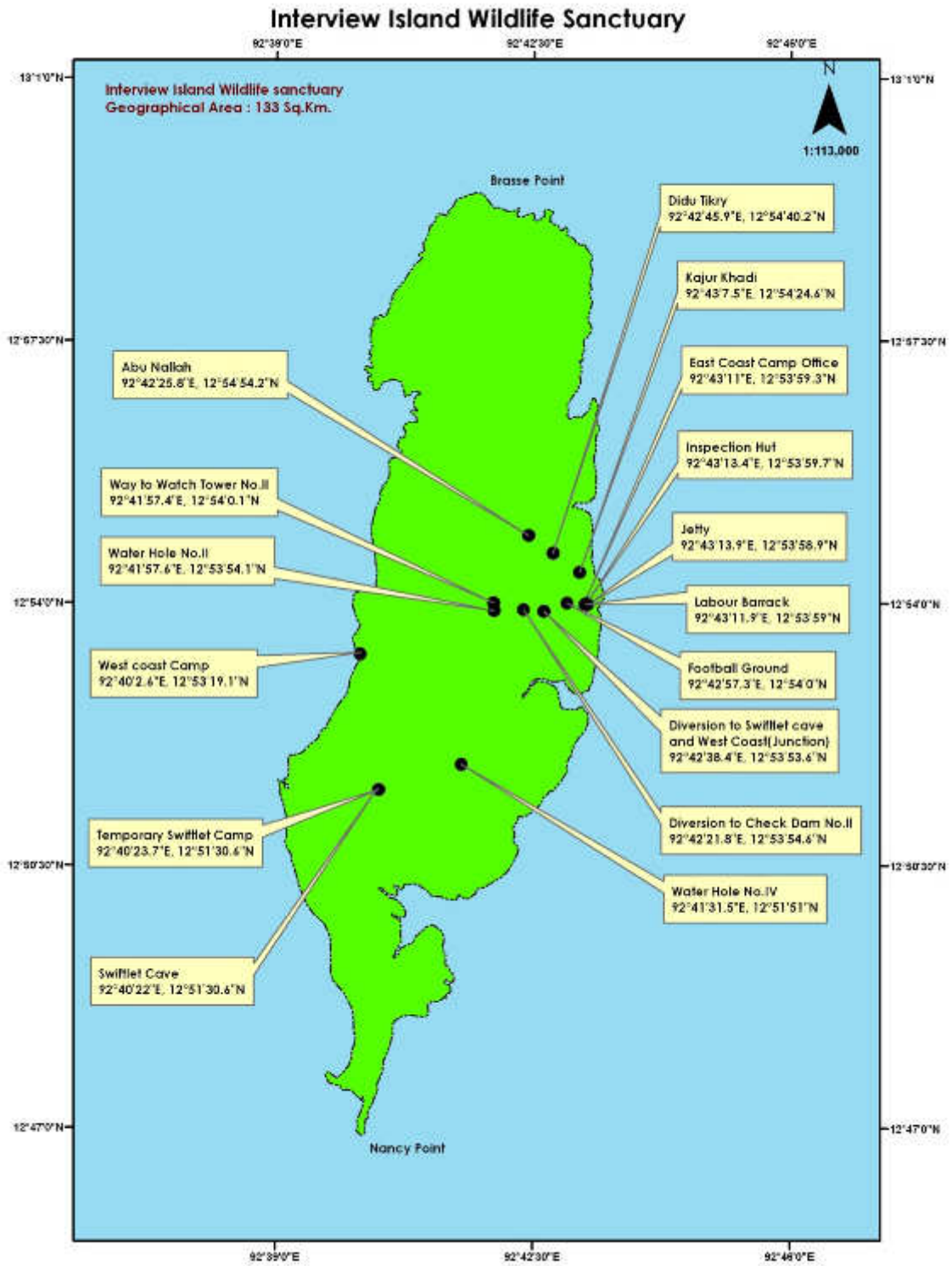
BACHAN SINGH,
Forest Secretary,
Andaman and Nicobar Administration

CONTOUR MAP OF INTERVIEW ISLAND SANCTUARY



Interview Island Wildlife Sanctuary 13 Census Points





Monthly Climate data for 2002-2012

Monthly Climate Data for 2002

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	29.9	23.2	0.7	6.2	71	74
February	30.9	22.6	0.0	4.3	71	74
March	32.0	23.2	14.0	3.7	68	72
April	32.8	24.1	86.0	3.5	69	74
May	30.9	24.3	436.1	10.9	79	82
June	30.0	24.2	354.8	11.7	84	85
July	29.6	24.0	449.7	13.3	82	85
August	29.3	23.6	294.2	14.5	82	83
September	29.1	23.0	421.8	10.1	85	88
October	30.7	23.3	94.7	4.2	77	86
November	30.1	23.5	343.4	5.8	81	86
December	30.1	23.3	122.0	5.6	85	81

Monthly Climate Data for 2003

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	29.9	23.3	21.7	5.3	72	75
February	31.1	23.0	0.1	5.2	72	73
March	31.6	24.0	142.0	4.7	70	76
April	32.1	24.5	13.3	3.7	68	72
May	31.3	25.6	316.2	11.2	77	80
June	30.2	25.1	225.2	11.5	82	83
July	28.7	23.8	535.0	9.7	89	89
August	29.3	24.5	352.6	11.1	84	86
September	29.6	24.0	420.2	7.9	84	87
October	29.9	23.9	290.0	4.2	82	87
November	31.3	24.9	56.8	5.3	72	78
December	29.9	24.4	69.9	6.7	69	74

Monthly Climate Data for 2004

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.5	24.3	104.2	6.7	71	76
February	30.3	22.7	25.9	4.5	69	70
March	31.7	23.3	1.0	2.8	67	72
April	33.5	25.0	33.7	4.3	66	70
May	30.3	24.6	662.8	8.9	83	86
June	29.4	24.6	601.3	11.3	84	88
July	29.4	24.1	401.0	10.2	83	85
August	29.3	24.6	362.9	12.1	84	86
September	29.7	24.0	431.0	6.0	83	86
October	30.2	24.2	270.3	5.5	80	84
November	31.0	24.8	294.6	5.5	75	79
December	30.4	24.2	0.0	6.6	65	69

Monthly Climate Data for 2005

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.3	23.6	00	5.8	69.6	74.5
February	31.3	22.6	00	4.2	68.4	70.7
March	32.1	24.7	3.4	4.2	69.4	71.4
April	33.3	25.7	51.9	3.9	67.8	73.6
May	31.5	25.2	312.4	6.8	76.8	82.2
June	29.5	24.5	912.2	7.9	85.2	86.3
July	20.5	24.4	547.1	9.8	83.8	84.4
August	29.7	24.4	463.7	7.1	82.2	85.4
September	29.3	23.7	622.9	7.0	84.9	84.9
October	30.0	24.0	207.5	2.7	82.4	85.5
November	30.1	24.2	366.7	3.4	78.9	82.1
December	29.1	24.3	286.0	7.3	79.0	81.3

Monthly Climate Data for 2006

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	29.9	22.9	3.6	5.8	70.1	72.6
February	31.1	24.3	1.9	4.9	71.6	71.2
March	30.5	23.7	0.9	2.4	70.1	69.2
April	31.9	24.3	149.9	3.7	67.9	74.5
May	30.9	23.6	403.8	8.4	78	83
June	29.7	23.8	486.2	9	89	91
July	29.9	25	177.3	14.2	85	87
August	29.5	24.5	314.1	13.7	84	86
September	23.8	23.2	791.7	7.5	90	93
October	29.9	23.8	561.4	7.8	83	87
November	30.7	24.9	79	8.8	75	80
December	30	23.5	34.4	9.9	71	76

Monthly Climate Data for 2007

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30	22.7	0	9.5	72	75
February	30.8	22.9	0	8.2	67	72
March	31.4	22.2	0	5.1	65	72
April	32.6	25.3	40.7	5	69	75
May	30.46	24.7	274.2	11.4	83	85
June	30.3	24.7	402.9	9.2	84	87
July	29.6	24.9	281.6	16	84	86
August	29.2	24.7	489.1	13.4	86	88
September	28.7	23.9	473.2	10.5	87	91
October	29.7	23.9	320.9	8.5	85	88
November	30.1	23.9	263.8	8.2	79	82
December	29.9	23.5	9.6	9.7	72	75

Monthly Climate Data for 2008

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.2	23.4	10.5	8.1	73	75
February	30.6	23.6	43	7.5	74	74
March	31.4	24.2	102.7	6.3	74	79
April	31.3	24	287.9	6.9	77	78
May	29.7	23.6	976	14.5	86	87
June	29.8	24.2	374.4	15.5	86	86
July	28.9	23.9	631	10.9	90	90
August	29.2	23.9	521.5	11.8	87	89
September	29.4	24	479.8	10.6	87	88
October	31	24.1	282.1	6.7	81	85
November	30.6	24.7	443	10.6	77	84
December	30.2	24.2	0.7	8	66	72

Monthly Climate Data for 2009

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.1	23	0	6.875	65	70
February	31.5	22	0	3.785	66	68
March	32.7	24	27.2	3.87	70	76
April	32.5	26	157.4	8.935	74	80
May	31.4	25	405.1	8.125	84	86
June	29.1	25	505.4	13.7	90	90
July	29.9	25	178.8	13.405	87	87
August	30.3	25	418.5	10.765	86	87
September	27.8	25	416.2	12.7	83	83
October	31	24	237.6	5.905	81	88
November	31.5	25	88.6	6.27	74	80
December	31	25	61.9	6.42	72	79

Monthly Climate Data for 2010

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.7	24	89.2	5.455	77	78
February	31.7	23	0	3.825	68	70
March	32.8	24	0	3.535	69	72
April	34.2	26	7	4.4	69	72
May	33.1	26	320.1	6.75	77	80
June	31.1	25	390.8	10.985	86	87
July	30	24	600.2	10.205	91	91
August	29.6	25	423	10	90	92
September	30.5	25	314.5	5.4	85	90
October	30.4	24	420.7	7.61	86	90
November	30.6	25	222.3	7.235	81	85
December	30.5	24	328.8	5.545	79	84

Monthly Climate Data for 2011

Month/ Year	Temperature (Celcius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.4	24	132.1	7.195	77	81
February	31.1	23	77.4	7.75	78	78
March	30.6	24	456.2	7.58	80	83
April	32.1	25	54.2	4.9	75	80
May	31.9	25	409.3	10.665	82	86
June	30.4	25	510.4	18.285	88	90
July	29.6	24	6.7.6	15.355	91	91
August	29.6	24	535.2	13.77	91	94
September	29.2	24	643.6	12.87	93	94
October	31.2	25	150.7	9.325	83	89
November	32.5	25	71.4	9.065	72	79
December	30.4	25	240.6	11.68	77	80

Monthly Climate Data for 2012

Month/ Year	Temperature (Celsius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			0830 Hrs	1730 Hrs
January	29.2	21.3	31	8.935	74	78
February	30.1	21.0	21	4.3	72	72
March	31.1	21.8	9	4.4	71	74
April	32.2	23.4	70	9.065	72	77
May	31.0	23.3	346	7.58	80	84
June	29.5	23.1	456	5.4	84	86
July	29.2	23.0	400	5.4	84	84
August	29.1	22.9	425	5.4	85	88
September	29.2	22.4	403	5.4	85	86
October	29.6	22.2	295	10.665	83	89
November	29.4	22.3	254	7.58	80	85
December	29.1	22.3	157	4.9	75	78

Monthly Climate Data for 2013

Month/ Year	Temperature (Celsius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			0830 Hrs	1730 Hrs
January	30.6	24.0	28.9	7.5	75	78
February	32.0	25.0	0.1	5.5	74	78
March	33.0	24.0	5.7	4.5	67	71
April	34.1	25.0	21.3	2.5	69	74
May	32.2	25.0	659.1	6	81	86
June	29.4	25.0	615.6	13	93	91
July	29.1	24.0	597.1	15	92	91
August	30.3	25.0	235.2	13	88	88
September	29.3	24.0	493.2	13	92	93
October	30.9	24.0	267.1	3.5	83	88
November	30.8	25.0	352.7	4.5	78	86
December	29.9	24.0	129.4	10	70	74

Monthly Climate Data for 2014

Month/ Year	Temperature (Celsius)		Rainfall (mm)	Wind Speed (km/hr)	Relative Humidity (%)	
	Mean Max	Mean Min			830 Hrs	1730 Hrs
January	30.0	24.0	0.4	11.5	66	70
February	30.6	23.0	0.0	6.0	70	73
March	32.5	24.0	0.0	6.5	67	71
April	34.3	25.0	0.0	2.5	64	69
May	32.3	26.0	229.9	4.0	78	82
June	30.6	26.0	501.7	13.5	84	88
July	29.8	25.0	696.6	15	88	88
August	30.1	25.0	283.5	10.5	85	87
September	30.0	24.0	409.4	9.0	85	89
October	30.5	25.0	564.9	1.0	82	87
November	30.8	25.0	174.6	4.5	78	83
December	31.0	26.0	16.0	10	73	77

MANGROVES OF INTERVIEW ISLAND SANCTUARY

Mangroves are salt-tolerant ecosystems found mainly in tropical and sub-tropical inter-tidal regions of the world. They are trees or shrubs that have the common trait of growing in shallow and muddy salt water or brackish waters, especially along quiet shorelines and in estuaries. They exhibit remarkable capacity for salt water tolerance. Typically they produce tangled masses of arching roots that are exposed during low tides. Some mangrove roots extend above the water in the form of specialized vertical branches, called pneumatophores, which act as aerating organs and therefore are also known as respiratory roots. Among mangroves, there are some that prefer a daily tidal wash while others find their optimum conditions in shallow areas subject to occasional high tides. This process governs their distribution. Mangroves do not appear on sandy beaches and rocky shores.

SALIENT FEATURES OF MANGROVES

- Mangroves are practically evergreen with thick leathery leaves designed to minimize transpiration.
- Root system is adapted to the peculiar conditions found in the mangrove forests such as still roots in rhizophora and knee roots in Bruguiera. Pneumatophores (breathing roots) are seen in profusion in Sonneratia and Avicennia.
- Viviparous germination where the seed germinates while still on the tree and falls down in the germinating condition with a long radicle-a characteristics of Rhizophoracea.

IMPORTANT MANGROVE SPECIES OF A & N ISLANDS

About 60 species of mangroves occur through out the World. Asia is the richest region of mangrove species diversity with 44 species reported to occur. As per available information from various sources 27 tree species, 5 shrubs, 1 climber and 2 species of plants and ferns each belonging to 17 genera are reported to occur

in the mangrove ecosystem of these Island. Important mangrove species found in these Island include-Rhizophora mucronata, R. apiculata, Bruguiera gymnorrhiza, B.parviflora, avicennia officinalis, A. marina, Ceriops tagal, Heritiera littoralis, Sonneratia casealaries, S. alba, Excoecaria agallacho, Xylocarpus, granatum, Aegiceras corniculatum, Scyphiphora hydrophyllacea, Nypa fruticans etc.

Avicennia Officinalis:

A tree with smooth yellowish grey bark. Leaves not glucose, flowers yellow or sessile. Commonly found in Andamans forming pure patches along sea-shore or muddy flats.

Bruguiera cylindrical:

A medium sized to tall buttressed tree with smooth, grey bark. Leaves 7 to 10 cm long. Flowers white, 1 cm long with small cayls tube, viviparous germination. Rare, found in middle Andaman and at Shipighat in South Andamans.

Heritiera littorails:

A very common mangrove bordering other mangroves., a tree of moderate size with thin plank – shaped, often curving buttresses and grey coloured cracked bark. Leaves 10-25 cm long, flowers small creamy-pink and clustered. Fruit woody and compressed capsule.

Nypa fruticans:

A plum with underground stems; 5 to 7 m long pinnate leaves, fruit 6 to 15 cm long turbinate, fibrous with a large white seed. Found frequently in Kadam Tala, Mayabunder, South Andaman and Galathea river basin.

Phonenix paludosa:

An erect plum up to 7m height, with 1 to 0m long leaves Leaflets are arranged in pairs and folded inwards along the length. Flowers yellowish in compact spikes; Fruits 1 cm in diameter, orange red but turns black when ripens. Palm bears thin knee-like pneumatophores.

Rhizophora apiculata:

One of the most commonly found species and distributed in almost all Islands. A moderate sized much branched and rough barked tree. Flowers sessile, petals glabrous, radical cylindrical up to 30 cm long.

Rhizophira mucronata:

One of the most commonly distributed mangrove species. A moderate sized tree with a very rough bark. Flowers yellowish-white; Inflorescence two to eight flowered.

Sonneratia alba:

A not commonly found, much branched tree reaching up to 12m. Negative geotropic stout conical pneumatophores are characteristic of this genus. Bark orange-brown, branches silvery-grey, swollen; leaves leathery and glabrous. Fruit 3cm long with numerous small seeds. Found at Chidiyatapu, Bambooflat and Ritchie's Archipelago.

Xylocarpus granatum:

Very common moderate sized tree with flat buttresses and smooth yellowish-grey bark. Flowers cream coloured. Fruit leathery and smooth, 18 to 25 cm in diameter.



Fig. 19 Mangroves forest at Interview Island

FLORA OF INTERVIEW ISLAND WILDLIFE SANCTUARY
LIST OF COMMERCIAL & MISCELLANEOUS TIMBER SPECIES OF
INTERVIEW ISALDN WILDLIFE SANCTUARY

I. COMMERCIAL**I(A) ORNAMENTAL WOODS**

<u>Vernacular Name</u>	<u>Scientific Name</u>
1. Chooi	<i>Sagerea elliptica</i>
2. Marble Wood	<i>Diospyros marmorata</i>
3. Padauk	<i>Pterocarpus</i> <i>Dalbergioides</i>

I(A) HARD WOOD

1. Badam	<i>terminalia procera</i>
2. Black chuglam	<i>Terminalia manii</i>
3. Gurjan	<i>Depterocapus species</i>
4. Jhingam	<i>Pajenalia rhedii</i>
5. Jungli aam	<i>Mangifera andamanica</i>
6. Koko	<i>Albizia lebek</i>
7. Lakuch	<i>Artocarpus gomeziana</i>
8. Lalchini	<i>Amoora vallichi</i>
9. lal bombwe	<i>Planchonia andamanica</i>
10. Mau	<i>Duabanga soneratiodes</i>
11. Nabbe	<i>Lennea grandis</i>
12. Pyma	<i>Lagerstroemia hypoluca</i>
13. Red thingan	<i>prunus martabanica</i>
14. Red dhup	<i>Parichia insignis</i>
15. Sea mohwa	<i>Manikara littoralis</i>
16. Toungopinne	<i>Artocarpus chaplasha</i>
17. White thingan	<i>Hopea odorata</i>
18. White chuglum	<i>Terminalia bialata</i>

I (C) SOFT WOODS :

- | | |
|---------------|-------------------------------------|
| 1. Allanthus | <i>Ailanthus Kurzii</i> |
| 2. Bakota | <i>Endopermum</i> |
| 3. Didu | <i>Bombax insignis</i> |
| 4. Papita | <i>Pterocymbium</i> |
| 5. White dhup | <i>Canarium</i>
<i>euphyllum</i> |

II. MISCELLANEOUS SPECIES

II(A) HARD WOOD :

- | | |
|-----------|-------------------------------------|
| 1. Gual | <i>Ficus species</i> |
| 2. Jamun | <i>Schizigium species</i> |
| 3. Karanj | <i>Pongamia pinnata</i> |
| 4. Letauk | <i>Aglaia andamanica</i> |
| 5. Siris | <i>Enterolobium</i>
<i>Saman</i> |

II(B) SOFT WOOD :

- | | |
|----------------|--------------------------|
| 1. Bakripathi | <i>Trema ambionensis</i> |
| 2. Jaiphal | <i>Myristica species</i> |
| 3. Kattaphal | <i>Baccaria sapida</i> |
| 4. Lia chilika | <i>Sterculia villosa</i> |

FAUNA OF INTERVIEW ISLAND WILDLIFE SANCTUARY

SNAKES:

1. King Cobra
2. Andaman Cobra
3. Red-tailed Trinket Snake
4. Andaman Pit viper
5. Anderson's Pit viper
6. Andaman Krait
7. Banded Krait
8. Rat Snake
9. Green bronze-back Tree Snake
10. Andaman Water Snake

OTHER REPTILES

1. Salt Water Crocodile
2. Water Monitor Lizard
3. Olive Ridley Turtle
4. Hawks billed Turtle
5. Leather Back Turtle
6. Emerald Green Gecko

MAMMALS:

1. Feral Elephant
2. Spotted Deer
3. Small Indian palm civet
4. Himalayan Palm Civet
5. Andaman Wild boar
6. Feral Dog

Checklist of Birds in Interview Island Wildlife Sanctuary

S. No.	Common Name	Genus name	species name	sub-sp. name
1	Indian Pond Heron	<i>Ardeola</i>	<i>Grayii</i>	<i>grayii</i>
2	Larger Egret or Great White Heron	<i>Ardea</i>	<i>Alba</i>	<i>alba</i>
3	Little Egret	<i>Egretta</i>	<i>garzetta</i>	<i>garzetta</i>
4	Eastern Reef Heron	<i>Egretta</i>	<i>Sacra</i>	
5	Lesser Whistling Teal or Tree Duck	<i>Dendrocygna</i>	<i>javanica</i>	
6	Common Teal	<i>Anas</i>	<i>Crecca</i>	<i>crecca</i>
7	Grey Andaman or Oceanic Teal	<i>Anas</i>	<i>gibberifrons</i>	<i>albogularis</i>
8	Andaman Blackcrested Baza	<i>Aviceda</i>	<i>leuphotes</i>	<i>andamanica</i>
9	Whitebellied Sea Eagle	<i>Haliaeetus</i>	<i>leucogaster</i>	
10	Andaman Dark Serpent Eagle	<i>Spilornis</i>	<i>Elgini</i>	
11	Andaman Banded Crake	<i>Rallina</i>	<i>canningi</i>	
12	Andaman Whitebreasted Waterhen	<i>Amaurornis</i>	<i>phoenicurus</i>	<i>insularis</i>
13	Kora or Watercock	<i>Gallicrex</i>	<i>cinerea</i>	<i>cinerea</i>
14	Blackbellied or Grey Plover	<i>Pluvialis</i>	<i>squatarola</i>	
15	Large Sand Plover	<i>Charadrius</i>	<i>leschenaultii</i>	
16	Eastern Sand Plover	<i>Charadrius</i>	<i>asiaticus</i>	<i>veredus</i>
17	Kentish Plover	<i>Charadrius</i>	<i>alexandrinus</i>	<i>alexandrinus</i>
18	Pamirs Lesser Sand Plover	<i>Charadrius</i>	<i>mongolus</i>	<i>atrifrons</i>
19	Whimbrel	<i>Numenius</i>	<i>phaeopus</i>	<i>phaeopus</i>
20	Curlew	<i>Numenius</i>	<i>arquata</i>	<i>arquata</i>
21	Bartailed Godwit	<i>Limosa</i>	<i>lapponica</i>	<i>lapponica</i>
22	Common Redshank	<i>Tringa</i>	<i>totanus</i>	<i>totanus</i>
23	Greenshank	<i>Tringa</i>	<i>nebularia</i>	
24	Wood or Spotted Sandpiper	<i>Tringa</i>	<i>glareola</i>	
25	Terek Sandpiper or Avocet-Sandpiper	<i>Xenus</i>	<i>cinereus</i>	
26	Common Sandpiper	<i>Actitis</i>	<i>hypoleucos</i>	
27	Curlew-Sandpiper	<i>Calidris</i>	<i>ferruginea</i>	
28	Eastern broadbilled Sandpiper	<i>Limicola</i>	<i>falcinellus</i>	<i>sibirica</i>
29	Great stone Plover	<i>Esacus</i>	<i>magnirostris</i>	<i>recurvirostris</i>
30	Eastern Blacknaped Tern	<i>Sterna</i>	<i>sumatrana</i>	<i>sumatrana</i>

31	Little Tern or Ternlet	<i>Sterna</i>	<i>albifrons</i>	<i>albifrons</i>
32	Andaman Pompadour (Greyfronted Green) Pigeon	<i>Treron</i>	<i>pompadora</i>	<i>chloroptera</i>
33	Andaman Green Imperial Pigeon	<i>Ducula</i>	<i>aenea</i>	<i>adamanica</i>
34	Andaman Wood Pigeon	<i>Columba</i>	<i>palumbodies</i>	<i>palumbodies</i>
35	Andaman Cukoo-Dove	<i>Macropygia</i>	<i>rufipennis</i>	<i>andamanica</i>
36	Burmese Red Turtle-Dove	<i>Streptopelia</i>	<i>Tranquebarica</i>	<i>humilils</i>
37	Andaman Emerald Dove	<i>Chalcophaps</i>	<i>indica</i>	<i>maxima</i>
38	Nicobar Pigeon	<i>Caloenas</i>	<i>nicobarica</i>	<i>nicobarica</i>
39	Large Andaman Parakeet	<i>Psittacula</i>	<i>eupatria</i>	<i>magnirostris</i>
40	Andaman Redbreasted Parakeet	<i>Psittacula</i>	<i>alexandri</i>	<i>abbotti</i>
41	Andaman Redcheeked Parakeet	<i>Psittacula</i>	<i>longicauda</i>	<i>tytleri</i>
42	Indian Lorikeet	<i>Loriculus</i>	<i>vernalis</i>	<i>vernalis</i>
43	Andaman Koel	<i>Eudynamys</i>	<i>scolopacea</i>	<i>dolosa</i>
44	Andaman Crow-Pheasant	<i>Centropus</i>	<i>sinensis</i>	<i>andamanensis</i>
45	Andaman Scops Owl	<i>Otus</i>	<i>Balli</i>	
46	Andaman (Brown) Hawk-Owl	<i>Ninox</i>	<i>affinis</i>	<i>affinis</i>
47	Migratory Nightjar	<i>Caprimulgus</i>	<i>indicus</i>	<i>indicus</i>
48	(Indian) Andaman Longtailed Nightjar	<i>Caprimulgus</i>	<i>macrurus</i>	<i>albonotatus</i>
49	Andaman Greyrumped (or 'White- nest') Swiftlet	<i>Collocalia</i>	<i>fuciphaga</i>	<i>inexpectata</i>
50	Whitebellied Swiftlet	<i>Collocalia</i>	<i>esculenta</i>	<i>affinis</i>
51	(Large) Brownthroated Spinetail Swift	<i>Chaetura</i>	<i>gigantea</i>	<i>indica</i>
52	Indian Small Blue Kingfisher	<i>Alcedo</i>	<i>Atthis</i>	<i>benghalensis</i>
53	Andaman Blue-eared Kingfisher	<i>Alcedo</i>	<i>meninting</i>	<i>rufigaster</i>
54	Andaman Storkbilled Kingfisher	<i>Pelargopsis</i>	<i>capensis</i>	<i>osmastoni</i>
55	Andaman ruddy Kingfisher	<i>Halcyon</i>	<i>coramanda</i>	<i>mizorhina</i>
56	Andaman whitebreasted Kingfisher	<i>Halcyon</i>	<i>smyrnensis</i>	<i>saturation</i>
57	Blackcapped Kingfisher	<i>Halcyon</i>	<i>pileata</i>	
58	Andaman Whitecollared Kingfisher	<i>Halcyon</i>	<i>chloris</i>	<i>davisoni</i>
59	Andaman chestnutheaded Bee eater	<i>Merops</i>	<i>leschenaulti</i>	<i>andamanensis</i>
60	Andaman Broadbilled Roller	<i>Eurystomus</i>	<i>orientalis</i>	<i>gigas</i>
61	Andaman Black Woodpecker	<i>Dryocopus</i>	<i>javensis</i>	<i>hodgei</i>

62	Andaman Spottedbreasted Pied W.P.	<i>Picoides</i>	<i>macei</i>	<i>andamanensis</i>
63	Swallow	<i>Hirundo</i>	<i>rustica</i>	<i>gutturialis</i>
64	Javan House(Pacific) Swallow	<i>Hirundo</i>	<i>tahitica</i>	<i>javanica</i>
65	Andaman Blacknaped Oriole	<i>Oriolus</i>	<i>chinensis</i>	<i>andamanensis</i>
66	Black Headed Oriole	<i>Oriolus</i>	<i>xanthornus</i>	<i>andamanensis</i>
67	Crowbilled Drongo	<i>Dicrurus</i>	<i>annectans</i>	
68	Small Andaman Drongo	<i>Dicrurus</i>	<i>Andamanensis</i>	<i>andamanensis</i>
69	Andaman Racket-tailed Drongo	<i>Dicrurus</i>	<i>paradiseus</i>	<i>otiosus</i>
70	Whitebreasted Swallow-Shrike	<i>Artamus</i>	<i>Leucorhynchus</i>	<i>humei</i>
71	Whiteheaded Myna	<i>Sturnus</i>	<i>erythrogygius</i>	<i>andamanensis</i>
72	Andaman Hill Myna	<i>Gracula</i>	<i>religiosa</i>	<i>andamanensis</i>
73	Andaman Tree Pie	<i>Dendrocitta</i>	<i>bayleyi</i>	
74	Eastern Jungle Crow	<i>Corvus</i>	<i>Macrorhynchus</i>	<i>levaillantii</i>
75	Andaman Large Cuckoo-Shrike	<i>Coracina</i>	<i>Novaehollandiae</i>	<i>andamana</i>
76	Andaman Scarlet Minivet	<i>Pericrocotus</i>	<i>flammeus</i>	<i>andamanensis</i>
77	Eastern Small Minivet	<i>Pericrocotus</i>	<i>cinnamomeus</i>	<i>vividus</i>
78	Fairy Bluebird	<i>Irena</i>	<i>puella</i>	<i>puella</i>
79	Andaman Red-Whiskered Bulbul	<i>Pycnonotus</i>	<i>jocosus</i>	<i>whistleri</i>
80	Brown Flycatcher	<i>Muscicapa</i>	<i>latirostris</i>	
81	Andaman Blacknaped Monarch	<i>Monarcha</i>	<i>azurea</i>	<i>tytleri</i>
82	Mangrove Whistler	<i>Pachycephala</i>	<i>grisola</i>	
83	Andaman Magpie-Robin	<i>Copsychus</i>	<i>saularis</i>	<i>andamanensis</i>
84	Andaman Shama	<i>Copsychus</i>	<i>malabaricus</i>	<i>albiventris</i>
85	Andaman Ground Thrush	<i>Zoothea</i>	<i>citrina</i>	<i>andamanensis</i>
86	Forest Wagtail	<i>Motacilla</i>	<i>indica</i>	
87	Yellow Wagtail	<i>Motacilla</i>	<i>Flava</i>	<i>thunbergi</i>
88	Andaman Flowerpecker	<i>Dicaeum</i>	<i>concolor</i>	<i>virescens</i>
89	Andaman Olivebacked Sunbird	<i>Nectarinia</i>	<i>jugularis</i>	<i>andamanica</i>

FOOD PLANTS OF FERAL ELEPHANTS IN INTERVIEW ISLANDS

	SPECIES	LEAVES/BRANCHES	BARK	ROOT
1	<i>Albizzia lebbek</i>		*	
2	<i>Antiaris toxicaria</i>		*	
3	<i>Areca triandra</i>	*	*	*
4	<i>Artocarpus chaplasha</i>		*	
5	<i>Artocarpus gomeziana</i>		*	
6	<i>Artocarpus lakoocha</i>		*	
7	<i>Calamus palustris</i>	*	*	
8	<i>Calamus andamanicus</i>	*	*	
9	<i>Calamus longisetus</i>	*	*	
10	<i>Caryota mitis</i>	*	*	*
11	<i>Dinochloa andamanica</i>	*	*	
12	<i>Endospermum chinense</i>	*	*	
13	<i>Ficus spp.</i>		*	
14	<i>Korthalsia lociniosa</i>		*	
15	<i>Licuala peltata</i>	*	*	
16	<i>Mangifera andamanica</i>	*	*	
17	<i>Mesua ferrea</i>		*	
18	<i>Mimusops littoralis</i>		*	
19	<i>Myristica spp.</i>	*	*	
20	<i>Odina wodier</i>	*		
21	<i>Pandanus tectorius</i>		*	
22	<i>Pisonia excelsa</i>		*	
23	<i>Planchonia andamanica</i>		*	
24	<i>Pterocarpus dalbergiodes</i>		*	
25	<i>Sageraea elliptica</i>		*	
26	<i>Salmalia insignis</i>		*	
27	<i>Semecarpus prainii</i>		*	

28	<i>Sterculia campanulata</i>		*	
29	<i>Sterculia alata</i>	*	*	
30	<i>Sterculia villosa</i>	*	*	
31	<i>Tectona grandis</i>	*	*	
32	<i>Tetrameles nudiflora</i>		*	
33	<i>Trema amboinensis</i>		*	

Year wise Tourists Visiting the Interview Island (WL) Sanctuary from 2008-2014

Months	Year							Total
	2008	2009	2010	2011	2012	2013	2014	
January	-	17	10	07	12	16	8	80
February	02	06	14	05	02	19	-	48
March	11	14	-	26	07	10	-	67
April	30	-	01	14	-	30	02	77
May	-	-	08	03	04	10	08	33
June	14	-	-	-	-	-	-	15
July	-	-	-	-	-	-	-	0
August	-	-	-	-	-	-	-	0
September	-	-	03	-	-	-	02	2
October	14	-	-	32	05	39	-	94
November	-	02	04	02	03	05	07	23
December	07	-	02	-	22	11	16	58
Total	78	40	42	89	55	140	53	497

REVENUE GENERATED THROUGH TOURIST AT INTERVIEW ISLAND (WL) SANCTUARY FROM 2008-2014

Months	Year							Total
	2008	2009	2010	2011	2012	2013	2014	
January	-	7350	3850	1380	3070	1820	4100	15270
February	1000	900	5300	1450	1000	3690	-	13240
March	3100	4850	-	2230	70	5050	-	15250
April	6150	-	100	1475	-	705	1010	9455
May	-	-	400	300	30	1635	120	2485
June	800	-	-	-	-	-	-	400
July	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-	-
September	-	-	270	-	-	-	100	100
October	1250	-	-	4350	1030	495	-	7125
November	-	1200	2000	540	325	2520	200	6585
December	550	-	1000	-	910	2370	800	5630
Total	12850	14300	12920	11725	6435	18285	6330	75540

LIST OF BUTTERFLIES OF NORTH ANDAMAN

- | | | |
|-------------------------------|---|--|
| 1. Andaman Mine | : | <i>Chilasa clytia flavolimbtus</i> |
| 2. Andaman Orange Tip | : | <i>Ixias pyrene andamana</i> |
| 3. Andaman Great Orange Tip | : | <i>Hebomoia glaucippe roepstorfi</i> |
| 4. Andaman Crow | : | <i>Euploea a. andamanensis</i> |
| 5. Andaman Duffer | : | <i>Discophora Continentalis andamanensis</i> |
| 6. Andaman Banded Dandy | : | <i>Laringa horsfieldii andamanensis</i> |
| 7. Andaman Centaur Oak blue | : | <i>Arhopala centaurus coruscans</i> |
| 8. Andaman Tit | : | <i>Hypolycaena erylus andamana.</i> |
| 9. Andaman White Cerulean | : | <i>Jamides celeno blairana</i> |
| 10. Andaman Large 4 line blue | : | <i>Nacaduba pactolus andamanica.</i> |
| 11. Andaman sunbeam | : | <i>Curetes saronis saronis</i> |
| 12. Island Common Snow Flat | : | <i>Tagiades atticus ravina</i> |
| 13. Andaman Giant Redeye | : | <i>Gangara thyrsis yasodara</i> |
| 14. Andaman Dark Tropic Dart | : | <i>Potanthus tropical nina</i> |

PROTECTION DUTY PROFORMA

RANGE : Beat/Camp :

Name of staff : Designation :

1. Date of patrolling :

2. Duration of patrolling :

3. Area covers :

4. Offence detected :

5. Wildlife species observed :

6. Observation on habitat :

(i) Incidence/signs of grazing

(ii) Signs of tree/pole up rooting

(iii) Sign of MFP removal

7. Other Remarks

Fig-20 Wooden Jetty at Interview Island Sanctuary



Fig-21 Artificial Swiftlet House at Kharanallah, Exsitu Conservation of Edible nest swiftlet



Fig-22 Labour Barrack at West Coast, Interview Island Sanctuary



Fig. 23 Inspection Hut at Interview Island (WL) Sanctuary



OFFICIALS INVOLVED

The following officials were involved for the preparation of the Management plan.

1. Shri S.K Thomas, Divisional Forest officer, Wild life Division, Mayabunder.
2. Shri Anil Saha, Forest Ranger & Dr. Sam Varghese, Forest Ranger, Wild life Division Mayabunder.

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3. Shri Ravichandran, I.F.S, Conservator of Forests, Wild life, Department of Environment & Forests, Andaman & Nicobar Administration for critical review of the plan & his valuable suggestions for its improvement.
4. Other supporting staff under wild life division, Mayabunder for their cooperation.