Project Report

Strengthening the Network for Monitoring and Conservation of Sea Turtles in India

Submitted to the US Fish and Wildlife Service under the Marine Turtle Conservation Act Fund
2011 – 2012

TAG Turtle Action Group - INDIA

Copyright © 2011-12
Madras Crocodile Bank Trust and Centre for Herpetology (MCBT)
Post bag No. 4, Vadanamelli Village
East Cost Road, Mamallapuram- 603 104
Tamil Nadu, India

Authors:

Amrita Tripathy
Coordinator, TAG (Turtle Action Group)
Dakshin Foundation
Bangalore-560 092
Email: coordinator.tag@gmail.com

Kartik Shanker, Ph.D
Associate Professor, Centre for Ecological Studies
Indian Institute of Science, Bangalore- 560 012, India
&
Trustee, Dakshin Foundation
Bangalore-560 092
Email: kshanker@ces.iisc.ernet.in

Nupur Kale
Project Assistant
Dakshin Foundation
Bangalore-560 092

Citation:

Tripathy A., N. Kale and K. Shanker. 2012. Strengthening the Network for Monitoring and Conservation of Sea Turtles in India. Project report submitted to the USFWS. Madras Crocodile Bank Trust and Dakshin Foundation, Bangalore. 58 pages.

Disclaimer: This report is an independent publication and does not necessarily reflect the views of MCBT or the USFWS.

Contents

1. Executive Summary

Since 2008, the Turtle Action Group (TAG) has been involved in bringing together organisations that work on the Indian coastline on marine turtle and coastal conservation. This has facilitated dialogue between groups from different parts of the country working on a range of issues in a variety of contexts.

TAG is a network of NGOs (Non-Governmental Organisations) and other organisations dedicated to the cause of sea turtle conservation and coastal protection around India, including the mainland coast and islands of Andaman & Nicobar and Lakshadweep. From 2008 – 2011, the network's activities have been supported through grants from the Marine Turtle Conservation Act Fund of the US Fish & Wildlife Service. For the initial year 2008-09, the project funds were administered, and project activities executed through the Ashoka Trust for Research in Ecology and the Environment in Bangalore, India.

Since 2009, the project funds have been administered by the Madras Crocodile Bank Trust (MCBT), Chennai. Dakshin Foundation, an NGO based in Bangalore, is the key partner for the execution of the activities of this project and has assisted with the formulation of action plans and program design for the implementation of the project.

2008 – 2009: Formation of a national level network: The first grant of $5000 helped facilitate the formation of a network of committed groups and organisations from across the country's coastline and in the initiation of activities that were undertaken by the network.

2009 – 2010: Strengthening of the network and expansion of scope: The second grant of $30,500 provided support to expand membership of the network to include local, community based organisations and strengthen the activities and broaden the scope of TAG.

2010-2011: Building and strengthening for the conservation of marine turtles of India: The third grant of $ 39,000 supported the initiation of new activities, and strengthening and expansion of existing programs, ensuring inclusion of all community based groups from around the country working on sea turtle conservation.

2011-2012: Building and strengthening the ongoing conservation activities on marine turtles of India: This year's grant of $45,000 provided support to strengthen and expand existing activities of the network, execute various capacity building workshops, and to disburse small grants.

The primary aim of the project was to provide a platform for the exchange of information and knowledge and to share experiences amongst various groups and individuals working along the coast. It strived to strengthen community based NGOs from various coastal states by providing small grants, training and technical assistance. The project also sought effective engagement of network members with other stakeholder groups, research institutions and government agencies in order to better inform conservation action.

The grant provided by the funding agency for the period 2011-2012 was utilized towards conducting the 4th Annual TAG workshop at Mahabalipuram, supporting travel and accommodation for all members, resource personnel and organisers. The website www.seaturtlesofindia.org was expanded to include an online data repository. Funds were utilized for the publication of outreach and educational material, relevant reports and manuals and partial support towards the production of the Indian Ocean Turtle Newsletter. A portion of the grant was also disbursed to member groups of the network to carry out specific activities related to outreach and monitoring. Sea turtle monitoring was carried out at index sites, including olive ridley turtles in Odisha, and leatherback turtles on Little Andaman Island.

TAG is now a well-established network of over 25 organisations from across the country. Its members have committed to meeting annually to take the activities of the network forward. In addition to annual meetings, members regularly communicate with each other, and share relevant reports and materials.

The network has established a set of goals in the form of action plans to address sea turtle conservation effectively through cooperative and collaborative action and efforts. Research and monitoring capacities of the member organisations in collecting uniform and reliable data is being developed through monitoring protocols, training programs and workshop sessions. This will lead to standardisation of data collected during the nesting season at key sites along the mainland coast as well as the Lakshadweep and Andaman & Nicobar Islands. The annual meetings serve as a platform for member organisations to showcase their activities, share their experiences, voice their concerns and network not just with individuals/organisations with similar interests, but also with a wide array of sea turtle conservationists from diverse socio-cultural backgrounds. The current project seeks to build and strengthen this network by continuing to support and coordinate sea turtle conservation activities along the Indian coast, and to undertake collaborative actions that can lead to better coastal and marine conservation.

This report provides detailed account of the functioning of the network and its member organisations; project goals and objectives; activities carried out during the current funding cycle and outcomes from the project. It also outlines the lessons learned from the collective experience of member groups and lists possible recommendations and future plans for further strengthening the network towards more effective communication and conservation action.

2. Introduction to TAG

Background

Four species of marine turtles have significant nesting/feeding grounds along the Indian coastlines. They include the leatherback (*Dermochelys coriacea*), green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*) and olive ridley (*Lepidochelys olivacea*) turtles. There are several important nesting sites and populations in India and other parts of south Asia, including the mass nesting beaches of olive ridley turtles in Odisha, feeding and nesting grounds for green and hawksbill turtles in the Andaman and Nicobar Islands and the Lakshadweep islands, and a significant nesting population of leatherback turtles in Little Andaman Island and the Nicobar Islands. Sporadic nesting sites also exist throughout the coastline of the mainland. Despite all four species being listed as endangered under Schedule I of the Indian Wild Life (Protection) Act, 1972, their populations in the coastal waters of India are seriously threatened due to unplanned coastal development and incidental catch in fisheries. The olive ridley (*Lepidochelys olivacea*) population in Odisha is particularly at risk where over 100,000 turtles have drowned as incidental catch in the last five years.

Sea turtles play an important role as flagship species of the diverse habitats they frequent. These habitats include coral reef ecosystems, sea grass meadows, open seas and sandy beaches. The threats that sea turtle populations face are representative of threats that impact other marine and coastal flora and fauna. In the Indian subcontinent, coastal and ocean resources play an important role in the economy of fishing and other coastal communities.

Sea turtles have also been part of legend and culture in the region for more than a thousand years. Some of the oldest conservation movements were started in the subcontinent. Current models of community based and participatory conservation in many states in India can serve as excellent models for conservation which can be replicated elsewhere. Sea turtles transcend socio-political boundaries and therefore their effective conservation requires several factors to come together, foremost amongst which is collaboration between agencies and cooperation between the political states whose habitats the turtles utilise. There are a number of small to medium sized non-governmental organisations located along the coast that carry out community-based conservation and outreach. These organisations have established themselves quite well in the field and are cost effective, but may not have the necessary resources or technical knowledge required to carry out effective conservation. Many of these organisations often work in isolation and a lot of their activities and contributions towards sea turtle conservation do not get the recognition they deserve. Some also hold a wealth of knowledge and understanding of locally effective conservation interventions and there is a need to

facilitate the exchange and flow of such experiential knowledge systems.

The Turtle Action Group

The Turtle Action Group (TAG) is a network of over twenty five non-governmental organisations from around India, working towards sea turtle conservation and coastal protection. These groups initially came together in January 2009 at a workshop that was held in Chennai, where it was felt that there has long been a need for a national level network to address how various groups can work together and collaborate towards more effective sea turtle conservation. Worldwide, it is acknowledged that effective sea turtle conservation requires collaboration between agencies and various stakeholders to ensure long term survival of the species and sustainable use of the resources of the habitats they represent. The numerous small and medium sized organisations that work along various stretches of the coastline in India often work in isolation. Their efforts usually do not get the recognition they merit, and the successes of their interventions do not find a common platform to be shared with others that might benefit from this knowledge.

Such a collaborative effort has not been undertaken before at the national level. TAG thus seeks to benefit from the pooling of resources and knowledge and to bridge the gap between conservation measures that are effective at local, state and the national levels.

Functioning of TAG

Executing organisation

Funding for the network's activities is channeled through the executing organisation (the Madras Crocodile Bank Trust). Under the program, a policy team oversees the network's activities and the utilisation of funds, guides the disbursement of funds to member organisations to carry out specific activities and provides inputs to the core committee of the network when they seek assistance to initiate projects or activities that can be carried out collectively by all members. The administrative staff under the program at MCBT carries out specific administrative tasks that are required, including the organisation and coordination of annual workshops and training programs, compilation of information from member groups of TAG and the core committee and dissemination to network members, and compilation of reports at the end of the project term. Periodic updates are also made available on the website www.seaturtlesofindia.org (an initiative also supported by the MTCA grant).

Members of TAG

The TAG network comprises a core group of community based and local NGOs from across the country. Currently, its membership includes more than 20 organisations from the mainland and one each from the Andaman and Nicobar Islands and Lakshadweep. Appendix I enlists the core member organisations.

Seven large organisations including national level NGOs and research institutions are also part of the network. These organisations do not receive funding support for their activities from TAG. Since

2010, TAG has been providing small grants to a few member groups after evaluating their proposals. Institutional representatives from MCBT and Dakshin Foundation contribute by way of resource personnel and providing inputs at annual workshops, and are a part of the advisory board of TAG.

The network also liaises with state level government organisations, primarily forest departments of coastal states within whose jurisdiction the protection of sea turtles and their nesting habitats falls. TAG also seeks regular inputs from other stakeholder groups and organisations working with fishing communities and coastal development to better inform conservation interventions that the network adopts. The International Collective in Support of Fishworkers based in Chennai has been an important presence in the annual workshops.

Core Committee

Elected representatives from amongst member groups of TAG constitute a core committee. The main responsibilities of the core committee are to coordinate the activities of the network that are determined at annual workshops, and over the course of the following year through sustained communication with all members of the network. The core committee also reports to a team at the executing organisation regarding the progress of activities that the network has set out, and identifies areas where a particular group, or the network as a whole, requires support in terms of inputs, resource material, or funds. Individual members of the network approach the core committee with suggestions or queries. The core committee is mandated to make decisions based on a consultative process and approaches the project team at the executing agency when required. The present constitution of the core committee ensures representation across the geographical scope of the network and its members belong to groups from the west coast, east coast and the islands.

Advisory Board

The network seeks inputs on its activities and agenda from an Advisory Board that includes various individuals from diverse backgrounds and fields of expertise, affiliated to research organisations such as the Wildlife Institute of India and other organisations such as the Madras Crocodile Bank Trust.

Network Volunteers

At each annual workshop, specific tasks are assigned to volunteers from within the network who take on the responsibility of coordination and ensuring completion. These volunteers communicate with and seek inputs from the core committee.

3. Project Objectives

The objectives of the project are:

1. To support the Turtle Action Group in India for improved and dynamic approaches to sea turtle monitoring and conservation and ensuring inclusion of all community based groups from around the country working on sea turtle conservation.

2. To establish appropriate channels of communication between partner organisations for the effective sharing of information.

3. To build capacity and interest of local communities and students in coastal conservation through their involvement in monitoring programs and training workshops.

4. To monitor the status of marine turtles at key sites along the Indian mainland coast and islands with the involvement of local communities.

5. To provide local context and synthesis that can support individual institutions in planning their own programs.

6. To facilitate interaction of groups with a primary focus on sea turtle conservation with coastal communities, law enforcement agencies, academic institutions and the private sector.

4. Project Activities and Outcomes

To achieve the objectives, the following activities were carried out:

1. 4th Annual TAG Workshop

The 4th annual TAG workshop was organized at Mahabalipuram, Tamil Nadu (east coast) from 12th – 13th November 2011. The participation in this annual two day workshop organised by the Madras Crocodile Bank Trust along with Dakshin Foundation indicates the commitment of member organisations towards sustaining TAG and its activities. Members proposed a strengthened and more active network and the setting of long term goals to be achieved through collective and collaborative action, provided adequate financial, administrative and technical support was available. Emphasis was laid on building capacities and creating awareness amongst local community members for protecting sea turtles. It was also decided that forthcoming activities of the network should focus more on building capacities of individual member organisations through training workshops, enhancing the education and outreach component of TAG's activities and enabling TAG to inform scientific studies on marine turtle population trends and impacts of climate change through individual contributions from member organisations. At the 4th Annual Workshop, the TAG members were given a lecture about the various features of TAG-ABLE, an online repository for data collected on sea turtles in India, and they were encouraged to participate once the application was launched. The prototype of TAG-ABLE was received with enthusiasm. The objectives of the database will be to create online repositories on turtle nesting patterns, hatcheries, mortality, habitat health and threats to sea turtles. A user-friendly analysis tool enables the members to carry out simple analysis of their data, create charts and graphs that they can effectively use in their reports and outputs. The database also provides the members control over their data and enables them to determine how to share their data with other TAG members and with the public. The summary of the workshop is attached as Appendix II.

2. Monitoring the status of marine turtles at key sites along the Indian mainland coast and islands

A. Monitoring olive ridleys in Rushikulya rookery, Odisha

Odisha, with a 480 km long coastline lined by sandy beaches, serves as a suitable nesting habitat for olive ridley turtles (*Lepidochelys olivaceae*). Over the last decade, activities such as mechanized fishing have resulted in large scale turtle mortality in offshore waters. Other than these, sea level rise, climate change and various other development activities (onshore and offshore) are considered as factors that could lead to the decline of sea turtles. To overcome these threats, it is important to protect the breeding habitat and to monitor their population in order to understand their biology and behavior in relation to climate change.

Initiated by the Indian Institute of Science (IISc) and Madras Crocodile Bank Trust (MCBT) and funded by Marine Conservation Society, U.K., a long term monitoring program was started at Rushikulya rookery, one of the major mass nesting sites in the world. The project is currently coordinated by the Indian Institute of Science, Dakshin Foundation and the Orissa Forest Department and funded by the USFWS Marine Turtle Conservation Act grant. For the past five years, the project has aimed to work in collaboration with the local Forest Department staff and NGOs involved in marine turtle conservation. As part of capacity building, the forest department staff, NGO employees, local and other researchers are trained to census nesting populations during 'arribadas', shore line monitoring techniques, hatchery management, offshore turtle monitoring and other activities related to sea turtle monitoring .

The project aims to study the effects of climate change on the Indian Ocean olive ridley nesting populations. Variables such as air and nest temperature are recorded by placing data loggers in relocated nests, sand and in a room to determine the change in temperature and its relationship with hatchling sex ratios. A hatchery is maintained with nests relocated from the natural nesting beach. The nests are collected over a period of 3 months. Along with onshore monitoring, offshore surveys are conducted to monitor the abundance and distribution of mating turtles in offshore waters.

During mass nesting, nesting turtles are counted using a strip transect method . They are also checked for tags. The 'arribada' census has been conducted since 2008 to estimate the number of nesting females. The results show that nesting females may have increased at Rushikulya during these years. A detailed report is provided about this in Appendix III (a).

In response to the training, the involvement of the Forest Department in monitoring and protecting both offshore and onshore turtle habitat has increased. Along with local NGOs, they have also helped in spreading marine turtle conservation awareness through education programs, setting up a sea turtle interpretation centre and small events such as beach cleaning activity with participation from local communities. By following up on the collaborative work with the government and local NGOs, there will be a considerable increase in local knowledge, which should provide a boost to conservation efforts in the region.

A. Monitoring leatherback turtles in the Andaman & Nicobar Islands

Andaman and Nicobar Environment Team (ANET), Indian Institute of Science (IISc), Dakshin Foundation and the Madras Crocodile Bank Trust (MCBT) joined forces to start a long term leatherback turtle monitoring project in Andaman and Nicobar Islands. In addition to collecting long term data on leatherback populations, the project aims to develop a conservation network in the region with a long-term education and outreach program for the local communities on the islands.

There is very little information on the status of leatherback populations in the Indian sub-continent except for some work done by ANET, IISc and Dakshin Foundation on Great Nicobar Island and Little Andaman Island. After the decline in the Pacific Ocean leatherback population, it is important to monitor the Indian Ocean populations and the threats they face. Since 2008, leatherback turtles have been monitored on West Bay and South Bay beaches of Little Andaman Island.

The program includes monitoring of nests, threats and tagging of leatherback turtles. In 2010, with support from the Indian Space Research Organization (ISRO) and the Space Technology Cell of IISc, Bangalore, a satellite telemetry study was started at Little Andaman Island. A total of 10 turtles have been tagged with PTTs (Platform Transmitter Terminals) between 2010 and 2013 (tracks can be viewed at www.seaturtle.org). A detailed report is provided in Appendix III (b).

Along with the monitoring program, various education and outreach activities have been conducted for the Islands' communities. From screening of documentaries to distribution of posters, various programs have been carried out to spread conservation awareness among local communities. More environmental education programs will be carried out in collaboration with local partners.

3. Strengthening and expansion of the conservation and monitoring network on sea turtles

In order to study climate change and its consequences on important variables such as egg and hatchling mortality and sex ratio, member organizations were trained to follow standardized monitoring and data collection techniques. This would lead to more precise data collection and enable monitoring changes at a large scale and help predict population trends. TAG members were given financial support to help them in data collection, monitoring and conservation activities. See Appendix IV for profiles of member organizations including activities they carried out.

4. To develop outreach and education material

The network is highly invested in outreach and awareness programs for local communities. Various outreach and educational materials have been prepared for local circulation in the coastal states. These materials target specific groups such as schoolchildren, fishermen etc. By using traditional media such as street plays, folk songs and dances, conservation education on marine turtles was effectively spread amongst the communities.

5.
Small Grants

Grants were given to members of TAG to support their data collection, monitoring and conservation activities. The respective amounts disbursed are provided in the table below.

Name of the organisation*	**Grant amount (INR)****
Action for Protection of Wild Animals (Odisha)	30,000
Sahyadri Nisarga Mitra (Maharashtra)	30,000
Students' Sea Turtle Conservation Network (Tamil Nadu)	30,000
Visakha Society for Protection and Care of Animals (Andhra Pradesh)	30,000

** See Annexure 1 of appendix I for organisation profile.*
***1 USD ~ 48.9 INR*

6. Publications

i. Newsletter

Indian Ocean Turtle Newsletter

The 14th and 15th issues of the Indian Ocean Turtle Newsletter were published in July 2011 and January 2012 respectively, with partial funding support from the MTCA. The IOTN was initiated to provide a forum for exchange of information on sea turtle biology and conservation, management and education and awareness activities in the Indian subcontinent, Indian Ocean region, and south/southeast Asia. The newsletter also intends to cover related aspects such as coastal zone management, fisheries and marine biology.

The newsletter aims to reach and serve:

- Central government agencies (Ministry of Wildlife, Fisheries and Environment)
- Coastal government agencies (local Forest Departments, Fisheries Departments)
- Coastal enforcement agencies (Navy, Coast Guard)
- Non government organisations involved in environment and conservation
- Non government organisations involved in social work in coastal areas
- Academic institutions
- Conservationist organisations
- Community-based conservation organisations

ii. Manual

Sea Turtles of India: A Comprehensive Field Guide to Research, Monitoring and Conservation (2011) is a combined revision of a series of manuals produced by the Centre for Herpetology/Madras Crocodile Bank Trust in 2003 under the GOI-UNDP Sea Turtle Project. The purpose of the manual is to provide wildlife management authorities, coastal community groups, environmental organisations and other agencies with basic information on the biology, research and conservation of sea turtles and related coastal issues. It also promotes the use of standardised data collection for research programs in order to appropriately inform conservation strategies and management practices. Additional features of the manual include a glossary for technical terms, a directory of organisations carrying out sea turtle conservation activities in India and a bibliography for further reading.

iv. Website

The website www.seaturtlesofindia.org was developed to collate information on sea turtles and their habitats in India and in neighbouring South Asian countries. Numerous community based groups, conservation non-governmental organisations (NGOs) - local, national and international- academic institutions and government departments have contributed to studies and surveys over the last two decades. The website makes it possible for this information to be easily accessed by students, researchers and others. This site also includes a repository of papers, reports, notes, historical records and other grey literature. The bibliography section currently includes over 700 references, with PDFs for a large number of publications, many not available anywhere else.

The website also carries content dedicated to the Turtle Action Group (www.seaturtlesofindia.org/tag). Information on the network's activities, workshop reports, member organisations and their detailed profiles is currently made available here. Through this interface, member organisations will have access to the latest relevant reports and research findings. The online system also aims to serve as a repository for information and data collected throughout the coast through the individual efforts of members.

This year, a blog called 'Talking Turtles' (www.seaturtlesofindia.org/blog) was introduced as an informal talking board for people working on marine turtles- from the natural to social sciences - to share their experiences. From first encounters with turtles to unusual observations to expert insights, the blog welcomes stories about marine turtle in the Indian Ocean.

TAG-ABLE, an online repository for data collected on sea turtles in India was launched as a prototype. The objectives of the database will be to create online repositories on turtle nesting patterns, hatcheries, mortality, habitat health and threats to sea turtles. A user-friendly analysis tool enables members to carry out simple analysis of their data and create charts and graphs that they can effectively use in their reports and outputs.

Publications produced during 2011-2012

7. Future Plans for TAG (2012-13)

Having acknowledged the necessity for continuing the activities of the network, members of TAG have committed to sustaining interactions through annual meetings and workshops in addition to individually carrying out activities towards meeting the larger objectives laid out by TAG. The specific activities laid out for the year 2012 – 2013 include:

a. To expand membership of TAG

In addition to inviting other groups along the coast, the network also seeks to strengthen partnerships with other organisations such as those working with fishworker communities and coastal development and with local forest department officials in all the coastal states.

b. To collectively address issues of common concern

Throughout the coastline, a variety of threats and issues form the basis of conservation action undertaken by different groups. However, there do exist issues that are common through much of the coast. TAG has identified specific issues that the network as a collective of individual organisations intends to examine and address. These include:

i. Standardisation of data collection and monitoring techniques: In order to collate data and information collected individually by member organisations, TAG will develop standardised procedures for data collection and monitoring to enable sharing of this information. This would also allow for site-specific data to feed into distribution and abundance assessments at larger geographical scales. The collated data will be available on the seaturtlesofindia.org website which will also be used as a portal to upload/download data and will generate maps of distribution and temperature related data.

ii. Coastal development: Unplanned and unsustainable coastal development along the country's coastline has threatened sea turtle nesting habitats. Although the impacts of such developmental activi-

ties (such as construction of sea walls, urbanisation, development of ports, etc.) vary from one location to the next, all members of TAG are individually contesting decisions made at the local scale. Common themes of the development agenda across sites and across states can be collectively addressed and brought to the notice of higher authorities, including the central ministry, to demand more transparent decision making procedures, greater participation of local communities and stakeholders, and the development of sustainable and responsible coastal zone management plans by state governments.

c. To develop outreach and education material

One of the focus areas of the network is to develop appropriate outreach and educational material designed for specific target groups. During the year 2011-2012, it is proposed that manuals and other educational materials will be prepared for key themes and translated into local languages. Local outreach and awareness programs will be promoted for use by volunteers from the fishing and coastal communities such as the traditional media of street plays, folk songs and dances which are popular and effective means to disseminate conservation messages about sea turtles.

The posters on the life cycle of sea turtles (a set of six posters) and sea turtles of India (a set of ten posters) have been translated into Gujarati in collaboration with local partner, Gujarat Ecology Commission (GEC). Appendix V showcases the posters produced and distributed during 2011-2012.

8. Recommendations

After careful assessment of the outcomes of the network and expectations of member organization, the following recommendations were suggested to strengthen TAG and enable effective conservation efforts:

- Interactions of TAG members with other similar regional and global organizations and networks that will help communicate and exchange information about conservation issues faced in different parts of the world.

- Collation of information on marine turtle status, biology, habitat and conservation techniques. By encouraging discussion, the member organizations can come up with effective solutions to commonly faced problems.

- Communication with the central government through Ministry of Environment and Forests regarding national issues to help the government in effective policy making that will help address local conservation problems.

- Joint awareness programs by co-coordinating with other TAG members, especially within the state by sharing resources, ideas and staff.

- Advertisement of the network's activities through media campaigns to attract other similar organizations and to highlight individual organization's efforts to give them recognition.

- Collaboration with local stakeholders such as non-members of TAG, individuals working on sea turtles and their conservation and related groups to develop holistic approaches to species-specific conservation.

9. Acknowledgments

We are grateful to the US Fish & Wildlife Service for providing funding support under the Marine Turtle Conservation Act Fund.

We are also thankful to the staff at Dakshin Foundation for carrying out the administrative tasks under the project and coordination of logistics in organising the annual workshops. We are thankful to MCBT for its administrative support and in making the 4th annual TAG workshop a success.

We are also thankful to the Ministry of Environment and Forests for endorsing the network. We are hopeful that representatives of the Ministry and coastal state government agencies will be actively involved in network activities in the future.

Finally, we would like to thank all our member organisations whose enthusiasm in sustaining the network and efforts in carrying out network activities has validated our efforts in initiating and facilitating the Turtle Action Group.

10. Appendices

APPENDIX I (a)

Member Organisations of TAG

Name of Organisation	State
Andaman & Nicobar Islands	Andaman and Nicobar Environment Team (ANET)
Andhra Pradesh	Visakha Society for the Protection and Care of Animals (VSPCA)
Gujarat	Prakruti Nature Club (PNC)
Karnataka	Field Services and Intercultural Learning (FSL)
Karnataka	Canara Green Academy
Kerala	Green Habitat
Kerala	Naithal
Lakshadweep	Lakshadweep Marine Research and Conservation Centre (LMRCC)
Maharastra	Sahayadri Nisarga Mitra
Odisha	Action for Protection of Wild Animals (APOWA)
Odisha	Alacrity
Odisha	Green Life Rural Association (GLRA)
Odisha	Orissa Marine Resources Conservation Consortium (OMRCC)
Odisha	Rushikulya Sea Turtle Protection Committee (RSTPC)
Odisha	Sea Turtle Action Program (STAP)
Odisha	Podampeta Ecotourism and Olive Ridley Protection Club (PEORPC)
Tamil Nadu	Students' Sea Turtle Conservation Network (SSTCN)
Tamil Nadu	TREE Foundation

National level organisations and research institutions that support TAG

- Centre for Ecological Sciences, Indian Institute of Science
- Dakshin Foundation

- Greenpeace – India
- International Collective in Support of Fishworkers
- Madras Crocodile Bank Trust
- Wildlife Institute of India
- Wildlife Protection Society of India

APPENDIX I (b)

Core Committee members of TAG

East coast:

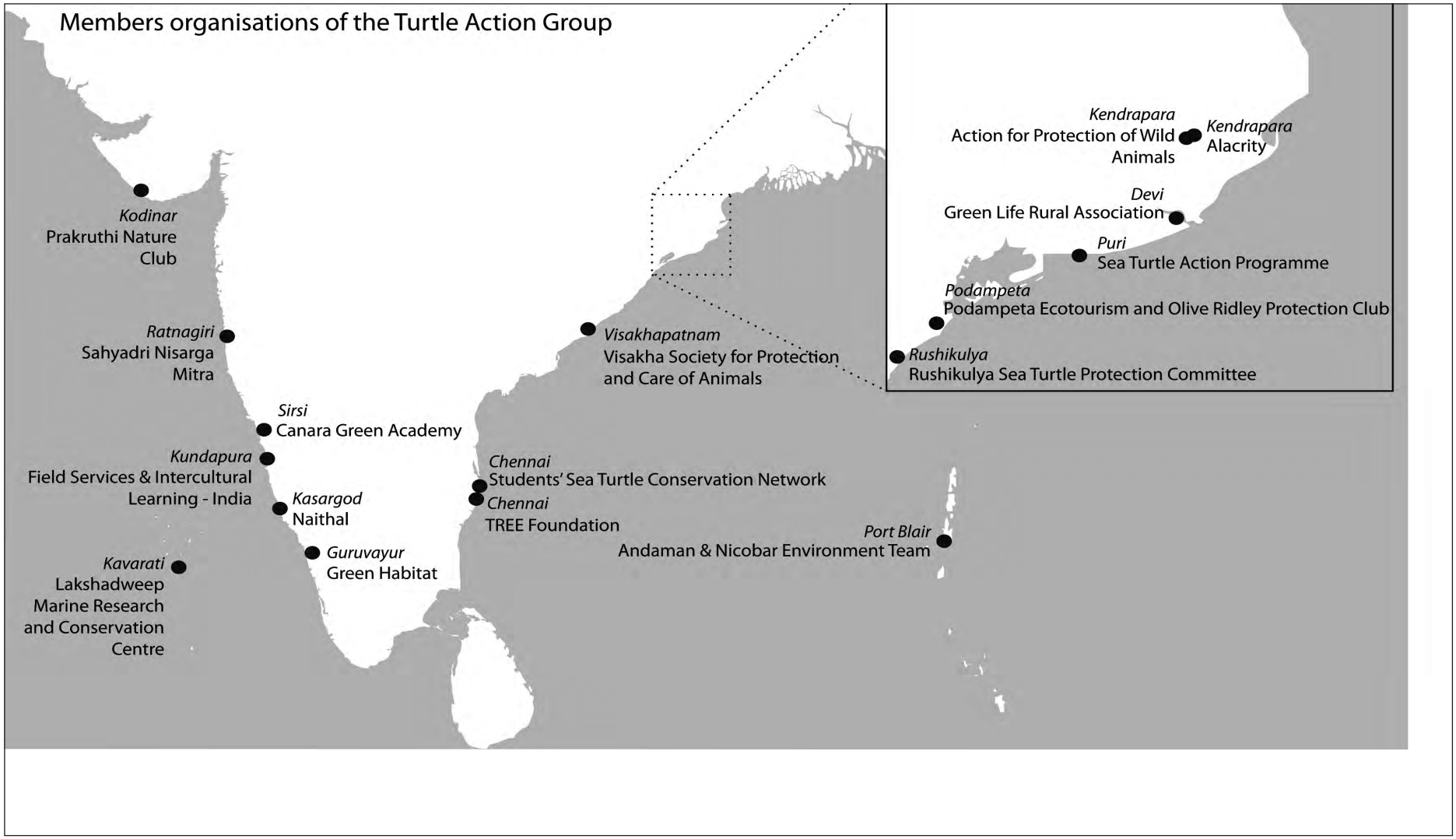
1. Supraja Dharini, TREE Foundation, Tamil Nadu
2. Mangaraj Panda, Orissa Marine Resources Conservation Consortium, Odisha
3. Pradeep Kumar Nath, Visakha Society for the Protection and Care of Animals, Andhra Pradesh

West coast:

1. Wesley Sunderraj, (Independent researcher), Gujarat
2. Sudheer Kumar, Naithal, Kerala
3. Ravi Pandit, Canara Green Academy, Karnataka

Islands:

1. Naveen Namboothri, Dakshin Foundation



Map showing locations of core member organisations of TAG

APPENDIX I (c)
TAG Members Profile

TAG members:

1. Andaman & Nicobar Environment Team (ANET): Andaman and Nicobar islands
Unique in being the only organization based on an island. Andaman and Nicobar islands are an important and prime nesting sites for sea turtles of all four species that occur in India, namely Green, Hawksbill and Leatherback.

2. Visakha Society for Protection and Care of Animal (VSPCA): Andhra Pradesh
Through its innovative awareness programs, VSPCA intends to educate the masses and build a strong and lasting bond between animals and human societies. They have field related expertise, necessary for effective conservation of sea turtles.

3. Prakruti Nature Club (PNC): Gujarat
PNC focus their activities along the Saurashtra and Gujarat coast. Their main focus is on protection of sea turtles, their nests and habitats, whale sharks and other sea turtle creatures. Having an excellent relationship with the forest department, they hope to contribute through the collection and distribution of information and data related to turtles.

4. Canara Green Academy (CGA): Karnataka
CGA's main mission has been conservation of turtles, mangroves and medicinal plants. Along with the Karnataka Forest Department, they have established 40 sea turtle breeding centres all over the Karnataka coastline. Potential sea turtle nesting beaches have been identified and both ex-situ and in-situ conservation are carried out, depending on the security of the nests identified.

5. Field Services and Inter-Cultural Learning (FSL India): Karnataka
They have been successful in creating awareness among fishermen community along 60km of North Udupi district of Karnataka state. They are unique in placing international volunteers in local community projects to support sustainable development and to bring inter-cultural dimensions to community projects.

6. Lakshadweep Marine Research and Conservation Centre (LMRCC): Lakshadweep
The organization established by a group of islanders, is the first that has a primary focus on community based marine conservation. Lakshadweep has a significant population of endangered green and hawksbill turtles. LMRCC work with the local community, school students, fishermen and the Forest Department to reduce the threats to these ocean ambassadors through education and awareness programs.

7. Sahyadri Nisarga Mitra (SNM): Maharashtra
They work towards conservation, awareness and research of region's biodiversity, focusing on conservation of marine turtles, white-rumped vultures and Indian swiftlet.

8. Action for Protection of Wild Animals (APOWA): Odisha

APOWA believes in finding solutions to animal welfare and conservation challenges that provide lasting benefits for animal and community. They have ten years of experience in sea turtle conservation in Odisha through research, conservation and action. Their work is carried out in the buffer zone of Gahirmatha sea turtle rookery site, world's largest olive ridley mass nesting site.

9. Alacrity: Odisha

Amongst several, their sea turtle activity involves imparting awareness to fishing community residing within the periphery of the Gahirmatha area. They have also developed 'eco-development' groups, with 60 so far, within the region for conservation of natural resources including mangrove forests.

10. Podampeta Ecotourism and Olive Ridley Protection Club: Odisha

They address various threats to the nesting turtles by carrying out awareness programs that inform people in nearby villages regarding the importance of turtles to the coastal ecosystem and the illegality of such activities.

11. Rushikulya Sea Turtle Protection Committee (RSTPC): Odisha

With the primary aim to help conserve olive ridley turtles and safeguard their nesting beaches along the Rushikulya coast, they began to monitor the nesting population and assist in the release of hatchlings during mass nesting. They also collect data on tagged turtles, recapture studies, distribution of mating congregation, satellite transmitter ranging studies and monitoring hatchling mortality rates.

12. Students' Sea Turtle Conservation Network (SSTCN): Chennai, Tamil Nadu

Sea turtle conservation began in 1971, when a few dedicated wildlife enthusiasts began walking the beaches of Chennai to document the status of and threats to sea turtles. The group has been mainly organized and operated by students from colleges and even schools and a few young working adults. The motive has always been conservation and awareness creation.

13. TREE Foundation: Chennai, Tamil Nadu

It involves the fishing community youth (Sea Turtle protection Force- STPF) in a sea turtle protection and conservation programs in South India. Education and creating awareness at the community level is an integral part of our conservation program.

14. Green Mercy: Andhra Pradesh

An NGO based in Srikakulam. They carried out intensive surveys in 2001, giving better picture of marine turtles status on the coast of Andhra Pradesh. They have contributed to the conservation of marine and coastal life by holding consultative meetings with fisherfolk and local communities.

15. Sea Turtle Action Program (STAP):Odisha

16. Green Life Rural Association (GLRA): Odisha

GLRA was formed in 1993, by a group of thirteen committed village youth who were then working on the Wildlife Institute of India's sea turtle project. Members of GLRA also worked in Operation Kachhapa when it was launched, at the time as a joint operation with the Forest Department and Wild-

life Protection Society of India. GLRA's activities are focused in the Devi river mouth region.

17. OMRCC: Odisha

It brought together divergent groups comprising of conservationists, biologists, fisherfolks to meet and interact which would be beneficial to both conservation as well as livelihoods. We continue to work closely with this organisation in monitoring the ongoing olive ridley project in Odisha.

18. WWF-India: Odisha

WWF-India is engaged in a multitude of activities with respect to its Marine Program. To maintain the biodiversity and ecological processes of marine and coastal ecosystems while ensuring the sustainable use of natural resources. In Odisha, they have focused on promoting conservation awareness amongst local fishing communities, through a participatory approach to conserve marine resources.

19. Green Habitat: Kerela

Green Habitat came into form in 2002 as an independent organisation. The organisation pilots activities for wildlife and environmental conservation in Chavakkad taluk in Kerala. Our areas of focus include the mangroves of Chettuwai, nesting turtles of Chavakkad beach, birds of Enamakkal Kole Ilands and house sparrows among others. A major part of our efforts at conservation is directed towards environmental awareness and education among local communities in the area.

20. Naithal: Kerela

21. Theeram: Kerela

More information about the TAG members can be found in the 13th and 14th issues of IOTN. The links to the issues are:
IOTN- 13: http://www.iotn.org/iotn-13.php
and
IOTN- 14: http://www.iotn.org/iotn-14.php

APPENDIX II

Workshop Summary Report: 4th Turtle Action Group (TAG) workshop

Dates: 12th & 13th November 2011
Hosts: Madras Crocodile Bank Trust & Dakshin Foundation
Venue: Tamil Nadu Tourism Development Corporation (TTDC) Mamallapuram, Tamil Nadu

This document is a summary of the discussions and decisions of the 4th Turtle Action Group (TAG) Workshop. The workshop was organised organised by the Madras Crocodile Bank Trust in coordination with the organising team at Dakshin Foundation, Bangalore.

Objectives of the workshop

The main objectives of the workshop were:

- Capacity building through various workshop sessions that focused on awareness and outreach programs.
- To discuss and define a concrete structure for functioning of the network, in recognition of the need for more systematic implementation of activities and programs, and effective follow-up.
- To discuss the roles and responsibilities of individual members of the network and that of the collective.
- To initiate new activities, and discuss ways to expand and strengthen existing programs undertaken by the network, and
- To introduce new member organisations to the network.

Workshop agenda

Day 1: Saturday, 12th November, 2011

Time	Session
8:00AM	*Breakfast*
9:00AM	*Participant Registration*
09:45AM	Inauguration
10:00AM	Introduction- Dr. Naveen Namboothri, CES, IISc &Dakshin Foundation, and Dr. Gowri Mallapur, Madras Crocodile Bank Trust
10:15AM	Keynote address by Dr. Kartik Shanker Introduction to Ms. Prakriti Srivastava
10:30AM	*Tea*
10:45AM	Introductions: Forest and Fisheries Dept. personnel (with a short presentation of their conservation works)

01:00PM	*Lunch*
02:00PM	Session 1: Puppetry Workshop - Training session on using puppetry as a tool in conservation outreach Resource Person: Dr. Bhanumati R., Pavai Centre for Puppetry, Chennai
03:30PM	*Tea*
03:45PM	Session 1 continued (Group Activity and Discussion)
05:30PM	Wrap up + Travel reimbursements + Announcements
06:00PM	Core Committee Meeting

Day 2: Sunday, 13th November, 2011

Time	**Session**
08:00AM	*Breakfast*
09:00AM	Briefing about Day 1 activities
09:15AM	Session 2: Training on Proposal Writing, Report Writing and Funding Opportunities Resource Person: Dr. Kartik Shanker and Hari Sridhar
10:30AM	*Tea*
11:00AM	Introduction to online web portal TAG-ABLE
12:00PM	Discussion and finalization of the TAG operational guidelines
01:00PM	*Lunch Break*
02:30PM	Session 3: Video Documentary Workshop- Use of video documentaries in conservation outreach , a session on training participants in making video documentaries to communicate conservation issues Resource Person: Ms. Rita Banerjee and Ms. Maya Khosla, Dusty Foot Productions
04:00PM	Session 4: Workshop on how to use the online data repository TAG-ABLE, Training on using the TAG online database - data entry, data management and use
04:30PM	Discussion future TAG Agenda, 5th Annual Workshop and Minutes of Core Committee Meeting
05:00PM	*Tea*
05:30PM	Trip to Madras Crocodile Bank Trust

Language: All sessions were translated into Hindi, whenever necessary.

Workshop Minutes

Day 1: Saturday, 12th November, 2011

The program started with an inauguration and introduction to TAG and its activities over the past

year by Naveen Namboothri. During the first half of the day, forest department officials from various states presented their field experiences with conservation related issues. Sudhakar Kar from Odisha, C.R. Mallick, Divisional Forest Officer (Northern Andaman Islands) and R.D. Khamboj, Chief Conservator, Marine National Park, Jamnagar elaborated upon conservation efforts in their regions. Syed Ali, Lakshadweep Forest Department and P. Devraj, Pondicherry Forest Department also provided information about sea turtle nesting in their respective regions.

Figure 1: A Forest Department official address participants at the workshop
Photo credit: M. Muralidharan

The post-lunch session included an interactive workshop on conservation awareness through puppetry by R. Bhanumati from Pavai Centre for Puppetry, Chennai. She started by pointing out that puppetry has long been used for education and awareness The session began with an introduction to the world of puppets, various puppetry forms in practice till date and a demonstration of how puppets can be a strong medium for the creation of awareness. She mentioned that nine Indian states use this art form to narrate folklore. Bhanumati encouraged the participants to develop a puppet character and build a story around it. She elaborated upon the skills required to convey relevant messages to the audience through the puppet show. She also pointed out that puppetry inculcates team spirit, as was evident amongst the participating teams at the workshop. The participants were divided into five small groups of five members each and were told to devise a story based on turtles and to narrate it to rest of the audience. They were given art paper and other stationery to make their own puppets. The participants were enthusiastic about the exercise and actively interacted with each other. About 30 puppets were made by 5 groups and were used to present stories relating to turtle lifecycles, impacts of climate change on nesting turtles, threats of trawlers to sea turtle populations, and threats of predators (dogs and raptors) to hatchlings.

Under Bhanumati's guidance, the audience participated with enthusiasm, Forest Department officials, TAG members and children alike. The stories that were narrated through the puppetry exercise brought

out the message of conservation. During the post-presentation discussion, one of the participants pointed out that puppetry has an additional impact because of its inherent humour.

Figure 2: Participants experiment with shapes and colours to create puppets
Photo credit: M. Muralidharan

Figure 3: A group of participants at work making puppets
Photo credit: M. Muralidharan

Many participants agreed that puppetry was an innovative thought provoking folk-art, and could influence the audience into initiating action. Some TAG members were motivated and have decided to use puppetry in creating awareness about sea turtle conservation in their areas, especially in schools and colleges.

Day 2: Sunday, 13th November, 2011

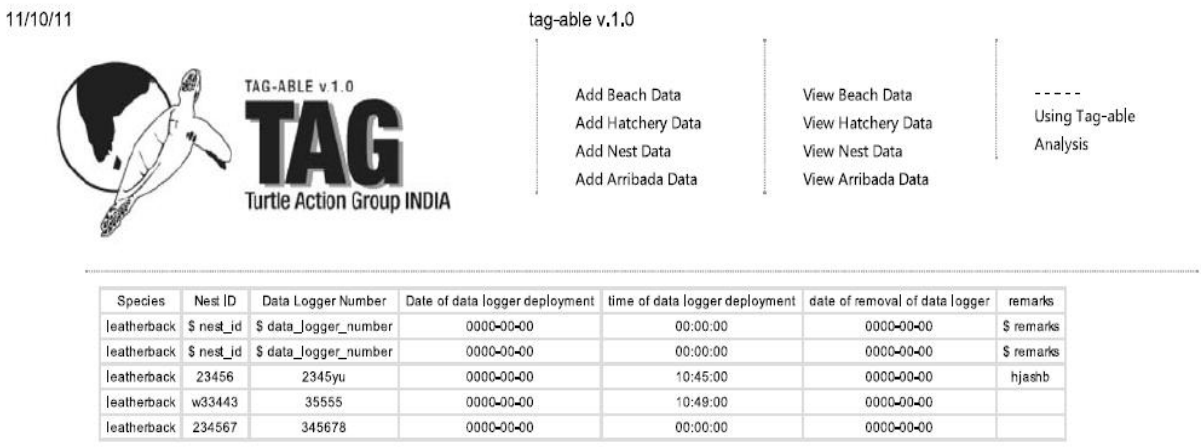
Hari Sridhar and Kartik Shanker conducted the first session of the day on applying for grants for new projects and to sustain ongoing projects. Hari made the important point that good writing is essential for a good proposal, and that conveying clear, concise and complete ideas is critical when applying for a grant. He emphasized applying to the appropriate funding agency, following instructions while preparing the proposal, and submission deadlines. Hari also elaborated upon the 'ten points' one should always keep in mind to get a grant (http://www.conservationgrants.com/write.htm).

The post lunch session on capacity building was also interactive and was conducted by filmmakers Rita Banerji and Maya Khosla of Dusty Foot Productions. Rita began the session with a question: Can a film make a difference? As Rita addressed the participants, Maya documented the activity. Rita screened some of her earlier documentaries that address conservation and livelihood issues. Video clips from her documentaries - *Right to survive, Shores of silence, Voices from the forest* and *The wild meat trail* - were shown and participants were encouraged to discuss them. Rita talked about the efforts and challenges involved in making a small documentary, even of just a few minutes. The 25 minute long Shores of silence took Rita and her crew four years to complete. While discussing her documentary on sea turtle conservation and fisheries livelihood issues, Right to survive, she said that short films and documentaries are a strong tool for awareness, and can play an integral role in achieving success in conservation programs.

Figure 4: A group at work during the 'story building session'
Photo credit: M. Muralidharan

During the group activity, participants were divided into five groups. Each group was given a set of fifteen photographs and was asked to build a story with a conservation angle, using the photos. Rita and Maya also gave a quick demonstration of how to use the camera for documentation in field. The participants narrated stories that included threats faced by turtles due to waste disposal into the sea (especially plastic), threats faced by hatchlings due to traffic lights on highways, etc. Both forest department personnel and TAG members participated actively in the exercise.

In addition, the online data entry application was introduced to TAG members and workshop participants. Led by Naveen, Muralidharan, and Kartik, the session focused on making TAG members aware of the online application "TAG-ABLE". The main objective of this online application is to enable online data entry, storage and management, including data on turtle encounters, nesting patterns, hatchery data and mortality. Data will be classified into various categories such as beach, nest, hatchery and arribada datasets. The data is retrievable by users in multiple formats and the application can be used to create representations of the data (for example, by creating maps, graphs and tables). Since data privacy is a major concern, it was clarified that data would only be accessible to data providers, and would become public only if they choose to make it so.



Species	Nest ID	Data Logger Number	Date of data logger deployment	time of data logger deployment	date of removal of data logger	remarks
leatherback	$ nest_id	$ data_logger_number	0000-00-00	00:00:00	0000-00-00	$ remarks
leatherback	$ nest_id	$ data_logger_number	0000-00-00	00:00:00	0000-00-00	$ remarks
leatherback	23456	2345yu	0000-00-00	10:45:00	0000-00-00	hjashb
leatherback	w33443	35555	0000-00-00	10:49:00	0000-00-00	
leatherback	234567	345678	0000-00-00	00:00:00	0000-00-00	

Core Committee Meeting

Ms. Amrita Tripathy was introduced to the core committee members as the new TAG coordinator. It was decided that Naveen Namboothri would serve as the coordinator and Kartik Shanker as Chairman. The previous year's core committee members retained their membership for this year (see below). Naveen and Amrita were entrusted with the task of developing guidelines and responsibilities for the core committee. The committee decided to conduct two telephone-conference or Skype meetings during the year apart from the Annual TAG meeting. The revised list of names of Core Committee's members, accepted by the participants present, included:

East coast:
Supraja Dharini, TREE Foundation
Mangaraj Panda, OMRCC
Pradeep Nath, VSPCA

West coast:
Wesley Sunderraj, GUIDE
Sudheer Kumar, Naithal (not present)
Ravi Pandit, Canara Green Academy (not present)

Islands:
Naveen Namboothri

TAG Core Committee Roles and Responsibilities

Responsibilities:

The core committee (CC) members shall develop, manage and perform the duties and responsibilities related to the principles, scope and mandate laid down for achieving TAG's objectives

- The Core Committee shall formulate the vision, mission and objectives of TAG and will be shared with the TAG participants
- Its members will be responsible for the entire performance of TAG
- It will be responsible for the collective decisions and actions of TAG
- It will be responsible for deciding the venue and program of the TAG annual meetings
- It will be responsible for the reporting on activities of TAG to the participants on an annual basis

Functioning:

The core committee for the time being will take up the following functions

- CC to elect a chairman for a period of one year. Dr. Kartik Shanker will retain the position for this year 2011-12.
- CC to elect a coordinator for a period of one year.

Dr. Naveen Namboothri was chosen for this position for the year.

- CC will be responsible for ensuring adequate representation on the core committee
- CC will be responsible for screening membership applications
- CC members will meet twice a year.
- At least two telephonic conferences or Skype meeting will be organised in a year. The TAG coordinator will be in charge of coordinating the meeting.
- Members can approach the CC coordinator on any specific issue.

The first TAG Skype Meeting was decided to be held during Feb-March 2012 in which the major discussion topic would be the vision, mission and objectives of TAG.

The vision, mission and objectives for TAG have been formulated by Naveen and have been circulated to core committee members by Amrita. We are waiting for suggestions from the committee members to amend the format. Below is the detail of it.

TAG Guidelines

Vision: To promote a collective and harmonized approach to sea turtle conservation in India
Goal: Facilitate the members of Turtle Action Group to undertake coordinated action for sea turtle conservation activities in India.

Objectives:

1. To establish appropriate channels of communication between partner organizations that facilitates effective sharing of information.
2. To build capacity and interests of local communities and students in coastal conservation through their involvement in monitoring programs and training workshops.
3. To monitor the status of marine turtles at key nesting sites along the Indian mainland and islands with the involvement of network partners and through the promotion and use of standardised data collection and monitoring techniques.
4. To define administrative tasks of elected representatives of the network in encouraging a transfer of ownership of the network, thereby ensuring long term sustainability.

Naveen Namboothri conveyed the minute of the core committee meeting to the TAG members. It was decided that the 5th Annual TAG Meeting would be held in Gujarat in collaboration with Prakriti Nature Club and Forest Department, Marine National Park, Jamnagar and Gujarat Ecological Commission.

With vote of thanks by Kartik Shanker, the academic part of two days' workshop came to an end. In the evening, the participants headed for a field visit to Madras Crocodile Bank Trust.

Table 1: List of participants

Sl.No	Participant Name	Organisation	State
1	Tasneem Khan	ANET/MCBT	Andaman & Nicobar Islands
2	Umeed Mistri	ANET/MCBT	Andaman & Nicobar Islands
3	Sahir Advani	ANET/ Dakshin Foundation	Andaman & Nicobar Islands
4	Bijaya Kabi	APOWA	Odisha
5	Pradipta Kumaity	APOWA	Odisha
6	C.Doreswamy	FSL-India	Karnataka
7	Maniula Taualli	FSL-India	Karnataka
8	Savokar Behera	Green Life Rural Association	Odisha
9	Nirmal Kulkarni	Mahdei Research Center	Goa
10	Magata Behera	OMRCC	Odisha
11	Dambru Behera	OMRCC	Odisha
12	Mahendera	OMRCC	Odisha
13	Mangaraj Panda	OMRCC	Odisha
14	Ardu Kaleya	OMRCC	Odisha
15	Amulya Nayak	People for Animals	Odisha
16	C. H. Babajee	Podampeta Ecotourism and Olive Ridley Protection Club	Odisha
17	W.Simadri	Podampeta Ecotourism and Olive Ridley Protection Club	Odisha
18	Pravin M. Solanki	Prakruti Nature Club	Gujarat
19	Dinesh Goswami	Prakruti Nature Club	Gujarat
20	Jignesh Gohil	Prakruti Nature Club	Gujarat
21	Vinod Matthew Philip	Principal Clearance Mass.ch- 92	Tamil Nadu
22	Rabindranath Sahu	RSTPC	Odisha
23	Ramesh Sahu	RSTPC	Odisha
24	M.Shankar Rao	RSTPC	Odisha
25	Sahila Kudalkar	Sahyadri Nisarga Mitra	Maharastra
26	Shekhar Ghadge	Sahyadri Nisarga Mitra	Maharastra
27	M.Parvati	Samudram	Odisha
28	J.Suhanak	SSTCN	Tamil Nadu
29	N.V.Harish	SSTCN	Tamil Nadu
30	V.Arun	SSTCN	Tamil nadu
31	Bichitrananda Biswal	STAP	Odisha
32	Supraja Dharini	TREE Foundation	Tamil Nadu
33	Suchitra Behera	OMRCC	Odisha
34	Nalini Barua	OMRCC	Odisha
35	P. Virender Nath	VSPCA	Andhra Pradesh
36	Pradeep Kumar Nath	VSPCA	Andhra Pradesh

37	P.K. Nair	-	Kerala
38	Ashis Senapati	Project Swarajya	Odisha
39	C.R. Mallick	DFO(WL)	A& N Islands
40	Hari Sridhar	Resource Person Proposal writing Workshop	Bangalore, Karnataka
41	Shekar Dattatri	Independent film maker	Tamil Nadu
42	Bhanumathi R.	Resource Person Puppetry Workshop	Tamil Nadu
43	J. Subramanean	SSTCN / Pondicherry University	Tamil Nadu
44	N. Ramjee	CEE, Chennai	Tamil Nadu
45	Nirmal Kulkarni	Mahdei Research Center	Goa
46	B.A. Dave	Forester, Gir National Park	Gujarat
47	Lomesh Brahmabhatt	Field Manager, GEC	Gujarat
48	R.D. Kamboj	CCF, Marine National Park, Jamnagar	Gujarat
49	Wesley Sunderraj	GUIDE, Gujarat	Gujarat
50	J.K. Rathod	Fisheries Department	Gujarat
51	I.K. Barad	Asst. Conservator of Forests	Gujarat
52	Vinod M.	WWF-India	Kerala
53	Sayed Ali K.	Technical Assistant, Forest Dept	Lakshadweep
54	Rita Banerjee	Resource Person Video Documentary Workshop	New Delhi
55	Maya Khosla	Resource Person Video Documentary Workshop	New Delhi
56	Sudhakar Kar	Sr. Scientist, Odisha FD	Odisha
57	P. Devaraj	CF & CWLW, Forest Dept	Puducherry

Organising Team

Gowri Mallapur	Madras Crocodile Bank Trust
Mittal Gala	Madras Crocodile Bank Trust
Kartik Shanker	Centre for Ecological Sciences, Indian Institute of Science & Dakshin Foundation, Bangalore
Amrita Tripathy	Dakshin Foundation, Bangalore & Madras Crocodile Bank Trust
Naveen Namboothri	Centre for Ecological Sciences, Indian Institute of Science & Dakshin Foundation, Bangalore
Ema Fatima	Centre for Ecological Sciences, Indian Institute of Science & Madras Crocodile Bank Trust
M. Muralidharan	Dakshin Foundation, Bangalore
Aarthi Sridhar	Dakshin Foundation, Bangalore
Marianne Manuel	Dakshin Foundation, Bangalore
Sajan John	Dakshin Foundation, Bangalore

APPENDIX III (a)
Monitoring olive ridley turtles in Odisha

Odisha has a coastline of 480km which is largely sandy and suitable for nesting. Olive ridley turtles face various threats including predation of sporadic nests by hyenas, jackals, feral dogs, kites and crows. However, since the introduction of mechanized fishing, every year since 1990s, several thousand olive ridleys die due to suffocation in shrimp trawl nets. The impact of this mortality on the population of olive ridleys is yet to be ascertained. In addition, climate change driven sea level rise and several anthropogenic activities has made the coastline truly vulnerable. Considering the importance of these mass nesting rookeries, it became imperative to monitor the species and focus attention on the vulnerable nesting habitats and understanding their biology and behaviour in the context of climate change.

The Odisha forest department has been monitoring mass nesting at this site every year since 2001, but precise estimates of the number of turtles during *arribadas* are not known. Given the need for long-term monitoring through a standardised protocol at Rushikulya, a project was initiated by the Madras Crocodile Bank Trust with funding from the Marine Conservation Society, U.K and USFWS Marine Turtle Conservation Act grant.

The monitoring of olive ridley *arribada* populations along the Rushikulya nesting site has been successfully carried out for the past five years. The main objectives of the proposed project were to strengthen the institutional and scientific capacities of community based NGOs and forest department staff along the major nesting sites of Odisha, which has been achieved to a large extent. The program focused on developing scientific capacities of the stakeholders which includes forest department staff, local organisations involved in sea turtle conservation and research students to undertake long-term monitoring of turtles during *arribadas* and to collect data that would help understand the effects of global climate change on these sea turtle populations for long term conservation goals.

There is a considerable turnover in the field staff of the forest department (through transfer or promotions) each year, so a new set of field staff are deployed to monitor sea turtles. Thus, periodic programs were organised to train them in field census methods. The Odisha Forest Department has participated actively in nest site monitoring and educational programs. Through our sustained presence and scientific monitoring and conservation activities in the region, we have developed considerable rapport with the forest department and continue to receive excellent support and cooperation in our monitoring efforts at Rushikulya. On the other hand, we have also been working with local non-government organisations and volunteers.

A majority of the NGOs working along the coast of Odisha are community based and employ local youth in carrying out their activities. They have been trained in the latest *arribada* population census technique. However, despite their interest and enthusiasm, many of the individuals from local NGOs are also forced to seek alternate options to secure a steady income (particularly outside the nesting season). Therefore, projects are being initiated like coastal monitoring and beach profile data collection which would keep them involved all year round. By developing skills in sea turtle monitoring,

individuals from local community based NGOs have managed to find employment in sea turtle research and monitoring programs carried out by academic research institutions and by the forest department. This has helped create synergy not just between NGOs and academic organisations, but between NGOs and the forest department. We have been working closely with five local NGOs (listed below) that are involved in sea turtle conservation in the region. As a result of this sustained synergy created over the past 5 years, we have been able to involve a considerable number of field staff from the local communities/organisations in the *arribada* census and in collecting scientific data on sea turtle mortality and nest temperatures.

The local NGOs involved are

Sea Turtle Action Program
Green Life Rural Association
Action for Protection of Wild Animals
Rushikulya Sea Turtle Protection Committee
Orissa Marine Resources Conservation Consortium, and
ALACRITY

Consistent and standardized monitoring of populations is required for long term analysis of population trends. Given that sea turtles are slow growing, late maturing species, it is imperative that population census must be accurate and monitored on a regular basis. In Odisha, the census of these populations is constrained by many factors, including the constraints of the main agency involved in monitoring the Rushikulya beach, namely the Forest Department. The non-availability of full time staff that is trained in these techniques is a major obstacle. Though the project has been training temporary staff since 2008, people who participate in the census may change from year to year. The project has produced a pictorial manual which is distributed to all frontline staff before the *arribada*. The project is also monitoring nest temperatures in Rushikulya rookery.

Field Activities

Since 2008, the Indian Institute of Science has been monitoring Rushikulya beach and recording both solitary and mass nesting data using scientifically robust methods. The arribada in the year 2011 occurred from March 3rd-11th (Table 1 and 2). In 2011, a line transect approach was also initiated to estimate the abundance and monitor the congregation patterns of olive ridley turtles in the offshore waters of the Rushikulya mass nesting beach. A total of 4 line transects of 10Km each were designed parallel to the shoreline and separated by a distance of 1Km.

Table 1: *Arribada* **estimates from Rushikulya, 2008-2011**

Year	Days	Count	Mean	Variance	LCL	UCL	CV	M	SE
2008	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	786	53138.0	7572.4	41372.0	64904.1	0.1	34609818.7	5883.0
	4	352	17847.9	1083.6	14509.7	21186.1	0.1	2785847.3	1669.1
	5	-	-	-	-	-	-	-	-

2009	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	608	30828.2	3282.9	25017.8	36638.5	0.1	8440068.2	2905.2
	4	612	31031.0	2694.3	25767.2	36294.8	0.1	6926825.6	2631.9
	5	193	9785.9	501.7	7514.5	12057.3	0.1	1289829.8	1135.7
2010	1	661	11171.8	3482.1	9177.1	13166.5	0.1	994688.4	997.3
	2	2765	46732.4	29515.7	40925.0	52539.8	0.1	8431384.2	2903.7
	3	1774	29983.1	11773.8	26315.3	33650.9	0.1	3363275.5	1833.9
	4	86	1453.5	193.2	983.7	1923.4	0.2	55189.0	234.9
	5	423	7149.3	1207.2	5974.8	8323.8	0.1	344845.9	587.2
	6	143	2416.9	296.9	1834.5	2999.4	0.1	84811.7	291.2
	7	58	980.3	136.4	585.5	1375.1	0.2	38963.7	197.4
2011	1	1738	28122.98	22991.2	23215.91	33030.05	0.09	6019836.4	2453.5
	2	2194	35501.62	16872.8	31297.89	39705.35	0.06	4417842.3	2101.9
	3	2090	33818.77	9176.3	30718.67	36918.87	0.05	2402650.8	1550.0
	4	1506	24368.93	3867.2	22356.42	26381.44	0.04	1012547.0	1006.3
	5	589	9530.74	3188.1	7703.47	11358.02	0.1	834734.1	913.6
	6	799	12928.90	2981.3	11161.77	14695.83	0.07	780600.3	883.5
	7	143	2313.92	151.7	1915.27	2712.56	0.09	39729.6	199.3
	8	140	4530.74	155.5	3723.70	5337.78	0.09	162828.2	403.5
	9	22	711.97	28.9	363.78	1060.17	0.24	30309.7	174.1

Table 2: Estimates of 2011 *arribada*

Days	Counted (n)	Estimated mean	Upper CL	Lower CL	CV	Variance
Day 1	1738	28122.98	33030.05	23215.91	0.09	6019836.4
Day 2	2194	35501.62	39705.35	31297.89	0.06	4417842.3
Day 3	2090	33818.77	36918.87	30718.67	0.05	2402650.8
Day 4	1506	24368.93	26381.44	22356.42	0.04	1012547.0
Day 5	589	9530.74	11358.02	7703.47	0.10	834734.1
Day 6	799	12928.90	14695.83	11161.77	0.07	780600.3
Day 7	143	2313.92	2712.56	1915.27	0.09	39729.6
Day 8	140	4530.74	5337.78	3723.70	0.09	162828.2
Day 9	22	711.97	1060.17	363.78	0.24	30309.7

Table 3: Estimates of 2012 *arribada*

Days	Counted (n)	Estimated mean	Upper CL	Lower CL	CV	Variance
Day 1	2068	31634.99	34314.47	28955.5	0.04	1794909.3
Day 2	710	9588.865	10543.86	8633.87	0.05	228002.93
Day 3	165	1707.245	2066.19	1348.3	0.10	32209.98

APPENDIX III (b)
Monitoring leatherback turtles in the Andaman & Nicobar Islands

In collaboration with the Andaman and Nicobar Environment Team (ANET) and the Centre for Ecological Sciences (CES), Indian Institute of Science, Dakshin Foundation and the Madras Crocodile Bank Trust have managed to develop a long-term monitoring and conservation program for sea turtles of the Andaman and Nicobar islands, especially leatherback turtles. The program also has a strong focus on developing networks for conservation in the region and a long-term education and outreach program to sensitise the local administration and communities to conserving sea turtles and their habitats.

Monitoring leatherback turtles at Little Andaman Island

Very little is known about the status of leatherback populations from the Indian waters, barring recent work by the Andaman and Nicobar Environment Team (ANET) on Great Nicobar Island, and Indian Institute of Science, Bangalore, Dakshin Foundation and ANET on Little Andaman Island. Based on the recent lessons learned from the population declines in the Pacific, it is imperative to monitor the trends in populations of these turtles in the Andaman & Nicobar Islands, their range and threats. A monitoring program was initiated on Little Andaman Island in January 2008. The program has successfully completed five years of monitoring of two of the most important nesting beaches of the Andaman group of islands viz., the West Bay and South Bay of Little Andaman Island.

Monitoring at West Bay nesting beach commenced in November 2010 and the nesting beach was found to have more nesting than South Bay nesting beach. In the last five years, a total of 62 turtles were tagged and 34 tag returns (re-nesting) were recorded.

Table 1: Number of leatherback turtles tagged and recaptured at South Bay and West Bay, Little Andaman Island

Year	Total nests South Bay	Total nests West Bay	Total number of nests	Total tagged females	Number of recaptures in the same season
2007-2008	38		38	6	3
2008-2009	59		59	5	3
2009-2010	7		7	2	1
2010-2011	36	113	149	29	12
2011-2012	38	173	211	20	15

The prime sea turtle nesting beaches of the Andaman and Nicobar islands were severely affected by the December, 2004 earthquake and the subsequent tsunami. Though there is no information on the status of some of the prime leatherback nesting beaches of the Nicobar group of islands, the current monitoring program at the Little Andaman Island has revealed that there is substantial amount of nesting at these beaches and the nesting beaches have more or less recovered from the impacts of the tsu-

nami. The monitoring has also revealed that though nesting commences by early November, the peak nesting period for leatherback turtles in the Little Andaman Island is during the months of December and January.

With support from the Indian Space Research Organisation (ISRO) and the Space Technology Cell, Indian Institute of Science, Bangalore, a satellite telemetry study on the leatherback turtles of the Little Andaman Island was initiated in 2010. Satellite transmitters have been deployed on a total of six turtles and updates and results of the study are available online at the www.seaturtle.org website.

Conserving sea turtle habitats by developing conservation networks

The coastal and marine ecosystems of Andaman and Nicobar islands are not just important nesting sites for four all four species of marine turtles known to nest in India, it also harbours some of the world's healthiest coral reefs and sea grass beds that are utilized by the sea turtles. Most of these resources are under considerable threat due to poaching, unsustainable resource exploitation, increasing tourism activities and unplanned coastal development projects. Unsustainable extraction processes and limited interactions between varied resource users heighten the need for a collaborative approach to conservation and management efforts. Opening up a dialogue will help highlight issues that all stakeholders face in their dealings with the marine ecosystem and their impact on it. Various institutions from diverse fields have conducted a substantial amount of valuable research and conservation initiatives in Andaman and Nicobar waters. However, by complimenting and supporting each other's work, the outcomes would be far more beneficial and long lasting. Knowledge generated from such interactions can also feed back into the management and policy decisions.

One of the objectives of the sea turtle conservation program of the ANI is to support existing marine turtle protection and conservation programs in the region, and develop a network of partners involving the government, non-governmental and community based institutions who will work collaboratively towards conserving marine turtles and their habitats. In order to facilitate this dialogue, Dakshin Foundation in partnership with Andaman and Nicobar Islands Environmental Team (ANET) initiated discussions with various key government and non-government actors in the field the coastal and marine management in the ANI through a one day workshop held on the 24th of March 2012 in Port Blair, South Andaman. The objectives of the workshop are to:

- Develop a platform for facilitating sharing resources, capacities, and information between participants.

- Share information between participants on their contributions to research, conservation and management of coastal and marine resources in the ANI.

- Devise mechanisms to enhance coordination between participants towards specific conservation related activities.

- Devise collaborative approaches to awareness and outreach activities in the ANI.

- Develop information sharing protocols between management agencies, non-government organizations in the ANI.

Outreach and awareness programs

Complementary to our long-term leatherback turtle monitoring and conservation program, we have recently initiated some activities that focus on developing an outreach and awareness module for schools and local communities in the region.

Video documentation

Dusty Foot Productions, New Delhi, India, a team of wildlife documentary film makers working on environmental issues in India is preparing a video documentary on the leatherback monitoring program of the Andaman and Nicobar islands. The program will be used as an important tool in outreach and generating awareness about sea turtle conservation activities and issues in the Andaman and Nicobar islands. A short 5-min video preview of the documentary is available online at the below link.
http://saveourseas.com/projects/turtle_diaries/the_turtle_diaries_a_page_in_motion

Posters and outreach material

The set of posters developed as part of the TAG activities will be circulated to schools and colleges in the Andaman and Nicobar islands. In addition, we are working closely with the local forest department to develop an entire section on marine turtles of the ANI as part of the marine ecosystem interpretation centre set up by the Forest Department, Andaman and Nicobar islands.

Figure 1: Workshop on "Collaborating for marine conservation and resource management in the Andaman and Nicobar Islands" held on 24th March, 2012.

Figure 1: The leatherback monitoring team at West Bay, Little Andaman Island, January, 2011

APPENDIX IV

Small Grants Program 2011-2012

A part of the MCTA project, funds are disbursed as small grants through Madras Crocodile Bank Trust. The small grants program was started in 2008. Till date, three rounds of small grants have been disbursed. The main aim of this initiative is provide financial support to local NGOs and member organisations of TAG that work on sea turtle conservation in different parts of India. To make this process more comprehensive and instructive, we have made the grant making process go through the usual process of grant application/ proposal submission, review and approval and grant making.

The total amount disbursed through 2009-10 small grants amounted to 283, 000 INR. During 2010-11, 10 TAG members were given small grants amounting to Rs. 265,000. At the end of the grant period, the organisations had submitted their programmatic and financial reports to Madras Crocodile Bank Trust. We intend to give greater emphasis to this process for future small grants and will solicit inputs from independent reviewers who are experts in the field in order to enhance project design and implementation by member groups.

For 2011-12, four organisations were chosen and awarded the small grants based on the merit of their working skills and reporting efficiency. Total amount disbursed during this year was Rs. 120, 000 (1 USD= 48.9 INR). Below is the table with details about the small grants disbursed during 2011-12.

Increased capacities of independent groups will ensure greater benefits to the network as a collective and allow for the creation of local networks that seek inputs from these groups. Financial support to individual efforts of member organisations in the nature of small grants can help sustain their interest and participation in the network, in addition to achieving the overall conservation objectives of the network.

As a facilitating organisation, this demonstrated need has necessitated MCBT and partner organisations to commit additional resources towards meeting long term network objectives within the broader scope of sea turtle conservation and habitat protection. This has justified our need to solicit continued support from the Marine Turtle Conservation Fund towards continuing to facilitate and coordinate the network's activities. With the support of Dakshin Foundation, TAG is now coordinated by a dedicated team of members from both organisations who will continue their roles in providing administrative support to the network.

Table: 2011-2012 Small Grants Details

Organisation Name	Project Title	State	Grant amount (in Rs.)	Contact person	Project Goal
APOWA	Community based sea turtle and their habitat conservation towards sustainable approach in the buffer zone of Gahirmatha	Odisha	30,000	Bijaya Kabi	Protection of sea turtles and their habitats those are critical to the survival of marine biodiversity. The project is to develop sustainable programs for protecting the sea turtles and conservation the nesting habitat through interventions based on the concept of environmental stewardship and participatory management.
Sahyadri Nisarga Mitra	Marine Turtle conservation and awareness through community participation in Maharshtra	Maharashtra	30,000	Bhau Katdare	Protection and to conservation of endangered marine sea turtles their nests along the Maharashtra coast and release of hatchlings to the sea by actively involving the local community. Awareness activities in community and schools.
SSTCN	Sea turtle conservation and coastal habitat protection	Tamil Nadu	30,000	Akila Balu	To make the coastal stretch safe for turtles and hatchlings so need for human intervention can be done away with. To use turtle conservation to raise awareness about adverse consequences of consumption centred living, and the need to adopt sustainable lifestyles to reduce pressure on limited natural resources.
VSPCA	Habitat Conservation, Management and Community based Conversation	Andhra Pradesh	30,000	Pradeep Kumar Nath	To protect sea turtles and release of hatchlings into the sea, to spread awareness amongst the public creating sense of responsibilities among the fishing communities and lobbying with the government departments to permanently frame guidelines to protect sea turtles.

APPENDIX V
Posters and Website

In collaboration with Gujarat Ecology Commission (GEC), six posters on the life cycle of sea turtles and ten posters on sea turtles in India were translated into Gujarati and redesigned. These set of posters were distributed to GEC, Marine National Park, Jamnagar and local TAG member (Prakruti Nature Club) for further distribution to schools, colleges, other NGOs and local government offices during the 2012-13.


દરિયાઈ કાચબા અને આપણે


ભારતના દરિયાઈ કાચબા

Blog

Sea Turtles of India

About Sea Turtles | Research | Conservation | Resources | Directory | TAG | Contact

Welcome to Sea Turtles of India! Here you will find information about sea turtles in the India subcontinent. Read about the species found here and their distribution. We also have a 101 section o sea turtle biology, life history and identification. Find out about various sea turtle conservatio organisations and individuals in India. Feel free to look through the resource section for manuals posters, popular articles and a detailed bibliography.

If you would like more information or have any suggestions, do contact us, we will be happy to hear fror you.

News and Updates

Sea Turtles of India blog

We are happy to announce our new blog – Talking Turtles! The blog will feature regular articles, stories and opinion pieces. The blog kicks off with two contributions from our in-house team. To read more, click here.

Turtle Diaries

Turtle Diaries, a project funded by the Save Our Seas Foundation, aims to educate the public about the natural history and current efforts to protect sea turtles in India. Click here to learn more about the project and follow the team's stories as they travel to various locations across the country.

Sea Turtles of India manual

A new manual on research and conservation on sea turtles in India is out! This comprehensive field guide produced by Dakshin Foundation and the Madras Crocodile Bank Trust provides basic information on the biology, research and conservation of sea turtles and related coastal issues, and promotes the use of standardised data collection for research and conservation programmes. Click here to learn more and download the pdf.

About
Species
Distribution
Biology
Life History
Identification

Resources
Bibliography
Manuals
Reports
Books
Outreach Material
Popular Articles
Glossary

Friends of seaturtlesofindia
Indian Ocean Turtle Newsletter
Seaturtle.org
Marine Turtle Newsletter
State of the World's Sea Turtles (SWOT)
Sea Turtle Restoration Project
EuroTurtle
MEDASSET

dakshin

WILDLIFE CONSERVATION SOCIETY

MCBT

APPENDIX VI

Audit Statement for Financial Year 2011-12

MADRAS CROCODILE BANK TRUST, MAHABALIPURAM ROAD, CHENNAI - 603 104.

Memo for Income Tax Purpose:

PAN :AAATM0397E
ASST. YEAR-2012-2013
YEAR ENDING -31.03.2012
ADI (E) , CHENNAI

INCOME:		
Total Income as per Consolidated Income and Expenditure Account	29431356	
		29431356
APPLICATION		
Total Expenditure as per Consolidated Income and Expenditure Account	29431356	
Less : Excess of Income over Expenditure	975140	
Less: Depreciation	851107	
	27605109	
Add:Capital Additions	600524	28205633
Surplus		1225723
Amount ought to have been spent being 85% of total income		25016653
Amount Spent		28205633
TDS REFUND DUE	107,411	

MADRAS CROCODILE BANK TRUST
VADANEMMELI VILLAGE, MAHABALIPURAM
CONSOLIDATED BALANCESHEET AS AT 31/03/2012

PREV YR.	LIABILITIES	AMOUNT(Rs.p)	AMOUNT(Rs.p)	PREV YR.	ASSETS	AMOUNT(Rs.p)	AMOUNT(Rs.p)
	CAPITAL FUND:				**FIXED ASSETS:**		
29,218,462	As per last year Balance Sheet	29,218,462.00		7,514,298	As per Schedule		7,263,714.32
	Add: Excess of income over Expenditure	975,139.50	30,193,601.50	105,555	MCBT Master Plan Development		144,941.00
					ADVANCES AND DEPOSITS:		
				60,000	Staff Advances		
88,000	Loan from Mr. Romulus whitaker				As per last year Balance Sheet	60,000.00	
					Add: Given during the year	180,000.00	
					Less:Recovered during the year	230,000.00	10,000.00
				72,351	Deposits:		
					Electricity Deposits	63,486.00	
					Telephone Deposits	13,475.00	
					Cable Deposits	4,000.00	
					Cylinder Deposits	4,200.00	85,161.00
				360,000	RECURRING DEPOSITS:		
					As per last year Balance Sheet	360,000.00	
					Add: Invested during the year	180,000.00	
						540,000.00	
					Less:Matured During the year	-	
							540,000.00
					Advance for Expenses	732,330.00	
					Add: Given during the year	3,570,402.00	
				732,330	Less:Recovered during the year	3,663,187.00	639,545.00
					ANET Advance	606,717.00	
					Add: Given during the year	3,598,496.00	
				606,717	Less:Recovered during the year	3,031,756.00	1,173,457.00
				70,458	TDS on Interest		177,869.00
					CLOSING BALANCES:		
				78,282	Cash on hand	166,330.00	
				1,461	Cash on hand-FC A/c	141,593.00	
				2,903,036	Cash at bank-IOB Mahabalipuram Branch	306,809.76	
				144,966	Cash at bank-SBM Thiruvanmiyur Branch	81,914.77	
				6,297,087	Cash at bank-IOB Mahabalipuram Branch(FC Account)	3,421,694.66	
				10,359,922	Short term Deposits with Scheduled Banks	12,794,632.00	
					Cash at bank-SB A/CNO.27300	3,245,940.00	20,158,914.19
29,306,462			**30,193,601.50**	**29,306,462**			**30,193,601.51**

Date:
Chennai:

For MADRAS CROCODILE BANK TRUST

Trustee

For C.V Ramaswamy & Co.,
Chartered Accountants.

Partner

MADRAS CROCODILE BANK TRUST
VADANEMMELI VILLAGE, MAHABALIPURAM
CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31/03/2012

PREV YR.	EXPENSES	AMOUNT(Rs.p)	AMOUNT(Rs.p)	PREV YR.	INCOME	AMOUNT(Rs.p)	AMOUNT(Rs.p)
4,520,527	**FEED AND REPTILE RELATED EXPENSES**			11,753,510	Gate Contributions		13,086,880.00
	Feed Expenses - Reptile	2,219,033.00					
	Maintenance of Sheds	1,733,752.00		16,259,356	**CONTRIBUTIONS RECEIVED FOR :**		
	Pit Maintenance	1,589,649.00					
	Certification Fees	60,958.00			Marine turtle Conservation Action	2,200,779.00	
	Lab\Veterinary Expenses	81,620.00			Madras Turtle Project	2,004,689.00	
	Crocodile transfer	1,128,984.00			ANET Local Contribution	1,429,500.00	
	Maintenance of Water Supply	112,843.00	**6,926,839.00**		The Croc Shop	1,210,505.00	
					Gharial Task Force	1,142,577.54	
5,260,108	**ADMINISTRATION EXPENSES**				Contribution Crocodile Transport	1,068,323.00	
	Food and Lodging expenses	1,584,539.00			Education Programes	683,657.00	
	Travel and Conveyance - local	2,485,472.00			CEPF Lantana Project	462,427.00	
	Croc Shop Expenses	848,749.00			Nature Camp	386,640.00	
	Stationery and Printing	617,817.00			Agumbe Rain Forest Research Station Project	386,390.00	
	Hospitality Expenses	146,227.00			General Donations	293,410.00	
	Fax/email	275,025.00			Meetings Symposiums and Workshops	245,000.00	
	Vehicle Maintenance	367,919.00			Leather Back Project	147,000.00	
	Electricity Charges	186,247.00			MCBT Master plan Development Grant	140,000.00	
	Telephone Expenses	242,489.00			Journal	118,073.71	
	Postage	93,369.00			Documentary Film	109,611.00	
	Computer Maintenance	59,258.00			ANET Small Grants	107,605.00	
	Boat Maintenance	94,276.00			Summer Camp	101,935.00	
	Publicity and Advertisement	91,962.00			King Cobra Project Mizoram	76,000.00	
	Office General Expenses	105,865.00			Turtle medicine work shop	60,000.00	
	Audit Fees	29,230.00			Other Local Research (Survey)	54,400.00	
	Bank Charges	19,175.00			Adopt A Turtle	16,700.00	
	Pooja Expenses	24,277.00					12,445,222.25
	Rates fees & Taxes	13,800.00					
	Library / Books / Journals	80,759.00		1,020,865	BANK INTEREST		
	Equipment repairs and maintainence	10,500.00			SB Interest received	21,673.00	
	Outstation Travel and Conveyance	834,242.00			FD Interest	656,982.00	678,655.00
	Promotional expenses	12,500.00					
			8,223,697.00	2,268,745	OTHER RECEIPTS:		
1,684,931	**Other research related expenses**				Accomodation received from visiting researchers etc		3,220,598.72
	ANET Local	282,287.00					
	Other Local Projects	406,585.00					
	Gharial Task	88,561.00					
	Education	24,000.00					
			801,433.00				
11,465,566	Carried Forward		15,951,969.00	31,302,477			29,431,355.97

MADRAS CROCODILE BANK TRUST
VADANEMMELI VILLAGE, MAHABALIPURAM
CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31/03/2012

PREV YR.	EXPENSES	AMOUNT(Rs.p)	AMOUNT(Rs.p)	PREV YR.	INCOME	AMOUNT(Rs.p)	AMOUNT(Rs.p)
11,465,566	Brought Forward		15,951,969.00	31,302,477		-	29,431,355.97
8,384,968	**SALARIES AND STAFF PAYMENTS**						
	Salaries	9,305,514.00					
	Wages (Casual)	1,812,374.00					
	Staff Provident Fund	178,996.00					
	Staff Insurance and Medical	131,078.00					
	Staff Welfare Expenses	65,640.00					
	Staff Savings	23,750.00					
	Contract Labour Welfare (Tea Etc)	52,856.00					
			11,570,208.00				
	OTHER PAYMENTS:						
8,393,365	Sea Turtle Symposium						
118,346	Meetings & Seminars		65,932.00				
17,000	Donations		17,000.00				
832,357	Depreciation		851,107.47				
2,090,875	EXCESS OF INCOME OVER EXPENDITURE		975,139.50				
31,302,477			**29,431,355.97**	**31,302,477**		-	**29,431,355.97**

Date:
Chennai:

For MADRAS CROCODILE BANK TRUST

Trustee

For C.V Ramaswamy & Co.,
Chartered Accountants.

Partner

MADRAS CROCODILE BANK TRUST, MAHABALIPURAM ROAD, CHENNAI - 603 104
Schedule to Fixed Assets as at 31.03.2012 - MCBT

DESCRIPTION	WDV AS AT 01.04.2011	ADDITIONS	DEDUCTIONS	TOTAL	RATE	DEPRECIATION	WDV AS AT 31.03.2012
Airconditioner	65,058.78			65,058.78	25%	16,264.70	48,794.09
Boats & Boats (UP)	293,731.20			293,731.20	20%	58,746.24	234,984.96
Bolero	256,368.79			256,368.79	25%	64,092.20	192,276.59
Building,including roads,walls etc	726,091.53			726,091.53	5%	36,304.58	689,786.95
Building on leased land-(UP)	525,132.69	152,954.00		678,086.69	5%	33,904.33	644,182.35
Building-Thandarai	556,946.52			556,946.52	5%	27,847.33	529,099.20
Camera & camera(UP)	42,409.59			42,409.59	25%	10,602.40	31,807.20
Camera & Flash	4,523.15	22,589.00		27,112.15	25%	6,778.04	20,334.11
Cellphone	2,936.44			2,936.44	25%	734.11	2,202.33
Computer	8,383.20			8,383.20	60%	5,029.92	3,353.28
Crockstock Souvenier Shop	1,261.80			1,261.80	25%	315.45	946.35
Directors'House	20,854.39			20,854.39	10%	2,085.44	18,768.95
Equipments R&D & Equipments (UP)	91,965.59			91,965.59	25%	22,991.40	68,974.19
Fax Machine	3,989.54			3,989.54	25%	997.39	2,992.16
Furniture & Fittings	85,104.14	2,600.00		87,704.14	10%	8,770.41	78,933.72
Furniture & Fittings	3,296.36			3,296.36	25%	824.09	2,472.27
Fridge	27,562.50			27,562.50	25%	6,890.63	20,671.88
Genset	293,228.91			293,228.91	25%	73,307.23	219,921.68
Guest house	17,668.53			17,668.53	10%	1,766.85	15,901.68
Laboratory	1,150.37			1,150.37	10%	115.04	1,035.33
Land	1,801,209.00			1,801,209.00		-	1,801,209.00
Laptop	158,872.20			158,872.20	25%	39,718.05	119,154.15
Machinery and tools	35,480.16	13,080.00		48,560.16	25%	12,140.04	36,420.12
Motor Bike	27,107.10			27,107.10	25%	6,776.78	20,330.33
New pit construction	326,064.83			326,064.83	10%	32,606.48	293,458.35
Office equipment	33,522.50	71,161.00		104,683.50	25%	26,170.88	78,512.63
Printers	14,561.66	11,340.00		25,901.66	25%	6,475.41	19,426.24
Pump set	12,333.97			12,333.97	25%	3,083.49	9,250.48
Sheds	168,764.66			168,764.66	10%	16,876.47	151,888.20
Shop construction	98,173.16			98,173.16	5%	4,908.66	93,264.50
Slide Projector + LCD projector	19,683.11	176,400.00		196,083.11	25%	49,020.78	147,062.33
Snake room	12,504.12			12,504.12	10%	1,250.41	11,253.71
Ticket counter	99,106.36			99,106.36	5%	4,955.32	94,151.04
Turtle tank	75,987.44			75,987.44	5%	3,799.37	72,188.07
TV,VCR, & Stabilizer	6,707.97	2,600.00		9,307.97	25%	2,326.99	6,980.97
Water Tank and well construction	36,700.00			36,700.00		-	36,700.00
Washing Machine	12,121.88			12,121.88	25%	3,030.47	9,091.41
Mahindra Xylo-TN19 B 0853	595,443.00			595,443.00	25%	148,860.75	446,582.25
Inverter	10,200.00			10,200.00	25%	2,550.00	7,650.00
Solar Power Plant	51,289.50			51,289.50	25%	12,822.38	38,467.13
	6,623,496.65	**452,724.00**	-	**7,076,220.65**		**755,740.48**	**6,320,480.88**

MADRAS CROCODILE BANK TRUST, MAHABALIPURAM ROAD, CHENNAI - 603 104
Schedule to Fixed Assets as at 31.03.2012- ANET BASE

DESCRIPTION	WDV AS AT 01.04.2011	ADDITIONS	DEDUCTIONS	TOTAL	RATE	DEPRECIATION	WDV AS AT 31.03.2012
15HP Motor	1,409.60			1,409.60	25%	352.40	1,057.20
Building	357,457.11			357,457.11	5%	17,872.86	339,584.26
Computer	2,430.32	60,000.00		62,430.32	60%	37,458.19	24,972.13
Equipments	53,827.14			53,827.14	25%	13,456.78	40,370.35
Furniture & Fittings	20,822.16	12,800.00		33,622.16	10%	3,362.22	30,259.95
Jeep		75,000.00		75,000.00	25%	18,750.00	56,250.00
Land	430,000.00			430,000.00		-	430,000.00
Laptop	11,664.84			11,664.84	25%	2,916.21	8,748.63
Motor bikes	338.55			338.55	25%	84.64	253.91
Office equipment	697.61			697.61	25%	174.40	523.20
Slide Projector	168.29			168.29	25%	42.07	126.21
Water tank and well construction	7,500.00			7,500.00		-	7,500.00
Zodiac inflatable boat	4,486.01			4,486.01	20%	897.20	3,588.81
	890,801.63	**147,800.00**	-	**1,038,601.63**		**95,366.99**	**943,234.65**
GRAND TOTAL	**7,514,298.27**	**600,524.00**	-	**8,114,822.27**		**851,107.47**	**7,263,714.32**

For more information on the Turtle Action Group visit
www.seaturtlesofindia.org/tag

Cover photo: An olive ridley approaching Rusikulya coast, Odisha
Photo: Adhith Swaminathan


MCBT


U.S. Fish & Wildlife Service
WILDLIFE
WITHOUT
BORDERS


dakshin