

CBSG, South Asia (ZOO / WILD) Activity report (from October 2012 through September 2013)

(See SAZARC Report for details of the following):

**ZOO & SAZARC Director attends Arabian Zoo and Aquarium meeting in Al Ain National Associations to be linked with CBSG South Asia
Pakistan Visit by Ms. Sally Walker, 28 July through 03 August 2013
Kathmandu, Nepal Visit (August 8-11, 2013) by Ms. Sally Walker and Dr. Caroline Lees
Jamshid Noory, Veterinarian, Kabul Zoo visits India for advanced veterinary study.
ZOO's Climate change network**

WAZA's UN Decade on Biodiversity Projects

As part of the UN Decade on Biodiversity, WAZA has set up a 3-year multi-institution project *to understand more about what visitors to zoos and aquariums worldwide understand and appreciate by the term 'biodiversity'*. The project will focus on animal species, as this is the strength of the World Association of Zoos and Aquariums community. Throughout this project a tagline "*Biodiversity is us*" will be used. This slogan is like a golden thread leading through all the tools developed and used in this project. It is the signature of the communication part of the project. The WAZA project has two parts: 1. Education tools to be developed by WAZA team (of WAZA's selection) and 2. a survey to a) understand awareness about biodiversity on a global scale and also to b) understand whether the tools that we will offer are recognized by the visitors. Survey: Chester Zoo, UK together with some external experts of the US and Europe have designed a set of questionnaires. The survey using these questionnaires has to be done before and after the tools are used in the zoo. The first survey has been initiated at Mysore zoo in September 2012 and will end at April 2013.

Indian Alliance for Zero Extinction

Cop 11 Indian Alliance for Zero Extinction Side event, 17 October 2012 at Hyderabad, India

Understanding this pressing need and the similarity in the vision with the CBD Aichi 2020 Target 12, the Alliance for Zero Extinction organized a side event titled "Seven Wonders of Conservation" at the Convention of Parties 11 at Hyderabad on 17 October 2012, to present this concept and invite other NGOs to be a part of this network. Olivier Langrand of Island Conservation and AZE Steering Committee member introduced the programme, the AZE concept and about the Seven Wonders of Conservation, an initiative to identify, through social networking, the worlds top seven AZE species/sites. Along with him two other AZE Steering Committee members, Russ Mittermeier of Conservation International and Sanjay Molur of Zoo Outreach Organization were part of this side event along with other speakers and supporters, Jane Smart and Aban Marker Kabraji of IUCN, and Nick Holmes of Island Conservation.

Zoo Outreach Organisation is hosting/helping 3 projects currently funded by the Conservation Leadership Programme, the Rufford Small Grant, Md. Bin Zyed Conservation Fund. The Chester Zoo grant is used for the Indian AZE administration, travel support and also to help promoting more projects.

- Conserving the Himalayan Grey Langur, *Semnopithecus ajax*, an Endangered, endemic species of primate. The identity of the species has been established for the first time with photographs since its description.; Distribution range and human langur conflict zones mapped.; Scat collected for genetic analysis.
- Developing and implementing conservation actions in two most critical fish AZE sites in the Western Ghats through an integrated approach of awareness, capacity building, monitoring and policy interventions. The project sites are Periyar National Park and Tiger Reserve and Santhampara Hills in Kerala in Collaboration with Conservation Research Group, Kerala. Working with the Periyar Tiger Reserve in collaboration with the Conservation Research Group and FFSG South Asia in conserving three AZE fishes in Periyar.; Removal of the exotic African Cat Fish in one preliminary exercise.; Engagement with the forest department for active and holistic conservation of AZE species.
- Conservation of Kerala Indian Frog (*Indirana phrynoderma*) through intensive field surveys and community participation (Project Location Tamil Nadu and Kerala) in Collaboration with Conservation Research Group, Kerala.

Developed and printed 1000 posters, 2000 stickers and 3000 bookmarks for distribution during COP'11 and other events organised for the various Indian AZE projects.

HECx workshops for Tamil Nadu and Kerala

ZOO's popular educators' training workshop, 'Getting along with elephants' to promote Human elephant Coexistence HECx has been organised to reach HEC areas of Tamil Nadu and Kerala. USFWS sponsored project has so far organized in India (West Bengal, Karnataka, Tamil Nadu), Bhutan, Bangladesh, Nepal, Indonesia and Thailand. With an intention to reach HEC areas of South India, a series of workshops has been organised in select areas of Rajapalayam, Nilgiris and Krishnagiri districts of Tamil Nadu with funding from USFWS. Awareness training with the support of IEF has been organised in Kerala as well. Education materials (Human Elephant Co-existence (HECx) Teaching Guide, HECx packet, drama kit along with a guideline, participants hand over materials etc) in local language were developed.

The project objective is reduction of death and injury by the simplest approach ... convincing local people that they must be careful! The workshops train teachers, NGOs, forest and wildlife staffers, volunteers, wildlife researchers and selected others who live and work in or near HEC areas. This program is preceded by a survey of local residents to document their state of mind, fine tune materials and assess the effectiveness of the approach. A 2-day refresher training to reinforce what they learned and provide additional teaching techniques will follow it.

Getting along with Elephants HECx (Human Elephant Coexistence), Rajapalayam, Tamil Nadu

The first educator skills training programme was conducted at Rajapalayam inviting educators from Kalakad, Thirunelvali, Sivagiri, Devathanam, Rajapalayam, Srivilliputhur, Saptur, Watrap, Theni, and Usilampatti. The Wildlife Association of Rajapalayam being the local partners of the three-day programme in collaboration with the Grizzled Giant Squirrel Wildlife Sanctuary. The first workshop of the series was organized at Chinmaya Vidyalaya P.A.C. Ramasamy Raja Matriculation hr. Sec. School, Rajapalayam in which 36 educators participated from 18-20 August 2012. A pre workshop survey was conducted in all these areas before the training programme.

The second workshop was held at Ooty, Tamil Nadu from 26-28 September 2012. District Forest Officer, Nilgiris south division inaugurated the event. A total of 34 educators participated from Gudalur, Ooty, Conoor, Kothagiri, Masinagudi, Aruvankadu, Erumadu, Kollapalli, and Devala. Of the total participants 13 were teachers, 6 graduates and post-graduates involved in conservation education, 4 NGO members, 6 forest personnel, 2 conservation educators and 3 researchers. Dr. Ramakrishnan, Department of Zoology and Wildlife Biology, Government Arts College, Ooty coordinated the programme. We greatly appreciate the interest shown by the CEO, Nilgiri District, and also all the educational institutes for their interest, participation and commitment to create awareness in HEC areas of Nilgiri District.

The Third workshop was conducted at Krishnagiri, Tamil Nadu from 11-13 April 2013. This workshop covered Dharmapuri and Krishnagiri Districts of Northern Tamil Nadu. The three-day trainers training programme was conducted with the support of SWORD, a NGO at Krishnagiri. About 45 members of NGOs staff and self-help group leaders including 15 women took part in this. The primary purpose of this training is to reduce incidents leading to death or injury to both human being and animals. The trainees took part in this with much involvement as most of them were from Human-elephant conflict area. They were explained that after the training they should spread the word of coexistence with elephants by following some do's and don'ts that has to be followed in the presence of elephants. A follow up of all three HECx programmes conducted at Rajapalayam, Ooty and Krishnagiri has been planned now. A refresher course will be organized after three months to understand the success and problems of the training tools used during the workshop.

Refresher Course on Getting along with Elephants HECx Karunya University, Coimbatore, 14-15 June 2013

Two days refresher course for the USFWS sponsored HECx workshops, selected participants of Rajapalayam, Ooty and Krishnagiri was held at Karunya Guest House, Coimbatore on 14-15 June. Nineteen participants attended the course. The agenda of the course included the feedback from the participants concerning utilization of Elephant Teaching Guide and Ele-kit education packets; sharing their HECx education programme experiences; behavioural changes observed with their audiences; constraints in carrying out education programmes and solutions to overcome it by SWOT analysis.

We also taught them few new games on habitat loss, elements of survival, sustainable consumption, adaptations and team spirit. The adaptability of manual to other species and issues were dealt with. Discussed on developing mini drama. Gave a presentation on how to link the manual to school curricula. How to plan an education programme for short as well as long duration, reporting and evaluation was also taught. ZOO's Educator Network (ZEN), its activities and membership details were given to them.

Changing local attitudes and behaviour towards Elephants in Kerala, India

The International Elephant Foundation IEF, USA sponsored HECx workshop was held at Centre for Wildlife Studies of Kerala Veterinary and Animal Sciences University (KVASU), Pookode, Wayanad, Kerala from 12-14 October 2012. The centre was the host/coordinator and Nirmala College, Moovattupuzha, Ernakulam was another coordinator of the workshop.

About 40 persons attended this educator training and they represented from schools /colleges/ university and forest departments of human conflict areas of Thrissur, Palakkad and Wayanad districts. During the training each participant was provided with a teaching manual, 50 ele-kit packets, drama and finger puppet kit each in order to conduct their own programmes at their area from the knowledge they gained out of the training.

School programme

Subsequent to the workshop, two awareness programmes were planned at the schools and one was conducted on 15 October 2012 at Jawahar Navodaya Vidhyalaya, Pookode, Wayanad.

The second HECx awareness programme was conducted at Silent Valley Modern Residential School, Mukkali, Attappady in Kerala on 31 October 2012. From this school, four teachers participated in the Pookode, Wayanad HECx workshop. About 100 girl students participated in this programme and another 120 students participated as observers. All the students come from human elephant conflict areas and they are exposed to HEC problems. The students were briefed about the reasons for human elephant conflict and told them how to coexist with them. Elephant characteristics activity from the HECx teaching guide was done in order to understand elephant's body weight, running and walking speed, sense organs and communication skills etc. that they didn't know. Do's and don'ts in elephant habitat also told to them in detail so as to save their life whenever they confront with elephants. Then ele-kit packet items were demonstrated and used.

Involving Community, Stakeholders, and Journalists for the Conservation of Freshwater Biodiversity and Reptiles of Western Ghats through Education, Training and Follow up of the Assessment projects (CEPF grant)

This project is a follow-up activity of Critical Ecosystem Partnership Fund CEPF funded status assessments of freshwater ecosystems in Western Ghats, India in the year 2011. Awareness and education outreach – one of the 8 major recommendations out of the above report.

The animal groups addressed are Dragonflies & Damselflies, Molluscs, fishes and aquatic plants. The goal of this project is to create a momentum and freshwater biodiversity conservation which would continue and build upon itself long after the project; to bring in attitudinal change among the people who live at the vicinity of Western Ghats and to create a positive attitude among the people towards flora and fauna with particular reference to freshwater biodiversity and its conservation. The project will teach positive attitudes and bring about behavioral change of human beings in relation to threatened species; springboard effect for organization in Western Ghats, of other activities on Freshwater biodiversity conservation topics at the local level including more meaningful public discussions, meetings etc. and; a model project to introduce species conservation concepts that can be replicated in other areas. The project ends by 30 December 2013.

Western Ghats Freshwater Biodiversity Conservation Teaching workshop Karl Kubel Institute, Anaikatty, Coimbatore, 25-27 February 2013

As part of this, a three-day trainers training on Freshwater Biodiversity Conservation Education Training was conducted by WILD/ZOO at Coimbatore inviting selected educators from five States (Kerala, Tamil Nadu, Karnataka, Goa and Maharashtra) of the Western Ghats. The objective of this three-day training is to disseminate results of the assessment to create awareness among local communities involving a range of stakeholders such as local people, students, community and also journalists living in peninsular India. The aim of the training is to empower educators to teach about freshwater biodiversity and its conservation that can be practiced with their local audience in the Western Ghats area and to demonstrate innovative teaching and learning techniques designed to change human behaviour for the better. As part of this project a teaching manual has been developed along with a variety of education materials that was used throughout the training. About 17 educators took part in this training and utilizing the resource materials used during the training, they will be reaching out to a wider audience involving journalists. This training is a collaborative effort of Conservation Breeding Specialist Group, Conservation Research Group, Kerala,

Freshwater Fish SG – South Asia region, South Asian Invertebrate Specialist Group and ZOO's Educator Network.

Some of the outcomes of the project as on June 2013 are:

- Developed 'The Sahyadri Freshwater Biodiversity Conservation Teaching Guide' in English for educators.
- Designed a variety of education materials utilizing the expertise of ZEN network members and species experts.
- Conducted trial run of the training materials inviting species experts.
- Identified 10 educators (5 focal points and 5 assistants) from each state and
- Provided educators skills training and created a network of educators.
- Designed and provided education program plans for the trainees and identified target groups for them to do programs
- Developed a database of journalists with the support of point persons.

South Asian Butterfly Assessment: Initiated in July 2012

This Mohamed Bin Zayed Species Conservation Fund project covers seven South Asian countries, viz., Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka was started on June 2012 with the objectives of creating a network of serious butterfly researchers in South Asia; create a checklist of butterflies of South Asia; collate all of butterflies, to start with south Asian endemics and the rest of the south Asian species and; collect the distribution details of the butterflies with coordinates so as to work on the mapping of butterflies.

This MBZ project helped to identify serious Lepidoptera researchers and likeminded committed scientists willing to support the assessment of butterflies of this region. With the support of the identified experts a checklist of South Asian butterflies was developed. The checklist has about 1905 comprising of 109 species of Papilionidae, 117 species of Pieridae, 585 species of Nymphalidae, 22 species of Riodinidae, 516 species of Lycaenidae and 556 species of Hesperidae

Invertebrate Pollinator Conservation and Education Training Workshop

The IUCN SSC South Asian Invertebrate Specialist Group SAsISG and Zoo Outreach Organization in partnership with the Department of Agricultural Entomology, Tamil Nadu Agricultural University, Coimbatore and The Xerces Society for Invertebrate Conservation, USA organized a three-day training workshop to promote pollinator conservation in India. Thirty-one participants from different states of India took part in this event, conducted at the TNAU campus from 3-5 June 2013. Chester Zoo, Columbus Zoo and Aquarium, and CBSG sponsored the entire event. Participants for this workshop were selected based on their contribution for pollinator research and through invitation. Dr. B.A. Daniel, Chair, South Asian Invertebrate Specialist Group and Dr. M.R. Srinivasan, Professor, Department of Agricultural Entomology, TNAU organized the programme. The entire programme was sponsored by Chester Zoo, Columbus Zoo and Conservation Breeding Specialist Group.

The main objectives of the workshop are i) to convey practical field techniques for use for pollinator studies; ii) to highlight what has become a crisis of pollinators and the role of invertebrate as pollinators; iii) to teach current best practice in survey, identification, land use management etc. and to reinforce their commitment; iv) to imbibe a short training in education of laypersons about the need to conserve invertebrate pollinators and; v) to create a network of committed pollinator conservation researchers in India for future conservation action.

The main resource person Dr. Eric Mader, The Xerces Society for Invertebrate Conservation, delivered a series of talks and demonstrations. Some topic include habitat evaluation: Field observation and land-use discussion; Rapid field habitat assessment and pollinator monitoring techniques; Applied Habitat Restoration for Pollinators; Wild (non-Apis) Bee Ecology. Role of solitary bees, bumble bees and carpenter bees; Managing Stem and Wood Nesting Bees for Crop Pollination; Selection, development, and propagation of native plants for the restoration of pollinator habitat; Bee-Friendly Farming Practices.

Dr. M.R. Srinivasan delivered talks on National pollinator trend and status; honey bee diversity, visit to Sun flower field and pollinator visitation observation and analysis, Demo on apiculture; Basics of identification - Bee identification; Insect pollinators in selected crops – sunflower, cotton, ornamentals, trees and weed plants - pollinators on crop yield and quality increase in different crops; Bee diseases and bee enemies.

Dr. Sanjay Molur gave a detailed talk on the Status of Indian Invertebrate Pollinators: Checklist, Status of pollinators: Species assessment process; IUCN Red List Criteria. Followed by this B.A. Daniel and Sanjay Molur conducted a discussion to develop a short list to prioritize pollinator groups that can be considered for rapid species assessments in the near future.

Freshwater biodiversity conservation policy project

The freshwater policy project originates from recommendations of the report on the IUCN assessments of 1146 freshwater species from the Western Ghats spanning across four taxonomic groups (Fish, odonates, freshwater molluscs and aquatic plants). The exercise was conducted by Zoo Outreach Organization and the Freshwater Biodiversity Unit of the IUCN and funded by the Critical Ecosystem Partnership Fund. The Project aims at networking with the stakeholders and policy makers (Forest & Fisheries departments, biodiversity boards, national institutes on fisheries and aquatic biodiversity, NGOS, researchers and local communities) and working towards analysing existing policy for freshwater biodiversity conservation. The project also looks at the effectiveness of the Protected Area Network in terms of freshwater biodiversity conservation.

To Catch the African Catfish!

First ever attempt to remove the invasive (non-native) African Catfish *Clarias gariepinus* from a canal of the Periyar Lake and Stream System (PLSS). A trial/ pilot attempt was tried out to reduce the threat from invasive fishes faced by the threatened and endemic native freshwater fish found in PLSS. The one-day attempt was made with the help of volunteers, the forest guards, fish experts and conservationists as a collective effort. About 100 individuals of the African Catfish were caught and removed from the canal. The event was organized by the Conservation Research Group in collaboration with the Zoo Outreach Organization, Indian Alliance for Zero Extinction, Periyar Foundation, Periyar Forest Department, Periyar Eco Development Committee, Invasive Species Specialist Group, Freshwater Fish Specialist Group, Friends of Target 12, the Ruffords Small Grants Foundation, Critical Ecosystem Partnership Fund, Ashoka Trust for Research in Ecology and the Environment.

Conserving the Himalayan Grey Langur, *Semnopithecus ajax*, through participatory conservation in the Chamba Valley of Western Himalaya, Himachal Pradesh.

This pioneering initiative is set in the type locality of the little known and Endangered *Semnopithecus ajax*, in Chamba Valley which is also an Alliance for Zero Extinction Site. The project works to establish a holistic knowledge of the distribution and ecology of the little known langur and therefore understand its status in the wild. It also endeavors to understand the relationship the langur shares with humans in terms of space and resources thereby work to create a conducive atmosphere for peaceful dwelling and harmony. Under its aegis of establishing holistic conservation in the region, the project also attempts to study the taxonomic identity of the species in question, through genetic studies. Community conservation is at the heart of this effort and the project team is endeavoring in identifying key stakeholders and in convening them together to establish a participatory conservation initiative in Chamba. Outreach activities have been planned in schools wherein the focus in this first phase of the project is to create awareness among the local children about the presence of so unique a species like the Himalayan Grey Langur and its importance to the Himalayan ecosystem. The program has long term goals of achieving a conservation sensitive behavior over the years. The project has now completed its first phase of baseline surveys in over 150 sites across the Chamba district and has established langur distribution. More sites are being surveyed. Networking with other langur researchers in other parts of the Himalayas help in comparative studies and agendas are made for collaborations with the same.

Evaluation and Impact of the Amphibian Chytrid fungus on the threatened and endemic amphibian species of the Western Ghats. (2012 – 2014)

Objectives:

1. Understand the extent of occurrence of the Chytrid fungus (*Batrachochytrium dendrobatidis*) across the Western Ghats by random sampling of amphibian populations.
2. Standardize a non – invasive in field sampling protocol for the disease.
3. Standardize Polymerase Chain Reaction (PCR) based protocols at Indian labs and evaluate the impact of the disease using qPCR-based techniques by counting zoospore equivalents to understand disease loads.
4. Identify populations with the presence of the fungus and establish long-term population monitoring protocols, by systematically mapping disease occurrence.

5. Re- evaluate threats to amphibian species with presence of fungus and update the status according to the IUCN Red List of Threatened species.
6. Sample exotic species of amphibians in the Indian pet trade for Chytrid fungus and establish supporting documents to strengthen laws against exotic amphibian trade and create awareness about the negative impact of invasive species on endemic amphibian populations.

Achievements:

1. Sampling and testing of 500 individuals for the presence of the fungus.
2. 19 locations across four states in the Western Ghats completed.
3. In – field sample collection protocol standardized.
4. DNA extraction, PCR and qPCR protocols standardized at IISER, Pune.

Indian Theraphosid Project

The only grant this year was from the Mohamed bin Zayed Species Conservation Fund for Documenting the diversity, distribution and status of primitive spiders (Mygalomorph) in north-east India. Surveys were conducted in Mizoram, Tripura, Nagaland, Manipur, West Bengal and Assam. High diversity of mygalomorphs was found in Mizoram and Tripura. Many interesting new records and new species have been recorded from these areas. Soon these species records will be published in international peer-reviewed journal.

We visited Sadiya in Assam, where incidence of spider bite had happened in May 2012 and found that it was very much the case of media hyped. Both the persons who died were not sure what had bitten as it was dark in the night and they suspected that it was a spider as they saw spider in the nearby area. And much of the story was created by media. Result of which, locals killed all the spiders in their neighborhood (approx.. 200 individuals) and when we went for the survey, we did not find a single spider. And this year there has been no report of these spiders from the village, which means that most of the spider were killed and remaining are highly threatened. We tried to educate local people that these spiders are not fatal to human being and explained them tarantula behavior and mating season. In case they see tarantula in their house or nearby, they can collect it a jar and release it in nearby wooded area. But fear in the mind of local people have set in so much that it is necessary to carry out long term monitoring of these spiders as well as educating the locals in Sadiya and nearby areas.

Establishing Community Conservation Reserves in the Anamalai Corridor (CEPF-ATREE Western Ghats Small Grants; 2012-2013)

The project aimed to propose selected sites for setting up Conservation Reserves at Theni and Kodaikanal Forest Division in order to conserve the local biodiversity and manage it appropriately through collaborative reserve management with the local community.

Out of the four potential sites, three were pursued as Conservation Reserve sites. Panchayat cum local community support/approval letters were attained from these three sites. Two sites (Kurangani and Agamalai) were clubbed together along with another new site (Bodi North Hills Village) and a draft proposal towards this as "Theni Conservation Reserve" for an area of 220 km² has been submitted to the Tamil Nadu State Government and Forest Department officials.

Herpetofaunal utilization among the indigenous people of the Kerala region of Western Ghats (Herpetological Conservation Research Fund; 2012-2013)

This project aimed to determine the type and extent that herpetofauna contribute to the diet and income of indigenous communities, to determine hunting strategies used and the motives behind the utilization of herpetofauna in Kerala. It also aimed to determine real-time hunting success and to identify potential (domestic) alternative meats and whether such a strategy would reduce herpetofaunal consumption.

A total of 10 herpetofaunal species/taxa were found to be consumed by indigenous communities of which, monitor lizards (*Varanus bengalensis*) and Travancore tortoises (*Indotestudo travancorica*) were the most prominent. Reptiles were the third most consumed group behind freshwater fish sourced from protected/forest areas and mammals while amphibians were the second least consumed. However reptiles were more frequently consumed than mammals. Herpetofauna were captured mostly with the help of domestic dogs, directly caught and traps followed by smoking burrows, bows, catapults and stones. Herpetofauna were also used for a wide variety of medicinal purposes. The alternative meat strategy may not reduce wild meat consumption.

Enhancing the knowledge and awareness for the conservation of the Kerala Indian Frog (*Indirana phrynoderma*) at Anamalai Tiger Reserve- (ZSL EDGE Fellowship; 2013-ongoing)

This project aims to develop a species-based conservation strategy for a Critically Endangered amphibian restricted to the Anamalai Tiger Reserve of the Western Ghats through an assessment of status, habitat requirements, life history, threats and exploring the potential for habitat conservation with the assistance of local communities.

Field surveys are currently being undertaken at Anamalai Tiger Reserve and Valparai to determine species occurrence.

Roots of a Green Economy: Enhancing biodiversity conservation and local livelihoods in the Anamalai Corridor (CEPF Western Ghats Large Grants; 2013-ongoing)

This project aims to initiate/develop local livelihoods appropriate for each site and continue to promote interaction among the stakeholders at Theni and Kodaikanal. Furthermore, the project also aims to build an effective system to inform and ensure the functioning of the protected area, its economic viability and that for its people.

Training workshops for local guides active at the proposed Theni Conservation Reserve have been initiated to promote eco-tourism.

Assessing the Status and Distribution of Large Mammals in Highway Mountains and Its Environs, Southern Western Ghats

We have carried out a study on status and distribution of mammals in the landscape between 2011 and 2012. The entire landscape was gridded (4 sq.km) on the map and each grid was sampled for the presence-absence of the mammals by walking on pre-determined paths. During this all the sighted animals were recorded, droppings on trail was recorded with species identity, and also animals presence was recorded using their unique secondary signs foot print, den characters, sprouts and scratch marks on the tree. A total of about 285.5 km length were walked for the survey. Since all the animals cannot be recorded during the day walk and also using sign survey, we also surveyed for the detection of animals during the night by flashing the light by walking on the pre-determined paths or using a motor vehicle by driving slowly and flashing the light on either side of the forest. During this all the animals detected were recorded with species identity. Further, analysis on occupancy with the above set of data will reveal the spatial distribution of major animals.

South Asia Office of the IUCN Freshwater Fish Specialist Group (IUCN-FFSG) & Freshwater Fish Conservation Network of South Asia (FFCNSA)

Freshwater Fish Specialist Group (FFSG) was initiated in 2004 and managed jointly by the IUCN Species Survival Commission (SSC)/Wetland International (WI). The IUCN-FFSG has a mission of achieving conservation and sustainable use of freshwater fishes and their habitats through generating and disseminating sound scientific knowledge, creating widespread awareness of their values and influencing decision making process at all levels. The IUCN-FFSG is based at Chester Zoo, North of England Zoological Society in Chester, United Kingdom, with Prof. Gordon McGregor Reid as the Chair and Dr. Katalin Csatadi as the Program Officer. FFSG has 19 regions world wide, with the activities of each region being coordinated by a Chair or Co-Chairs. K. Remadevi, Retired Scientist of the Zoological Survey of India (ZSI) served as the First Chair of the South Asia region from 2004 to 2012. As a result of the growing interest and increased need for awareness, capacity building and research concerning freshwater biodiversity in the South Asia region, a regional office of the IUCN-FFSG was set up at the Zoo Outreach Organization (ZOO) in Coimbatore in October 2012. The South Asia Office has also initiated the Freshwater Fish Conservation Network of South Asia (FFCNSA). Apart from identifying and coordinating a network of ichthyologists who will work together to raise the profile for freshwater fish conservation in this region, some of the proposed activities of the FFSG South Asia and FFCNSA include: i) updating species pages and assessments of the conservation status of newly described species in the IUCN Red List of Threatened Species (in collaboration with the IUCN FBU, Cambridge); ii) organizing training programs and workshops in fish taxonomy and systematics as well as other topics relevant to the objectives of the IUCN-FFSG; iii) publishing a half yearly newsletter and iv) developing education and outreach materials relevant to freshwater biodiversity conservation. Waikhom

Vishwanath, Professor of Life Sciences at the University of Manipur, Imphal, Manipur, India and Rajeev Raghavan, Researcher at the Conservation Research Group, St. Albert's College, Kochi, Kerala, India have been appointed the Co-Chairs to the South Asia Region for the Quadrennium 2013-2016.

Education

Animal Welfare Fortnightly AWF Celebration 2013 -- Printed 1000 posters on ABC-Biodiversity and reached 1000 people through 18 Institutions

Promoted International Vulture Awareness Day 2012 in South Asia -- Printed 2000 vulture education kits and reached out 2000 people through 27 institutions.

58th Wildlife Week WLW Celebration -- 40 institutions and educators took part through ZEN network in the WLW that help to reach out people and educate them in the subject of Pollinators, Animal Welfare, Bats and Vultures.

Developed and distributed Educator resource manual on Teaching Conservation Welfare for captive and wild animals.

Teaching Guide on "Sahyadri Freshwater Biodiversity Conservation"

Zoo's Print

October 2012 – September 2013 (12 issues)

www.zoosprint.org

Journal of Threatened Taxa – 15 issues

October 2012 – September 2013 (17 issues)

www.threatenedtaxa.org

Newsletters

Small Mammal Newsletter – Vol. 4, no. 2, December 2012.

http://www.zoosprint.org/ZoosPrintNewsLetter/SMM_4_2_Dec_2012.pdf

Small Mammal Newsletter – Vol. 5, no. 1, June 2013.

http://www.zoosprint.org/ZoosPrintNewsLetter/SMM_June2013.pdf

Reptile Rap Newsletter – No. 14, June 2012

http://www.zoosprint.org/ZoosPrintNewsLetter/Reptile_Rap_14_June_2012.pdf

Reptile Rap Newsletter – No. 15, January 2013

http://www.zoosprint.org/ZoosPrintNewsLetter/Reptile%20Rap_15_Jan_13.pdf

Bugs R All Newsletter – No. 19, December 2012

http://www.zoosprint.org/ZoosPrintNewsLetter/Bugs_R_all_December_12.pdf

Frogs Leg Newsletter – No. 18, December 2012

http://www.zoosprint.org/ZoosPrintNewsLetter/Frog%20leg_18_2012.pdf

Frogs Leg Newsletter – No. 19, August 2013

http://www.zoosprint.org/ZoosPrintNewsLetter/Frog%20leg_19_2013.pdf

Network members directories

http://www.zooreach.org/Networks/Chiroptera/CCINSA_directory.pdf

http://www.zooreach.org/Networks/Rodent/RISCINSA_directory.pdf

http://www.zooreach.org/Networks/Primate/Primate_directory.pdf

http://www.zooreach.org/Networks/Education/ZEN_directory.pdf

http://www.zooreach.org/Networks/Invertebrate/IPNSA_directory.pdf

http://www.zooreach.org/Networks/RSG/RSG_Directory.pdf

http://www.zooreach.org/Networks/CBSG/CBSG_SA_Directory.pdf