

Continuation of ZOO's CEPF sponsored Freshwater Biodiversity Workshops after project period

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The IUCN-SSCs species programmes Freshwater biodiversity unit in collaboration with Zoo Outreach Organization with the financial support of the Critical Ecosystem Partnership Fund CEPF conducted the Red List assessment of 1146 freshwater species viz., odonates (171 taxa), molluscs (77 taxa), fish (290 taxa) and aquatic plants (608) of the Western Ghats in 2011. The results showed that close to 16% of the assessed freshwater taxa are threatened with extinction with a further 1.9% assessed as Near Threatened. The report also concludes that threats such as pollution, biological resource use, residential and commercial development, dams and other natural system modifications, alien invasive species, agriculture and aquaculture, energy production are some of the major activities that impact freshwater biodiversity. The study also listed nine major recommendations and awareness and education outreach is one of them.

With an objective to fulfill the recommendations of the assessment outcome, ZOO, the IUCN SSC South Asian Invertebrate Specialist Group and a number of organizations with the financial support of CEPF designed and conducted a series of awareness outreach programmes in all the Western Ghats states and rest of the peninsular India. For more information about the above project please click <http://www.zoosprint.org/ZooPrintMagazine/2014/February/11-16.pdf>. The entire project was completed by January 2014.

The impact created by the conservation education project during the year 2013-2014 and also due to wide circulation of the Freshwater education materials through ZOO's network members and online, we have been receiving requests to conduct Educators skills training programmes especially for college students and NGOs. The conservation education programme is still continuing after the project and so far, since the completion of the project, 16 awareness programmes at school level through ZOO's network members, 10 trainers training programme for college and university students and 4 presentations has been carried out so far.

On 17 September 2016, an educator skills training programme was conducted for a group of 42 graduate students of different discipline of arts and science such as Zoology, Botany, Chemistry, Physics, English Literature, Economics and History was organized by the Biodiversity Club of the Zoology Department, Vellalar College for Women, Thindal, Erode.



Map reading and introduction to Western Ghats and River basins

The objective of the workshop is to reach out to students interested in conservation education and anyone involved in environment and conservation education and to introduce the concept of freshwater biodiversity of the Western Ghats and some simple teaching tools for them to use with their target groups. Training methods followed ZOO's successful workshops that have trained educators and other conservation educators to teach more meaningfully and effectively, combining active learning techniques with species conservation issues.

The Associate Professor and head of the department Dr. Muthunagai and Lecturer Kavitha coordinated the one-day programme. The event started with an informal inaugural in which the author gave the background of the programme. He said the Western



Group activity

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Understanding the history of Western Ghats through illustrations



Certificates received by the office bearers of Biodiversity Club

Ghats in India is one of the world's most heavily populated Biodiversity Hotspots, providing for and supporting 400 million people through water for drinking, transport, irrigation, and hydroelectric power, together with food and resources to sustain livelihoods. However, the pace of growth of the Indian economy and rates of industrial and urban development are not in tune with the conservation

needs of this freshwater ecosystem and the remarkably high diversity of species they contain. In most instances the development planning process does not consider the ecosystem's requirements, mainly due to a lack of adequate information on the distribution and status of freshwater species and the threats they face. There is also little appreciation of the value of freshwater ecosystems to the livelihoods of many people, often the poorest in society.

The author also introduced the teaching guide that was used throughout the training programme. The teaching guide consists of four units featuring freshwater animals and plants, that can be used as a medium for conveying a wide range of active learning techniques for both experienced and casual educators. The Teaching Guide also provides education about freshwater animals and plants in general and creates interest among students and other target groups to contribute at the individual level to help protect them and their habitats. The teaching guide contains the basic facts about the four freshwater groups viz., fishes, dragonflies, molluscs and water plants. It also includes the value of Freshwater biodiversity, basic taxonomy of select groups, Western Ghats maps, species diversity, threats, status, freshwater biodiversity uses and values, assessment methodology, conservation status, and recommendations for conservation. The last unit exercises are provided to help participants commit themselves to contribute for the conservation of FW biodiversity. The approach in this guide is to teach and to attract non-traditional as well as traditional educators to adopt new teaching techniques and activities, which are more effective in influencing comprehension, retention and behavioural changes.

Before starting the programme assessment was conducted. This is to understand the knowledge status of the group about the subject ie. Freshwater



Group with their animal masks and placard while doing commitments. Photos: B.A. Daniel

biodiversity conservation. Since the participants were non-science students, they required some introduction to kingdom of life, species, habitats, classification and basics of conservation concepts. These scientific concepts were explained to them using cards and games and hence they understood the concepts easily. The contents and activities of the manual helped them to understand hard subjects easily.

Other topics covered in the programme are map reading to understand about Western Ghats and the river basins. Subsequently value of freshwater was explained to them using some mathematical calculations. The ways to calculate water footprints were explained to them. They were also given a chance to calculate water footprints of certain products that they use on daily basis. In

continuation of this types of freshwater found in the Western Ghats Hotspot were explained to them through card activity. Through illustrations they were also made to understand the entire history of the Western Ghats starting from 12000 BC. The participants took part in this very actively and worked on colourful illustrations. Using the manual and additional supplementary packet materials developed exclusively for this programme was used to introduce the four major freshwater groups such as Odonates, molluscs, fish and aquatic plants. The participants used the masks, friendship bands and then committed to protect species and its habitats.

The author would like to thank the Head of the Department Zoology, Mrs. M. Muthunagai and Mrs. Kavitha for coordinating the entire programme and for methodically selecting the participants.

Back to USA and then to India and then ...

Sally R. Walker, Editor, ZOOS' PRINT

Greetings to all of you who are reading my new column in ZOO's PRINT. It has been a long time since I wrote for ZOO's PRINT myself and maybe the first time I am writing in ZOO's PRINT *about* myself. ZOO's PRINT has been coming out regularly for decades ... since 1986. Before that I had started another magazine called the FRIENDS OF MYSORE ZOO. Some friend of mine convinced me that I should drop the FRIENDS OF MYSORE ZOO and create a real magazine that could be enjoyed by anyone who had interest in zoos and also interest in writing themselves.



I was the Editor until I left India to help my elderly parents in USA, and asked my office colleagues to take over. My mother passed away first. After some time, my dad said he didn't mind staying in a hospital where he had stayed when he had some health difficulties. We decided that I could go back to India for three months and then back to USA after three months so my Dad could come home three months. This worked relatively well but when he passed away, I didn't feel like leaving our home! Over the past several years I have been bouncing around from USA to India and it has been ok.

My colleagues in the office now know everything and they do a good job. When I visit India I don't work as before and instead of me telling them what to do, they tell me how it is and if something is difficult we settle it.

Last month, I visited my office in India after one and a half years! Truth be told, I wanted to get out of the horrible climate ... it was so hot. One of my colleagues told me the weather was fine in Coimbatore so I decided to have my yearly visit there. When I reached Coimbatore, the weather was even hotter than USA and I was miserable. I managed to stay three weeks and had a nice time with my staff but the heat was too much. I returned to USA thinking that it would be nice by that time but it was even worse! I can't win!

Now, I am counting the days till October, hoping that cool weather will come upon us and lead to even cooler weather for a long time. I love cold weather and if all goes well I can have at least six months of it. When India has its cool weather, (IF there is any cool weather left in India), I will visit yet again and hope for the best!

For my next article I will introduce our readers to all of my staff (with pictures) and see if I can embarrass them. And for the next article I will introduce you to my adorable cats, Baby Cat and Hot Shot. By that time I am sure you will count the days for my next article in ZOOS' PRINT!!