

Conservation news

INTRINSIC: Training materials for integrating rights and social issues in conservation

Fauna & Flora International, together with BirdLife International, the Tropical Biology Association and the Department of Geography, University of Cambridge, UK, have developed a flexible package of training materials to help build the capacity of conservationists to address the social and rights aspects of conservation. The project, known as INTRINSIC, was funded by the Cambridge Conservation Initiative Collaborative Fund. Materials were tested with students on the Cambridge University Masters in Conservation Leadership and with conservation practitioners in East Africa.

Biodiversity conservation is essentially a social process, involving as it does decisions about access to, and the use, values and protection of nature. As such, conservation inevitably entails both social costs and benefits, and the social context is likely to affect the efficiency and effectiveness of any conservation initiative. Unfortunately conservation practitioners often lack the knowledge and skills to address and integrate rights and other social issues into their work. The typical pathway to a professional conservation career involves the pursuit of educational opportunities and formal qualifications in natural sciences. However, the contemporary practice of conservation necessitates working with people, local communities and groups, and requires knowledge and skills about social systems that are often not gained through these traditional academic pathways. A number of authors have pointed out discrepancies between conservation course content and the skills needed, and have bemoaned the lack of training in the social dimensions of conservation (e.g. Saberwal & Kothari, 1996, *Conservation Biology*, 10, 1328–1331; Jacobsen & McDuff, 1998, *Conservation Biology*, 12, 263–267; Fisher et al., 2009, *Oryx*, 43, 361–363). The INTRINSIC training package aims to help address this capacity gap and improve conservation policy and practice by increasing environmental and social sustainability, thereby enabling positive, equitable outcomes for both nature and people.

The INTRINSIC materials, which can be found at <http://bit.ly/IntrinsicManual>, comprise a trainers' guide and accompanying set of slide presentations designed to be customized for the particular context in which the training is to take place. It is expected that users will have some experience of working in conservation but in-depth knowledge of the specific social issues covered in the guide is not required. The developers envisage that delivery of the training can be a learning opportunity for trainers as well as participants. Subjects covered include community and social diversity, gender, conflict management, livelihoods and

well-being. A range of governance topics are also covered, including rights-based approaches to conservation, and issues of equity, participation and power. The materials provided are designed for a 3-day course, or 4 days if a field trip is included. However, depending on the learning needs of participants, and the time available, each module can also be used independently or trainers can choose to deliver a subset of the modules. The trainers' notes for each module include session objectives, rationale (as background for the trainer), key learning points and step-by-step guidance for the delivery of the content, including plenary presentations. There is also a range of interactive activities and exercises involving case studies, role play, pair and small group discussions and feedback.

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Design and testing of a replicable, scalable capacity-building model for species conservation

A major challenge for Venezuelan conservation scientists is to provide support to policy makers engaged in the conservation and sustainable use of the country's rich biological diversity, with comparably limited human and financial resources to do so. This challenge includes documenting the distribution and abundance of genes, species and ecosystems; integrating data from traditional knowledge and biological inventories; systematizing, analysing and socializing this information with the active involvement of key stakeholders; and facilitating open access through information and communication technologies.

A primary goal of the Biological Diversity Unit of the Venezuelan Institute for Scientific Investigation (IVIC) is to help by implementing a programme for building technical capacity in field sampling and data gathering techniques, and management of biological collections and information at the national scale, within the framework of the National Strategy for the Conservation of Biodiversity 2010–2020 and National Action Plan, with the vision of scaling it up regionally, as additional funds are secured.

Building on the facilities and infrastructure provided by IVIC, the Biological Diversity Unit has piloted a series of inter-institutional courses to develop the human resources required, focusing on skills that are relevant to providing inputs to Venezuela's reporting commitments to international agreements such as the Convention on Biological Diversity, CITES and the Sustainable Development Goals.

Courses on niche models and species distributions were offered during 2012–2015, georeferencing in 2014, and the

legal and biological framework for biological diversity research in 2015, coordinated by the Biological Diversity Unit in collaboration with other institutions, and an introductory course on taxonomy, ecology and biogeography of amphibians was offered in 2015. Modest fellowships were offered to those willing to go further and obtain certification for IUCN Red List assessments (<http://www.iucnredlist.org/technical-documents/red-list-training/online-training>).

With the support of IVIC, Universidad Centroccidental Lisandro Alvarado, Universidad Nacional Experimental de los Llanos Occidentales Ezequiel Zamora, City University of New York, Fundación La Salle de Ciencias Naturales, Universidad Central de Venezuela, Ministerio del Poder Popular para Ecosocialismo y Aguas, Instituto Socialista de la Pesca y Acuicultura (Insopesca), Provita and the IUCN Species Survival Commission Freshwater Fish Specialist Group, the Biological Diversity Unit offered a course on biogeography, ecology, integrity and conservation of freshwater fishes during 27 April–5 May 2016. Twenty-seven students and professionals combined lectures at IVIC with field trips to a montane watershed on the coast of Aragua, and to the Orinoco river floodplain at Hato Santa Luisa, in Apure, where the owners were generous with their support to the course.

These courses have provided training to more than 200 students, professionals, technicians and governmental agency officials involved in the management of biological diversity. The skills and techniques taught are not part of the traditional curricula of Venezuelan universities, although they are essential for maintaining and strengthening national capacities for management of natural heritage.

Improvement of scientific knowledge is, however, only the initial step in informing conservation policies. Data must be synthesized, and socialized with the public. In January 2016 the Biological Diversity Unit offered a course on writing popular scientific articles in conservation biology, exposing participants to the experience of science journalists, linguists and scientists, and to appropriate media outlets. For 3 weeks, 1 day of lectures per week was combined with writing assignments, leading to short pieces on a topic of choice by each of the 41 participants. The course organizers contacted media outlets to place the articles, and a number have been published or accepted for publication (e.g. <http://bit.ly/2a9ZXwS>, <http://bit.ly/2aaon64>, <http://bit.ly/2avQt2L>).

During the second semester of 2016 we will continue with courses on georeferencing, species distribution modelling and the legal and biological framework for biological diversity research. We are also exploring the expansion of the courses on natural history and field techniques, and further training in Red List assessments.

Ultimately, our training programme supports conservation policies by helping establish a new cohort of conservation professionals and feeding information into the

Venezuelan Information System on Biological Diversity (<http://diversidadbiologica.minamb.gob.ve/>), WikiEVA (Threatened Venezuelan Species, <http://wikieva.org.ve/>), the recent update of the Red List of Venezuelan Fauna (<http://animalesamenazados.provita.org.ve/>) and the IUCN Red List of Threatened Species (<http://www.iucnredlist.org/>). Securing financial support to replicate and scale-up this programme at the regional level is the next step.

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John Muir's little-known 1911 trip to Chile: conserving the historical and ecological legacy

John Muir, the renowned nature writer, scientist and conservationist, travelled alone to Chile in 1911, at the age of 73, because he wanted to see native forests of *Araucaria araucana*, the monkey puzzle tree. Few know about this trip because Muir never published anything about it before his death in 1914. In 2012 and 2013 two of us (B. Byers and J. Byers) used Muir's sparse journal notes and sketches to reconstruct his route to the site, now on private land adjacent to Tolhuaca National Park in central Chile, where he finally found *Araucaria*.

In April 2016 we held a workshop in Chile to outline the first steps for securing the recognition and protection this historically and ecologically important site deserves. The workshop brought together a diverse group of more than 20 people, including representatives from the Corporación Nacional Forestal, which manages Chile's protected areas and forestry sector; the private commercial forestry company that manages the land on which the site is located; academic ecologists and historians; and leaders of Chilean conservation organizations.

The first day of the workshop consisted of presentations and discussions that ranged from forest ecology and history to conservation policy and nature tourism in Chile. Chile's *Araucaria* forests, although under strict legal protection, face unique threats from land-use and climate change, and invasive species, and are underrepresented in the national