

## **Educating educators on the knowledge and conservation of the marine habitat and species in “Ocumare de la Costa de Oro”, northeast Aragua, Central Venezuela.**

*“The history of educational change, both successes and failures, shows that educators must be involved throughout the creation, development, and implementation of new educational programmes. Educators must be more than instruments of delivery for the Education for Sustainable Development (ESD) message. They must be centrally involved in developing the concepts, content, pedagogy, evaluation, and research that will support the creation of ESD” (Hopkins and McKeown, 2002)<sup>1</sup>*

Educators from several municipalities in the State of Aragua have started their participation in this project by attending lectures and organizing “*educational expeditions*” on the importance of taking care of marine ecosystems for the livelihoods and welfare of our coastal communities in the State of Aragua. Our approach of using mangrove forests, coral reefs, sea grasses and marine wildlife as an “*outdoor classroom*” for teaching Physics, Mathematics, Biology, Chemistry, Artistic Design and other subjects complies with the recently enacted regulatory instruments on Management of Biological Diversity, Science/Technology and Education. As such, it has been endorsed by the regional (State) authorities of the People’s Ministries for Education (MPE) and Science/Technology (MPPCTII). At this moment, 37 teachers from regional high schools and 18 education managers from the Araguan Children Foundation of the Governor Office, as well as 93 high school students have participated in lectures and educational expeditions. The local César Zumeta High-school and its “*Centro de Investigación, Tecnología y Ambiente (CITA)*” were selected by the regional authorities of the PME as a pilot high school for expanding this program to the rest of the State of Aragua. 60 teachers of natural sciences have been appointed by the PME-Aragua to participate in this program and –besides- representatives of 100 regional schools and high schools have requested to be included in these activities.

### **Public outreach.**

Our team has presented the results of this program in national scientific meetings such as the VIII Conference of the Venezuelan Society of Ecology and the II National JOCOMAV Conference for Mammal Conservation. At an international level, our team members Prof. Gerson Macía and Biologist Jaime Bolaños were

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1 Charles Hopkins and Rosalyn McKeown. Education for sustainable development: an international perspective. pp. 13-28, In: Tilbury, D., Stevenson, R.B., Fien, J., Schreuder, D., (eds.) Education and Sustainability: Responding to the Global Challenge, Commission on Education and Communication, IUCN, Gland, Switzerland and Cambridge, UK. xii + 206 pp.

invited to present lectures on this and related projects at the International “*Symposium on the opportunities for building local, sustainable «blue» tourism and combating the threats to marine mammals in the Caribbean*”, hosted by governmental and nongovernmental organizations in Martinique Island, in the French Antilles. Also, Interviews on this project were granted for documentaries to be broadcasted very soon by Venezuelan, French and Italian TV channels.

### **Scientific foundation.**

Our team member Mr. Leonardo Sifontes conducted the third of a series of four surveys of a baseline study to evaluate the dolphin population status in the State of Aragua using photo-identification techniques, in fulfillment of his undergraduate thesis. His results will be compared to those found as part of our RSG 08.07.07 project. This is the first time in Venezuela that environmental managers count on specific information on the population status of any cetacean population. Finally, our team members from Sea Vida and CITA were invited by Fundacite Aragua, the regional branch of the People’s Ministry for Science/Technology, to participate in their project on “*Conservation and restoration of mangrove forests in the State of Aragua*”. Thus, our efforts to sensitize and empower the local community for conservation or marine ecosystems and species comes together with the production of scientific knowledge and endorsement by regional authorities.



Pictures 1 and 2.

Participation of teachers and pupils of the “*Maracay Special Institute for the Deaf*” in field trips has contributed the creation of new signs for their signs dictionary. Photo credits: Gerson Macía



Picture 3.

Team member Ms. Graciela Castro presents the results of her photo-identification project at the II Venezuelan JOCOMAV Conference for Mammal Conservation. Photo credit: Jaime Bolaños-Jiménez



Picture 4.

Team member Jaime Bolaños-Jiménez presents a lecture on this project at the "Symposium on the opportunities for building local, sustainable «blue» tourism and combating the threats to marine mammals in the Caribbean", hosted by governmental and nongovernmental organizations in Martinique Island, in the French Antilles. Photo credit: Gerson Macía.



Pictures 3 and 4.  
Dissemination of the results of our field and educational projects in regional scientific meetings help us to increase public outreach. Photo credits: Picture 3: Jaime Bolaños-Jiménez, Picture 4: Cristina Castillo



Picture 5.

Interest of international media in covering our activities will help us disseminate the results of this RSG project to a wider audience. A documentary on this project for the Abruzzese television channel “24 Ore” can be found online at:

<http://www.abruzzo24ore.tv/news/l-delfini-di-Ocumare-de-la-Costa/15848.htm>

Photo credit: Neil Castro