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The Ramsar Regional Center for Training and Research on Wetlands in the Western Hemisphere (CREHO) is a not-for-profit international organization that promotes management and wise use of wetlands in the Americas.

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EDITORIAL

"Wetlands, Biodiversity's Cradle" is the special issue of this INFOWETLAND, which invites us to know more about the values and services that the wetlands ecosystems render us and to pose questions regarding what we can do to wisely conserve and use them.



At CREHO we have witnessed important initiatives being developed in the region concerning biodiversity and the conservation of vital ecosystems which are an example of how the sum of all those efforts might make a difference for our biodiversity at the regional level and that of the international cooperation. Hence, it is important to highlight the role of the international agreements that, from their own sphere of action, contribute to promote and achieve a healthiest and protected biodiversity so that future generations might enjoy the fruits of that legacy which we reap benefits today.

However, there is still a lot we must do; both as organizations and as individuals, we are called upon to assume the responsibility for our surroundings. Still pending is the strengthening of public policies and specialized laws, increasing awareness about the relevance of our biodiversity and the vulnerability of the ecosystems where it lives, a highly specialized technical trained personnel to confront the task of wetlands recuperation, restoration and management and, mainly, motivating the public at large, particularly our youth, to act and commit themselves with our natural richness.

In this issue we share wetlands conservation actions being carried out in Colombia and Peru; news about the designation of new Ramsar and WHSRN sites; the promotion of tools such as the WHMSI Website, the Library the integrated water resource management at the World Water Association and publications available about governance, gender and environmental education.

We hope this issue will be of your interest but, mainly, useful. As always, we invite you to send us your comments and suggestions, which are valuable to us.

Rosa Montañez
Executive Director
CREHO



NEWS

ACADEMIC COOPERATION

During the first half of 2009, CREHO had the support of two students who, under its supervision and support, carried out research on wetlands.

Betzuké Camargo

Project “Characterization of Physical, Biotic and Social Resources at the Clayton Wetlands”

From March to June of this year, Betzuké Camargo, studying Environmental Management Engineering at the University of Panama, carried out a preliminary inventory of three small wetlands located at Clayton, Panama City, the area where CREHO has its offices.

Betzuké tells us that for her “it was a fortifying learning experience in all senses, both theoretical and practical. From the very first moment, I was received very cordially as another team member and they filled me with enthusiasm. This project is important in order to establish an adequate handling of the special characteristics of these ecosystems, as beautiful as they are with their flora and their birds. The experience has been wonderful for me, for each day I was able to see something new, from insects to alligators; I invite you to get to know the wetlands in your own countries because only by starting ourselves we are going to be capable to motivate the public at large. I thank CREHO for the support it gave me on making my dream of doing my thesis on wetlands become a reality”.



Jessica Gross

Project “Superficial Carbon Sequestration in the Mangrove Forests, Gulf of Montijo, Panama”

Thanks to the economic support received from the German Academic Exchange Service, from May to July, 2009, we had the collaboration of Jessica Gross, a student for the Master of Tropical and International Forestry, Göttingen University, Germany, who carried out field work along with two students from the University of Panama –Samuel Mojica and Alvaro Espinoza– at the Gulf of Montijo Ramsar Site, Veraguas Province. Jessica’s project is a very important study because it will provide more information about the capacity the mangroves have for carbon sequestration.



DESIGNATION OF A RAMSAR SITE IN ARGENTINA

Source: Ramsar Convention Secretariat, Environmental and Environment and Sustainable Development Secretariat (Argentina), Yuchán Foundation and Prensa Proteger. Original note: <http://www.proteger.org.ar>

The 18th Ramsar Site was recently officially designated in Argentina: the Catamarca High Andean and Puna Lagoons, which comprise a complex system of High Andean endorheic watersheds, including salty lagoons of extraordinary beauty located at altitudes ranging from 3.010 to 6.885 meters.

With an extension of more than a million two hundred thousand hectares, it is one of the fourteen priority sites in the Wetlands Network for the Conservation of High Andean Flamingoes in Argentina, Bolivia, Chile and Peru. This ecosystem is extremely rich in biodiversity, but highly vulnerable and fragile. It faces such threats as over-pasture, unregulated tourism, mineral explorations and the gathering of flamingo eggs.

The process for the designation of this Ramsar Site was supported by the WWF International Fresh Water Program, the Ramsar Convention and the Yuchan Foundation.

You can see the map of the area by going to:

<http://www.proteger.org.ar/archivos/MapaRamsarCatamarca2009.jpg>

DESIGNATION OF RAMSAR SITE NUMBER 113TH IN MEXICO

Source: Ramsar Convention Secretariat

The wetlands of the Bay of Adair, located in Sonora State, Mexico, were incorporated into the list of Internationally Important Wetlands and became Ramsar Site #113 in this country.

With an extension of 42,430 hectares, the site includes three types of habitat - marshes, artesian wells and salt marshes- and is a part of the Altar Great Desert, one of the most arid and extreme in North America. Twelve species of fauna under some type of protection category according to Mexican legislation have been found here, such as the fish *Cyprinodon macularius*, which is endemic to the region and is found in the CITES list of species in danger of extinction.



WHMSI IN THE WEB

The Western Hemisphere Migratory Species Initiative (WHMSI) now has its own site on the Web. Previously, WHMSI had a “mini Web Site” in the US Fish and Wildlife Service Web Page.

At the Second WHMSI Conference (Costa Rica, 2006), the participants asked for the creation of an independent Web page for WHMSI. Consequently, CREHO offered to provide follow-up to the process, which culminated with the establishment of the WHMSI.net portal, which aims to become a link and a meeting point for the promotion and diffusion of information regarding migratory species throughout the Western Hemisphere.

We encourage you to collaborate with <http://www.whmsi.net>. If you have information and/or images about migratory species which you would like to share with WHMSI users, write to info.whmsi@gmail.com. Comments and suggestions: adm.whmsi@gmail.com.





CHILE DESIGNATES ITS FIRST SITE OF HEMISPHERIC IMPORTANCE IN THE WESTERN HEMISPHERE SHOREBIRD RESERVE NETWORK (WHSRN)

Source: Corporación Ambientes Acuáticos de Chile

The Bahía Lomas wetland and Ramsar site is the first site in Chile to gain the international status assigned by WHSRN as a Site of Hemispheric Importance; it is located in the eastern mouth of the Magellan Strait, Tierra del Fuego Province.

The area is known worldwide for sheltering a large number of migratory shore birds that use these wetlands as a feeding ground, concentrating some 50% of the red shore bird *Calidris canutus rufa* registered in the Americas, among other relevant species.



The designation was made possible by an alliance and collaborative work among the National Environmental Commission (CONAMA), the Wise Use of Wetlands Program from the Petroleum National Enterprise (ENAP), the Santo Tomas University and local researchers.

The WHSRN is a strategy launched in 1984 with the mission to conserve shore birds species and their habitat via a network of key sites throughout the American continent. It currently encompasses 74 sites in 12 countries, with partners that conserve and manage more than 12 million hectares of habitat vital to these birds.

TOOLBOX, THE ON-LINE LIBRARY ABOUT THE INTEGRATED WATER RESOURCE MANAGEMENT

Source: Marianela Argüello. GWP Central America

In the wide virtual space, there is an on-line library called ToolBox whose purpose is to share knowledge about the integrated water resource management (IWRM)

This open access data base, located at www.gwptoolbox.org, has 54 tools providing information as to how to implement the IWRM principles; there are 193 study cases from many parts of the world illustrating how the tools work at the practical level. Additionally, there are 178 external references to support documents, handbooks and knowledge bases related to IWRM.

ToolBox is an initiative of the Global Water Partnership (GWP), an organization founded in 1996 to support the sustainable development and management of hydric resources at all levels.

The most updated version of ToolBox can be found in English, but at the site web www.gwpcentroamerica.org the last six Studies from Central America can be found in Spanish.





PROMOTING THE CONSERVATION OF THE COLOMBIAN MOORS

Source: Marely Mora López. Boyacá Regional Autonomous Corporation

From May 26th to 30th, the Boyacá Regional Autonomous Corporation carried out the National Congress on Moors at Boyacá Department, Colombia. The academic sessions addressed the search and analysis of the interrelations between new and traditional problems that greatly impinge upon the moors health and the work of key players. Debates took place regarding different thematic lines relating to ecosystem and territorial diversity in the moors, climatic change and the integral management of hydric resources, the moors functions and their restoration, among others.



Among the various issues debated in the congress, the fact that one of the human activities that directly affects and has the most impact on the moors is the elimination of natural vegetable cover, with the consequent fragmentation of existing habitat; the changes experienced by soils via compacting and erosion were highlighted. Historically, these affectations have been a consequence of inappropriately built roads, mining, inadequate solid residues disposal, introduction of exotic species (flora), inappropriate onion and potato production, extensive cattle raising and burning.

The presence of people who inhabit the moors, who know up close the problems faced by these fragile ecosystems, as well as the experiences brought from different places in Colombia regarding management and conservation, greatly contributed to strengthen the knowledge of all participants. Also present were the directors of the 22 Regional Autonomous Corporations, directors of national and regional entities responsible for environmental studies and non-governmental organizations.

PROJECT FOR THE CONSERVATION OF THE MANGROVE BULLFINCH IN THE GALAPAGOS ISLANDS

Source: Charles Darwin Foundation

The Charles Darwin Foundation will be able to continue its project of saving an important endemic species and in danger of extinction in the Galapagos Islands, the mangrove bullfinch (*Camarhynchus heliobates*), thanks to the funds provided by the Darwin Initiative, a British organization working for the protection of biological diversity around the world.

The mangrove bullfinch inhabits mangrove areas separated from the sea. Currently, the only population consists of 50 couples dispersed among two small mangrove patches in the Northwest side of the Isabela Island. Previously, this species lived all along the costs of the Isabela and Fernandina islands. The two-year funds will allow the CDF scientists to relocate those bullfinches not yet established somewhere, in new sites located in the East coast of the Isabela island, which has some 350 hectares potentially suitable to receive this species.

The idea of dispersing the population is based on the fact that currently the two small patches that are inhabited by bullfinches constitute only one population, which makes them very vulnerable to illnesses, the attack of introduced species (such as the black rat, that attacks their eggs during the nesting season) and the loss of habitat, among other threats. For more information, go to <http://www.darwinfoundation.org>

SPECIAL ISSUE

WETLANDS, CRADLE OF BIODIVERSITY

Source: Biological Diversity Convention. <http://www.cbd.int>

Within the framework of the Biological Diversity Convention, biodiversity is defined as “a set of ecosystems, species and genetic variability existing in a determined place”.

The term biodiversity was first used in 1985 and represents an abbreviation of the expression “biological diversity”. Biodiversity includes all species of plants, animals and microorganisms, as well as ecosystems and the ecological processes of which they are part and parcel.

Currently, the impact of human activities interferes on environmental processes, causing alterations on the life dynamics of ecosystems, especially in wetlands and, as a consequence, the flora and fauna that inhabit them are threatened.

REGIONAL CONSERVATION AREAS IN PERU AS AN STRATEGY FOR BIODIVERSITY CONSERVATION IN WETLANDS: THE EXPERIENCE OF THE “ALBUFERAS DE MEDIO MUNDO” WETLANDS IN THE HUANCHO REGION, LIMA

Authors: Ricardo Jesús Jiménez Vilchez, Fundación Peruana para la Conservación de la Naturaleza-ProNaturaleza y Beatriz Rosario Alcántara Medrano, Gobierno Regional de Lima. ricardojv@gmail.com / charoalcantara@gmail.com

Peru is the second largest fishing country in the world. Its coasts are bathed by marine waters rich in nutrients and by the Humboldt cold currents. This interconnection turns the marine-coastal wetlands into strategic conservation areas, important for the maintenance of the environmental services they provide and for the biodiversity they host, as well as for the support they provide to surrounding communities.

The de-centralization process and the transfer of functions that took place with the recent formation of Regional Governments is allowing local players to approach the issues of integral management, their socio-economic development



The 52.1 % of Peru’s population (28 million) lives in the arid and deserted coast, where Lima (the second most populous desert city) is located. The National Wetlands Strategy (1996) establishes eleven main wetlands in the coast, three of which are Ramsar sites. Thanks to the effort of national and international organizations (ProNaturaleza, International Conservation and the Ramsar Convention, among others), the first wetlands inventory and evaluation of the conservation status was carried out along the 3080 Km of the Peruvian coast; from 0 meters above sea level to 1000 meters above sea level, the effort determined 94 wetlands, many of which lack any type of protection and are threatened by man-made activities and natural phenomena, a situation that corroborates what was pointed out by Ramsar, UNDP and the Millennium Group of Experts on Ecosystems Evaluation.

needs and the conservation of natural areas. The experience of the formation of the “Albufera de Medio Mundo” Regional Conservation Area is an example of how the integral management of natural areas is an increasingly needed alternative for the country. Thus, via workshops with the participation of social sectors, academia, private sectors and NGOs, Lima’s Regional Government has articulated the needs for use of wetlands resources by the artisan, extractive, educational and touristic populations with the conservation of their biodiversity; it is the only lagoon 7 Km long along the Peruvian coast where 74 birds species (5 protected), 26 flora species, 48 algae species and 5 fish species are found; the latter are important for the artisan fishing activities in the area.

There is still a joint and long work to be done, but the alternative for the conservation and sustainable use of biodiversity has been provided, based upon the political decision taken and the operational mechanisms in place; the need now is to make the best use of these efforts at all levels.



Photo by: Beatriz Alcántara



Photo by: Ricardo Jiménez

MANGROVES, CRADLE OF BIODIVERSITY IN THE TROPICAL SHORES

Author: Luis D’Croze, Smithsonian Tropical Research Institute. dcrozl@si.edu

Mangroves are littoral forests composed by trees and shrubs tolerant to salty waters that grow in the tropical and sub-tropical regions. They are very specialized plants in terms of their physiology, morphology and reproduction. Their height varies from small shrubs less than one meter high to tall trees higher than 30 meters. The New World species possibly evolved from an Indian-Pacific mangrove flora, which is the most diverse.



Photo by: Dr. Juan L.

Paleontologists registers suggest that mangrove trees have been in the Americas since some 40 million years, initially colonizing the Atlantic and the Caribbean Sea coasts and, later, the Eastern Pacific coasts. They were extensively distributed along the Atlantic and Caribbean Sea shores, between Florida and the south of Brazil and, in the Eastern Pacific, from the north of Mexico to the north of Peru; these limits are probably related to the little rain originated by the cold Humboldt and California currents.

The world cover of mangroves was originally estimated at 200.000 Km². However, almost 35% of mangroves have been devastated. The use of coastal lands for agriculture, aquaculture, urbanizations and ports is the main reason for the destruction and fragmentation of mangroves in all continents. In the Americas, approximately 27% of the world mangrove cover is found, mostly along the coasts of the Caribbean Sea and the Western Atlantic.

However, there are extensive wetlands areas in the Eastern Pacific, such as in Ecuador, Colombia and Panama, possibly due to high rains, wide tides and high river discharges. One dozen mangrove species are the most common in the New World and they usually congregate forming bands or patches almost mono-specific, as a consequence of the tolerance

each species has towards salinity, the dynamics of seeds and plantules dispersion by tides and currents and the effect caused by depredation of local fauna of the propagules.



CREHO ©

Mangroves are the habitat of many varied shore species that make up their niche on the branches, the trunks and the roots of trees. The biota associated to mangroves of the New World gathers more than a thousand species, including a great variety of taxonomic groups, from bacteria, fungus, lichens and ferns to insects, mollusks, crustaceans, fish, birds, reptiles and mammals. The high concentration of species in the mangroves is related to the high productivity of the forest and its tangled architecture, which represents food and shelter. Some

marine organisms are temporary visitors to the mangroves; such is the case of shrimp and fish species that arrive at the mangroves in the form of small post-larvae and, after some weeks of growth, go back to the marine-coastal populations as juveniles. Thus, mangroves contribute to the fishing richness along the tropical shores. Moreover, they protect the coast from erosion and are a natural barrier against storms and hurricanes. That is why the mangroves are an important part of the natural patrimony of tropical countries with marine coasts.

FAUNA OF THE WETLANDS

The Manatee — *Trichechus manatus*

Also known as the “marine cows”, they inhabit tropical and sub-tropical waters. It is the only marine, herbivorous mammal; its diet is based upon submerged, floating or emerging fresh water plants and grasses.

Manatees are solitary animals. Most of their associations are temporary and come about according to the seasons. They use rivers, estuaries and coastal areas, moving between fresh and salty waters. They require an abundance of aquatic vegetation to feed from, the proximity of deep channels to move and peaceful refuges to protect themselves.



Avi Klapfer - Fundación Albatrosmedia - www.albatrosmedia.net

Being very big animals –capable of reaching almost four meters- they have few predators. But these mammals are among the most threatened species and are listed by IUCN as an animal vulnerable to extinction and are also listed in Appendix I of CITES. Human beings are their greatest threat because, being slow and non-aggressive, they are an easy prey for hunters and their bodies provide large amounts of meat. An additional problem is that manatees reproduce very slowly; the females have babies every three to five years.

For more information, go to <http://www.thewildones.org/Animals/manati.html>

PUBLICATIONS AVAILABLE FOR DOWNLOAD ON THE WEB

On the web, you find interesting documents that talk about conservation, which are available for downloads for free. We invite you to send any publication you would like to share, to the following e-mail info@creho.org

The Governance of Nature and the Nature of Governance: Policy that works for biodiversity and livelihoods

This report is an output of IIED's research project "Policy That Works for Biodiversity and Poverty Reduction". It examines biodiversity governance at local, national and international level. It also reviews existing good governance principles for biodiversity.

Available for download from:

http://www.field.org.uk/files/Gov_for_nature.pdf

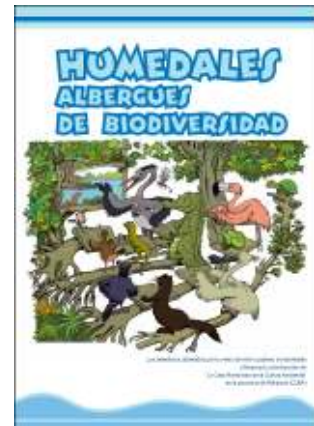


Situation of Moors in Colombia in view of Man-made Activities and Climatic Change

This preventive report, prepared by the Delegate Prosecutor for Environmental and Agrarian Issues, offers an integral view of the moors ecosystem and explains why it is important to take care of it. It describes the weaknesses in light of man-made activities, points out the current state of this important environmental ecosystem in Colombia and recommends the appropriate activities required for its conservation.

Available in Spanish at the following link:

<http://www.paramocolombia.info/Documentos/Eventos/libro4.pdf>



School notebook "Wetlands, shelter for biodiversity"

This school notebook is the result of an agreement between the Center for Environmental Studies of the Vitoria-Gasteiz Borough at the capital of the Autonomous Community of the Vasco Country, Spain, and the Matanzas Center for Environmental Services, Cuba. It explains the importance of biodiversity and the value of wetlands, making references about two wetlands, in particular, the Salburuna pools, in the Vasco Country, and the Zapata swamps, in Matanza, Cuba.

Available in Spanish at the following link:

<http://www.vitoria-gasteiz.org/anilloWeb/documentos/1948es.pdf>



Women and the Environment

This publication makes the often hidden links between women and the environment visible, with an explicit focus on the gender-related aspects of land, water and biodiversity conservation and management. UNEP hopes that Women and the Environment will inspire the environmental and sustainable development community to better understand the importance of gender, and to integrate a gender perspective across all of its work.

Available for download from:

<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=428&ArticleID=4743&I=en>



Events and Courses

IV Iberoamerican Congress on Development and Environment

October 5th-10th, 2009. Colombia.

The Iberoamerican Network of Ecological Economy (REDIBEC), along with the Institute of Environmental Studies for Development (IDEADE) at the Pontificia Universidad Javeriana, the Institute of Environmental Studies (IDEA) and the Cinara Institute at Universidad del Valle, are organizing a new edition of the Iberoamerican Congress on Development and Environment; one of its purposes is to provide a favorable atmosphere to exchange information and knowledge and to provide the scientific community and the civil society with a wide range of approaches, techniques and experiences that would help make better analysis concerning strategies for environmental development.

For more information:
infocisdaiv@javeriana.edu.co

IV International Course on Methodology for the Economic Evaluation of Environmental Damages.

August 25th-28th, 2009
Costa Rica.

The purpose of this course is to present the methodology being developed and improved by the Institute for Sustainability Policies concerning the economic evaluation of environmental damages within the framework of a teaching-learning process, so that participants acquire the minimum amount of tools needed to carry out the economic analysis of environmental damages. Those interested in participating in this course can make a reservation with Ms. Marianela Acevedo Cordero or Ms. Karol Espinoza Rodriguez, calling 00(506) 2261-0086/ 00(506) 2261-0186, or via e-mail to ips@ips.or.cr or macevedo@ips.or.cr.

Introduction to Wetlands Remote Sensing and Mapping

October 28th — 30th, 2009. USA.

This course is designed as an intensive introductory 3 day session of lectures, discussions, and a hands-on exercise that emphasizes the use of aerial photography as applied to assessing and mapping wetland vegetation from species level to broad vegetative level classification. Included is a field trip to verify wetland interpretations made in the classroom. Course content has been designed for field biologists, researchers, and others who deal with wetland wildlife habitat, environmental quality and impact assessment.

For more information please contact
Chris Cretini: cretinic@usgs.gov

On-line Course on Wetland Management Planning. From September 1st to December 31th, 2009. UNESCO-IHE Institute for Water Education.

The course is designed for professionals actively involved in wetland management. They may be working as national park or reserve officers, environmental or water management officers in local, regional or national governments, as staff of NGO, as junior university lecturer, etc. and who do not have the time to undertake a course of study lasting several weeks abroad.

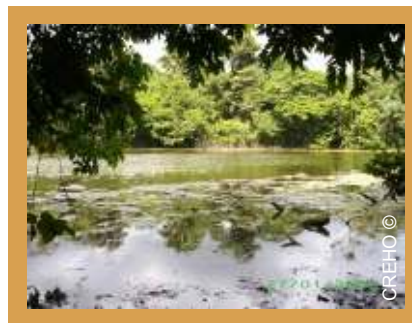
For more information please contact Edwin Hes (e.hes@unesco-ihe.org) or Anne van Dam (a.vandam@unesco-ihe.org)
Brochure: http://www.unesco-ihe.org/content/download/439/5543/file/Brochure_WM_07.pdf



A call for articles ¡Collaborate with us!

Send us information about the activities, results and processes taking place in the Americas towards the implementation of the Ramsar Convention, or about actions in the wetlands. We are also interested in publishing information regarding training courses and events.

Send us your activities, events, processes, project outcomes or other positive news to info@creho.org. Remember that each article must have a maximum size of 1,300 characters, including the spacing. The images to illustrate your article must have a resolution higher than 72 dpi and must be accompanied by the name of the photographer and the copyright authorization in order to be reproduced in INFOWETLAND



Special Issue: "Invasive Species in Wetlands"



For the special issue featured in our next publication, we invite you to send us specialized information regarding the processes, techniques, experiences and outcomes around the causes and consequences of invasive species in wetlands. You can send chronicles, essays or technical analysis.

Format for the special issue: Send us your chronicle, essay or technical analysis to info@creho.org.

Remember that each article must have a maximum size of 3,000 characters, including spacing. The images to illustrate your contribution must have a resolution higher than 72 dpi and must be accompanied by the name of the photographer and the copyright authorization in order to be reproduced in INFOWETLAND.

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Next INFOWETLAND will be out in December 2009

The special issue will deal with causes and consequences of invasive species in wetlands

**Send your news, topics, events and information before October 16th, 2009
to the e-mail info@creho.org**

The Editorial Committee approves the content of each issue of the INFOWETLAND bulletin; thus, receiving an article does not guarantee its publication. Modifications made to the material received will be notified via e-mail to the author or information source, and if he/she does not object to the modifications, the committee will take it as the approval to publish the article with the proposed changes.