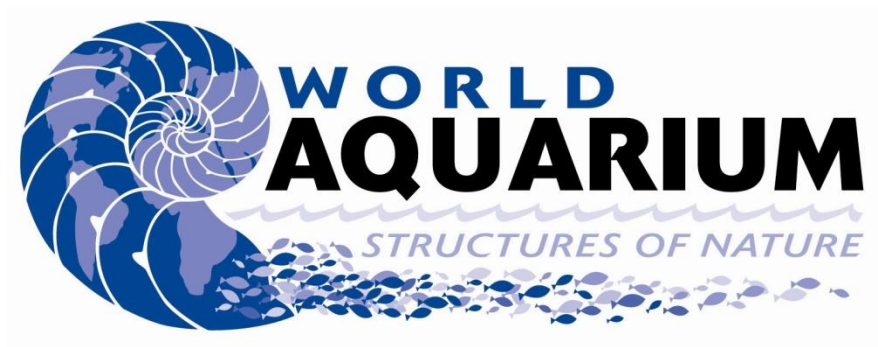


# **The Journal of the Water Planet: Conservation, Research & Education**

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Aquarium News | Publications | Events | Discussions | Projects  
International, National & Regional News | Letters



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Dear Journal Readers,

It has been a while (2005) since we have published our last Journal of the Water Planet, but the World Aquarium and the Conservation for the Oceans Foundation (CFTO) has been in action during that time with our conservation, education and research activities. Sorry for the delay, but we have been so very busy with our many projects worldwide.

CFTO has continued to champion multistakeholder involvement and engagement in finding solutions for conservation, sustainable fisheries, sustainable agriculture and ameliorating the effects of global warming. We regularly collaborate with international agencies such as UNESCO, UNEP, WHO, International Ocean Institute and the Global Forum on Ocean, Coasts and Islands. CFTO chairs an international committee with over 80 countries represented with a mailing list of several thousand members representing government, industry, and non-governmental agencies that provide feedback and input to the current environmental affairs of the world. We are currently focusing on the education and awareness of the public about the effects of climate change in addition to traditional fisheries, environmental and ecological issues.

Not only have we been carrying out conservation, education and research projects, but simultaneously the World Aquarium moved to a new, larger location. Now we have even more space in which to serve and enthrall our over 100,000 visitors annually! Our new location has so many wonderful exhibits full of interesting creatures. We are committed to visitors learning by participation

We are constantly striving to improve in every way. One of the ways we are improving is in the delivery of the Journal of the Water Planet, whereupon the evolution from paper delivery to electronic delivery has occurred since our last edition. We have invented new, extended length tours to deliver a more personalized, educational experience to our visitors. These tours are designed to encourage conservation and living a sustainable lifestyle to help ameliorate the effects of climate change. Our focus has shifted slightly in our participation in important symposia worldwide in that it includes effects of climate change as well as sustainability in agriculture, fisheries, and aquaculture.

We hope to keep in regular contact with you through the Journal. We are always looking for contributions, so if you are engaged in conservation, education and research projects that you would like to share with our readers, we welcome your contribution.

Feel free to contact us at [info@cfto.org](mailto:info@cfto.org) for more information or for questions.

Sincerely yours in conservation and education,

Leonard Sonnenschein  
President

### **World Aquarium and Conservation for the Oceans Foundation:**

The World Aquarium was established as a non-profit organization in 1971 and has been in operation as a public aquarium since 1993. The World Aquarium provides hands-on learning about our aquatic world. The Aquarium's mission is to present, promote and protect the world of water and demonstrate sustainable living solutions. The goal of the World Aquarium is to increase understanding of aquatic life and environments, to increase understanding of the importance of conserving the world of water, and to provide leadership for the preservation and sustainable use of aquatic resources. The mission is fulfilled through education, exhibits, conservation programming and research projects. From 1990, the World Aquarium has been providing educational programs and services to the St. Louis community addressing needs identified from a regional educational analysis.

The Conservation for the Oceans Foundation was established to meet the needs of grassroots organizations to interface with other governmental and non-governmental entities towards a collaborative approach to addressing regional environmental needs. The programmatic approach for Foundation programs utilizes multistakeholder analysis involving governmental, non-governmental and public organizations as well as local citizenry, resulting in comprehensive, sustainable actions which can contribute to the mitigation and amelioration of the problem originally discussed. We find that this approach fosters a much more harmonious buy-in by participants, thus positively affecting long-term results. The Foundation focuses on conservation of water quality, biodiversity, climate change, coral ecology and sustainability for ecosystems and human lifestyles.

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### **Updates: Conservation Actions Taken 2008-2010**

The World Aquarium's Conservation for the Oceans Foundation champions multistakeholder involvement and engagement in finding solutions for conservation, sustainable fisheries, sustainable agriculture and ameliorating the effects of global warming. We regularly collaborate with international agencies such as UNESCO, UNEP, WHO, International Ocean Institute and the Global Forum on Ocean, Coasts and Islands. The World Aquarium chairs an international committee with over 80 countries represented with a mailing list of several thousand members representing government, industry, and non-governmental agencies that provide feedback and input to the current environmental affairs of the world. Although the World Aquarium has been involved in these types of meetings since 1993, highlighted below are only the last two years of engagements.

### **2009 ENGAGEMENTS**

September 2009: WHO-UNESCO Climate Change Workshop in Lucknow, India

**December 2009: Sponsored the United Nations Frameworks Convention on Climate Change Education Caucus side event, “Catastrophe Now: Tipping Points and Transformations”** in Copenhagen, Denmark.

## **2010 ENGAGEMENTS**

**February 2010: Published the book, Conservation of Fishes in Kerala, India.**

**February 2010: Attended the** United Nations Department of Economic and Social Affairs, Division for Sustainable Development, CSD Secretariat meeting, “Multistakeholder Dialogue on Implementing Sustainable Development”

**February 2010: AquaShow India. Three Presentations entitled:**

- “Development of Indian Ornamental and Marine Fish Trade to the World”;
- “Effects of Global Warming on Ornamental Fish Trade, Fisheries Productivity for Food Resources and Using Economic Crisis for Solving Conservation Issues”;
- and -“Past, Present and Future Status of Ornamental and Marine Fish Trade in the United States”

**February 2010: United Nations UNESCO-TERI Special event at DSDS 2010** presentation and paper entitled, “Effects of Global Warming on Aquatic Ecology and Fisheries: Indian Community-Based Research and Evaluation Models to Effect Solving Conservation, Biodiversity and Food Security Issues”

**February 2010: "Value-Added Fish Byproducts for Income Generation"** at Fatima Mata National College, Kollam, Kerala

**March 2010: Met with UNESCO Education Office to discuss creating a religious outreach efforts addressing climate change issues.**

**May 2010: Global Forum on Oceans, Coasts and Islands; organized a session at the Global Forum** entitled, “*Ensuring survival of Coasts and Inland areas from Global Warming and Anthropogenic Threats*”

**May 2010: 4<sup>th</sup> International Meeting of the World Ocean Network** which gathered ministerial level participants from Canada, U.S., Australia, Micronesia, and India representing over 200 institutions.

**August 2010: In Russia, we convened a meeting at Astrakhan University entitled,** “Survey on how the recommendation of Leadership seminar on Caspian Sea and its Deltas Region Sustainable development and regional security held in 27-30 May, Astrakhan, Russian Federation Has been implemented 27 – 28 August 2010.” A

summative book regarding conservation of the Caspian Sea region is expected to be published in 2011.

**September 2010: “Workshop on Fisheries” in Chandigarh, India**

**September 2010: “Aquatic Conservation of Ganga River in Bihar” workshop in Patna; a book is to be published in 2011.**

**September 2010:** presented, “Climate Change and Spirituality: A Prophetic Appeal ” at the **International Conference on “Global Warming, Climate Change, Sustainable Development & Secular Spirituality”** at Santhigiri Ashram, Thiruvananthapuram, Kerala

**October 2010: Climate Change Education Seminar** in Maldives

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#### **FUTURE PROGRAM AREAS:**

*World Aquarium programs use multistakeholder analysis involving governmental, non-governmental and public organizations as well as local citizenry, resulting in comprehensive, sustainable actions which can contribute to the mitigation and amelioration of the problem originally discussed. We find that this approach fosters a much more harmonious buy-in by participants, thus positively affecting long-term results.*

#### **-Effects of Climate Change on Health:**

Arrangements are being made to hold a workshop to summarize the findings of the Fall 2009 UNESCO-World Health Organization Workshops on Climate Change, Health and Environment in India. Modern and traditional methodologies will be included for development of an action plan for health conditions related to climate change in India. Traditional and modern methods of local healthcare coupled with sustainable methods of agricultural and conservation practices will be included in the book for this area. The summarization of the findings will be compiled into a workbook as a draft and disseminated for review to committee members and the workbook draft will be published as a book. Regional workshops will be held throughout India (starting March 2011 in Patna, India). Pilot programs will be held in Amigarh, Tamil Nadu, Orissa, West Bengal, Madhya Pradesh, and Kerala. The program will start in rural villages and progress to modern areas.

#### **-Microfinance Project for Fisherfolk in Kollam, India:**

This project was realized in 2008 based upon a multi-year field study including surveys of local leadership and post-analysis that led to a collaborative between the World

Aquarium, Fatima Mata National College, Sathigiri Ashram and the Desinganad Multi-State Development Cooperative Credit Society Limited (DDS). DDS is a Social Organization working in the field of development support activities. It is established to promote, facilitate, conduct and co-ordinate social action/ programs for the emancipation and upliftment of the weaker sections, particularly those socially challenged and discriminated against on the grounds of gender, caste and creed. The operational area of DDS lies in the coastal region of Kollam inhabited by the traditional fisher folk and the adjoining backwaters where also the livelihood is largely dependent on fishing related activities. The impact of poverty is interwoven with fisheries throughout Kerala, India, upon which 80% of their economy is based. In one year, we expect this project to be sustainable. The aim is to positively affect the entire economy of Kollam, Kerala, India. This project, we hope, will become a model for other fisheries communities throughout the world.

**-Impact of Religious Views on Global Warming:**

This project was first created after reviewing the conference: Faith-Based Organizations and Education for Sustainability through the UNESCO Centre of Catalonia in March 2007. At the 2009 United Nations Frameworks Convention on Climate Change in Copenhagen with the session chair of UNESCO Education Development for future planning in 2010. Religious leaders will convene in India to further ascertain many religious viewpoints on environmental issues including global warming and its effects on the environment as well as possible ways they can engage their congregations in conservation actions. The results will be collected, recorded and prepared for circulation. Six regional conferences will be organized and religious leaders within each region of the world will receive invitations to attend the appropriate conference according to their geographical location. The six regional conferences will take place throughout the world. Each workshop will concentrate on finding common goals on mankind's ethical responsibility to nature. The results will be collected, recorded and prepared for circulation. The findings of the meeting and the six regional conferences will be published as a book. A follow-up International Conference convening religious leaders will be held to assess the results of the initial meetings and to formulate effective methodologies for communication of climate change messages to their congregations and to other United Nations affiliates. Each conference could be held in conjunction with a leading religious university.

**- Youth Voices in Conservation Campaign:**

This project was created in 2010 as a result of seeing a great number of youths involving themselves in the issues surrounding climate change starting in 2008. We are editing articles submitted about youths' conservation activities and creating an internet awareness campaign as well as sending out press releases to announce the Youth Voices Campaign. Internet awareness will include announcements through e-mail mailing lists and museum and organizational partners, including United Nations Environment Programme (UNEP), World Bank, Inter-American Development Bank, Encyclopedia of Life, and Centre of Environment Education (CEE). A draft book will be completed and will

be disseminated to committee members for final approval. The book will be published for release on World Environment Day and World Ocean Day 2011 and the corresponding professional development training program will be finalized for immediate use. A full-scale campaign to announce the Youth Voices book will be launched, including advertising to school districts, various media interviews and selling the book on Amazon.com along with other book sale outlets. Professional development training program curricula will start to be finalized for completion by the publication date of the book and pre-sales of the training will be undertaken. Youth Voices will be heavily marketed to schools and professional development training programs will be underway. The corresponding state educational standards will be correlated to Youth Voices and will be finalized. Youth Voices will be used in schools in the pre-determined 250 schools. Pre and post student assessments will be taken to enable quantification of results. Two years after Youth Voices' release, regional meetings will be held to assess the program as a whole and to make any amendments to the program for improved results. Five years after Youth Voices' release, a global meeting to discuss Youth Voices findings will be convened. If you or your school would like to be involved, please contact us at [info@worldaquarium.org](mailto:info@worldaquarium.org).

#### **-Upper Ganges River Dolphin Conservation Project:**

This project started in September 2010 at a collaborative meeting between the Institute of Environment & Eco-Development, World Aquarium/ Conservation for the Oceans Foundation, UNESCO, A.N. College, Dept. Of Water Sciences & Environment, Bihar State Pollution Control Board and Bhagalpur University, Bihar. The meeting was entitled, "Aquatic Conservation of Ganga River in Bihar." A focus of the project is the conservation of the Susu River Dolphin (Ganges and Indus River Dolphins). Construction of dams and barrages, dredging and development of the riverine environment, and pollutants from industrialization and intensive agriculture are the major causes of freshwater dolphin extinction. In addition, the dolphins are incidentally killed through fishing activities and are deliberately killed for their meat and oil. This book will mark the beginning of a collaboration to improve conditions of the Ganges River Dolphin and to lessen the effects of pollution, and improve fisheries and agricultural practices towards the improvement of water quality.

#### **-Caspian Sea Conservation: A Regional Approach**

The first contact from the World Aquarium and the World Ocean Network (WON) was established in 2004. A European Seas Regional meeting was held in January 28-29, 2006 entitled, "Mobilizing Public and Stakeholders Toward Fisheries Sustainability" involving representatives from Russia, Azerbaijan, Uzbekistan, Kazakhstan, Turkmenistan, and Iran. A second regional meeting was held November 6, 2007 in conjunction with Pacem in Maribus XXXII – 2007, Women, Youth and the Sea. The theme was Marine Biodiversity/Food Security. **In Russia, a meeting was convened at Astrakhan University entitled, "Survey on how the recommendation of Leadership seminar on Caspian Sea and its Deltas Region Sustainable development and regional security held in 27-30 May, Astrakhan, Russian Federation - has been implemented 27 – 28 August 2010."** A

summative book regarding conservation of the Caspian Sea region is expected to be published. A positive outcome of these meetings is the establishment of a UNESCO Biosphere Reserve Site at the Caspian Sea, improved conservation practice and development of sustainability of the fisheries as well as an agreement with the oil companies for future environmental protection were amongst the additional precedents set.

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**New Extended Tours at the World Aquarium: Seafari Experience Adventure Tour, Discovery Adventure Tours and Wildlife Conservation and Sustainable-Living Tour:**

**World Aquarium Seafari-Experience Adventure (SEA) Tour - \$50 per person**

This special extended World Aquarium-only tour originates from the Sea Camp experience that we do for individuals. We wanted to offer this as a tour experience and introduce the general public to the World Aquarium, providing the hands-on, personalized experience of Sea Camp but a little shorter taking the best, fun parts of Sea Camp being done as a small group. The tour is 2-3 hours long and includes 1.5 hours of a guided educational tour, approx. 30 minutes feeding, behind the scenes, and approx. 15 minutes of Questions & Answers. Once the tour is over, guests will receive a fossilized shark tooth and will be escorted to the City Museum entrance.

**World Aquarium Discovery Adventure Tour (DATA) - \$50 per person**

Come to the World Aquarium for a 2-3 hour in-depth, hands-on tour. During the Discovery Adventure Tour, your group will be able to feed animals and touch stingrays, sharks, doctor fish, turtles, and more! HAVE FUN while learning and FEEDING ANIMALS during this one of a kind program. Participants receive a guided tour of the World Aquarium, work with aquarium animals through full participation, observation and discussions with professionals at the World Aquarium.

**World Aquarium Wildlife Conservation and Sustainable-Living Tour (WCSTL) - \$50 per person**

The Wildlife Conservation and Sustainable-Living Tour is a new educational tour for adventurers ages 6 and up and also who have an interest in being “green,” want to learn about the connection between daily actions and the effects on the ocean. The “Wildlife Conservation and Sustainable-Living Tour” will give some animal and habitat information, but will primarily focus on the challenges we and other wildlife face within ecosystems throughout the world. As specific effects affect different ecosystems in its own unique way, the tour is aimed at educating participants as consumers about specific challenges locally, nationally and worldwide and suggesting actions which will help ameliorate negative environmental effects. Each participant will leave with an oceanic plush toy, Seafood Watch 2011 Cards, World Aquarium information and the handout, “10 Top Ways to Stop Climate Change.”

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### **World Aquarium Summer Research Findings:**

Since 2009, Leonard has worked with students in the Research and Engineering Apprenticeship Program (REAP). REAP is a program designed to encourage high school students to pursue careers in science, technology, engineering and math (STEM). This is accomplished by offering a hands-on experience in research and development activities to students who may choose to continue their education in those fields. These apprenticeships are designed to expand students' background and understanding of scientific research and motivate them toward a research career in science, mathematics or technology. The REAP scholars presented their research and their research paper to a U.S. Naval Science Panel at Navy Day (September 7, 2010). The following presentations were made:

- How to Cap the Oil Spill
- How the Oil Spill Affected the Algae in the Gulf of Mexico

College interns did research projects on the following subjects:

-Coral-Coral Interaction(Wibke Jansen): This research is about coral-coral interaction to understand the interaction between corals and support the biodiversity theory of species. Coral reefs are the one of the most important ecosystems. They are beneficial for the tourism, fisheries and medical development. For example corals are used in cosmetics and as a substrate for new bone growth, and it also is used for reconstructive surgery.

When corals get stressed, they could die, but because they are so important for our environment and for us, everything should be done to find out what causes stress and how to reduce those factors. One common suggestion is that corals are toxic to each other and get stressed when they are close to each other or when they touch other corals.

- Shark Behavior: Objects in the Water (Wibke Jansen): This research is about shark behavior towards new objects. It elucidates shark behavior to foreign objects and gives some insight to shark attacks. Another aim of the study was to find out if sharks are able to learn within a new situation. The hypothesis was that a shark will react to objects that are in its water and can react to changes in its environment.

- **The Effects of Global Warming on Bacterium and Pathogens of the Inner/ Middle Ear of Cetaceans (Paul Hillibrand):** Cetacean beach themselves for many different reasons. *Stenurus minor* is a parasitic nematode that thrives in the cranial sinuses and inner ear of Cetaceans and is considered one of many reasons for this dilemma. One of the theories presented by scientists as a reason whales beach themselves, would be a rise in

the temperature and specific gravity of their blood to rid themselves of *Stenurus minor*, suggesting that the parasitic nematode cannot live at high temperatures, nor high specific gravity (Raga, 2005). Thus, the Cetaceans have rid themselves of the nematode only to be stranded on the beach with the problem solved and a new one at hand. Based upon research, *Stenurus minor* may not be able to survive the higher temperatures and specific gravity caused by the Cetacean stranding themselves (Dolphins and Whales). This theory was put to the test using Brown Planaria, a similar aquatic worm. We will see if Brown Planaria survive at significantly higher and lower water temperatures compared to their normal 72°F, and if they survive at any level of specific gravity over 1.000. In addition, we will see if they survive under both elements simultaneously.

- **An Enrichment Study of the Armadillo and the Tamandua (Erika Wilson):** Modern zoos seek to show a collection of animals throughout the world in a healthy, educating way to visitors who may not have the opportunity to see these animals in their natural habitats. Within the past two decades, an emphasis on replication of the habitat and natural behaviors of the animal therein has been a primary focus, thus introducing the field of enrichment to zoos and aquariums. Through enrichment, not only is the wellbeing and overall health of the animal in captivity of primary importance, but the "edutainment" of the visitor is seen as being almost as important as well. The welfare of the animal and the captive animal having the best possible life gives good public relations and advertising to the community. The background of collection-based animal institutions such as zoos and aquariums and the various facets of enrichment were discussed. The hypothesis of the research with the armadillo was that the target training and the sound of the clicker would greatly decrease the amount of time for the armadillo to find its food in the designated place on day four versus day one. The hypothesis of the research with the tamandua was that the sound of the clicker would signal the animal to press its foot onto the bulb of the dispenser and eat the food that was released into the dish faster on day six than on day one.

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## Your Involvement

Please submit your articles and updates to [info@cfto.org](mailto:info@cfto.org)

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