IAC NEWS BULLETIN

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Inter – American Convention for the Protection and Conservation of Sea Turtles

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We invite you to send us news of research, courses and other activities related to sea turtles and their conservation.

Send your article in a Word file and photograph in JPG format.

12th IAC Scientific Committee Meeting – Viña del Mar, Chile

We celebrated the 12th Scientific Committee Meeting of the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC) with the participation of 34 delegates representing 14 countries and accredited observers. The meeting was held from 27 to 29 October 2015, at he O'Higgins Hotel in Viña del Mar, Chile.

At the opening of the meeting, the Scientific Director of Fisheries Development Institute (Instituto de Fomento Pesquero, IFOP), Engineer Claudio Bernal, reiterated that although Chile joined the Convention in 2010, IFOP studies on sea turtle conservation began a decade earlier, with scientific observers onboard of longline fleets, which has encouraged the fishing fleets to be involved in the rescue of animals caught incidentally. He noted that research has been strengthened by the participation of various groups of researchers from universities and NGOs through the sea turtle network of Chile.

During the meeting, members of the sea turtle network presented their research. The highlights of these presentations were the:

- Green Turtle Conservation Program in Arica
- Sea Turtle National Assessment of Chile
- Contributions to the development of an Action Plan for Loggerhead turtles
- Regional Action Plan to reverse the decline of the Eastern Pacific leatherbacks

Left: Group photo of the 12th IAC Scientific Committee Meeting. Right: Plenary of the 12th IAC Scientific Committee Meeting during the Pacífico Laud presentation ©IFOP

- Studies supported by the IAC, USFWS and NOAA to characterize the fisheries and fishing areas where greater interaction with the Eastern Pacific leatherback occurs
- Pilot studies with lights in gillnets to reduce sea turtle bycatch in fishing operations

During the three-day meeting participants discussed issues of marine debris and their impacts on the turtles, mitigation of climate change impacts on nesting habitats and characterization of turtle strandings in the IAC region. A Working Group was formed made up of the delegates from United States, Brazil, Chile and Caribbean Netherlands, to define committee activities to support the implementation of the loggerhead turtle and the Eastern Pacific leatherback resolutions, the latter including the identification of areas where greater fisheries interactions occur with the species. Delegates from Panama, Guatemala and Costa Rica shared their progress in the implementation of the management exceptions in each country and sought advice from the Scientific Committee.

The IAC thanks the Government of Chile for their hospitality and sponsorship of the meeting, which concluded with the proposal from the Government of Belize to host the next committee meeting in 2016.

Left: (left-right) Delegates from Venezuela, United States, Panama, Peru and Caribbean Netherlands. Right: (left-right) Delegates from Honduras, Guatemala, Ecuador, Costa Rica, Brazil, Belize and observers from Chile ©IFOP

Studying loggerhead turtles in the Southern California Bight, USA

Beginning late last year, as ocean waters along the west coast of the U.S. began to become unusually warmer, marine scientists and fishermen began reporting more and more loggerheads off the California coast, USA. With a strong El Niño forecasted to make warmer oceanic conditions persist through 2015, NOAA scientists Drs. Tomo Eguchi, Jeffrey Seminoff, and Scott Benson at the Southwest Fisheries Science Center (SWFSC) combined crowdsourcing, boat excursions and aerial surveys to attain the first data about loggerhead abundance and distributions off the California coast.

After setting up a social media outlet to crowdsource information from fishermen, recreational boats and the public about where and when sea turtles were being seen, the SWFSC research team partnered with a local sports fishing company, *Outer Limits*, to sample loggerheads in the Southern California Bight, which stretches from Point Conception to San Diego and includes the Channel Islands.

In July 2015, for the first time wild-caught loggerhead sea turtles were successfully sampled off the U.S. Pacific coast. Turtles were weighed, measured, and skin and blood samples were taken for laboratory analyses before the turtles were released. One loggerhead was also fitted with satellite transmitters, providing the crucial data on the turtles' movements and behavior. Surprisingly, the turtles ranged from 20 to over 60cm, indicating that multiple cohorts of loggerheads co-occur in this habitat.

Finally, Eguchi and his team conducted aerial surveys to estimate loggerhead abundance across the entire Bight. Scientists have surveyed the coastal ocean stretching from Santa Barbara to the U.S.-Mexican border, attaining the first data on loggerhead sea turtle abundance and distributions off the coast of California. The surveys concluded at the end of October, with more than 200 loggerhead turtles observed.

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Left: Dr. Tomo Eguchi, lead scientist for the project, working in the plane for the aerial surveys ©L. Komoroske
Center: Wild loggerhead being pit tagged during boat sampling in the Southern California Bight ©Ralph Pace (note: do not use without permission)
Right: Part of the Aerial Survey team (left to right): Lisa Komoroske, Tomo Eguchi, Joel Schumacher, Nicky Beaulieu © J. Seminoff

Recent Publications

Global analysis of the effect of local climate on the hatchling output of leatherback turtles

Pilr Santidrián Tomillo, Vincent S. Saba, Claudia D. Lombard, Jennifer M. Valiulis, Nathan J. Robinson, Frank V. Paladino, James R. Spotila, Carlos Fernández, Marga L. Rivas, Jenny Tucek, Ronel Nel and Daniel Oro

Scientific Reports

www.nature.com/articles/srep16789

The most recent climate change projections show a global increase in temperatures along with precipitation changes throughout the 21st century. However, regional projections do not always match global projections and species with global distributions may exhibit varying regional susceptibility to climate change. Here we show the effect of local climatic conditions on the hatchling output of leatherback turtles (*Dermochelys coriacea*) at four nesting sites encompassing the Pacific, Atlantic and Indian Oceans. We found a heterogeneous effect of climate. Hatchling output increased with long-term precipitation in areas with dry climatic conditions (Playa Grande, Pacific Ocean and Sandy Point, Caribbean Sea), but the effect varied in areas where precipitation was high (Pacuare, Caribbean Sea) and was not detected at the temperature site (Maputaland, Indian Ocean). High air temperature reduced hatchling output only at the area experiencing seasonal droughts (Playa Grande). Climatic projections showed a drastic increase in air temperature and a mild decrease in precipitation at all sites by 2100. The most unfavorable conditions were projected for Sandy Point where hatching success has already declined over time along with precipitations levels. The heterogeneous effect of climate may lead to local extinctions of leatherback turtles in some areas but survival in others by 2100.