



# HONOLULU FIELD STATION

A Quarterly newsletter of the Honolulu Field Station, part of the USGS-National Wildlife Health Center in Madison, WI

## Surgeonfish die-off in the Northern Marianas

In early August 2014, there was a die-off of lined surgeonfish (known locally as Hiyok) that started on Tinian and spread to Saipan. It is estimated that hundreds of fish were found dead on various beaches during that time, and that the mortality was limited to blue-lined surgeonfish. Affected fish were noticed to exhibit lack of fear of humans, appeared drunk, and had a propensity to swim towards shallow water and upon reaching bottom, lose their righting reflex, and wash up on the beach. There was concern on the part of the community because the Hiyok is an important food fish, and the suitability of these fish for consumption was questioned. The mortality continued through September but appeared to wane at the end of September-early October.

The HFS collaborated with CNMI Department of Fish & Wildlife who submitted fish samples for necropsy. Laboratory tests revealed that fish died from ingesting a natural toxin, probably produced by algae.

## Recent HFS visiting Scientists

### Felipe Torres (Brazil), September thru November 2014



After meeting Dr. Work at a workshop in Brazil, Felipe decided to pursue an internship at the HFS. Felipe learned English just two months before starting at the field station where he spent three months learning various aspects of wildlife pathology, clinical pathology, molecular biology and epidemiology. Among some of the projects he explored was trying to age sea turtles using cross sections of claws, quantifying trematode parasite burden in turtles, learning about hematology of various wildlife species, and learning about molecular biology of iridoviruses. We hope to see him again soon either here or in Brazil!

### Chialing Fong (Taiwan), October 2014



In December of 2011, Chialing Fong spent one month at the HFS to develop primers to examine inflammatory response in sea turtles and detect latent genes of the virus associated with fibropapillomatosis. The HFS was fortunate to have Chialing at the HFS a few years ago, and her expertise on molecular biology gained from her work in Taiwan provided invaluable guidance to HFS staff. We hope to see her again soon!



Map of affected areas; lined surgeonfish (inset).  
Photo credit Google earth and © Thierry Work

## China Workshop

The HFS participated in hosting a China/USA Sea Turtle Workshop held in Honolulu August 25-29, 2014. This workshop promoted the exchange of invaluable knowledge and information on

sea turtles in Hainan Island, Hong Kong, Taiwan, and Mainland China.

Workshop activities included hands-on work with Hawaiian sea turtles, as well

as presentations and visits to sea turtle sites on the island of

Oahu. The Workshop was a success! Here is a link to the Marine Turtle Newsletter Report on this event: <http://www.seaturtle.org/mtn/PDF/MTN143.pdf>.



*Sea Turtle Workshop hosts and participants.  
Photo credit USGS-HFS*

## Avian Botulism Task Force on Kaua'i



Thierry Work, along with David Blehert and Tonie Rocke from our head office in Madison, attended the Avian Botulism Task Force hosted by the Kaua'i National Wildlife Refuge Complex on Kaua'i December 2-4, 2014. The purpose of this detail was "To collaborate with Hanalei National Wildlife Refuge and other Hawaiian Island Refuges to (1) gain a better understanding of specific triggers of avian botulism in the tropical environment and (2) develop strategies and tools to detect, respond to, and prevent avian botulism outbreaks." Outbreaks of this disease can have devastating effects on waterbirds in Hawaii, (Hawaii has 5 endemic waterbird species, each numbering at or below 2000 individuals) underlining why meetings like this Task Force are critical for the sustainability of these species.

### Erratum

In the Rescue section of HFS Newsletter 4, it should have said bird rather than birds.

## Recent papers

Below are titles and URL addresses of a few recent papers. Other HFS papers can be found on our website at <http://www.nwhc.usgs.gov/hfs/>.

*Dynamics of Virus Shedding and In Situ Confirmation of Chelonid Herpesvirus 5 in Hawaiian Green Turtles With Fibropapillomatosis.* <http://www.ncbi.nlm.nih.gov/pubmed/25445320>.

\*Only a few turtles in a population are responsible for spreading the virus associated with the tumor disease, fibropapillomatosis. These super spreaders have multiple smaller tumors that are more likely to shed virus. FP is also an unusual tumor disease in that viruses replicate in tumors whereas this is not usually the case in most virus-induced tumor diseases.

*To Understand Coral Disease, Look at Coral Cells.* <http://www.ncbi.nlm.nih.gov/pubmed/24723160>.

\*Reviews coral disease literature and argues that a main reason why so little progress on understanding causes of coral disease is because scientists have ignored what is happening to corals at the cellular level.



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