

National Wildlife Health Center Honolulu Field Station

Working to understand marine ecosystems and health

The Honolulu Field Station (HFS), part of the USGS National Wildlife Health Center, is staffed by a wildlife veterinarian and three technicians, who provide support to the natural resources community throughout the Pacific Basin. HFS staff collaborate with federal, state, territorial and private agencies across the Pacific, investigating wildlife mortality events, conducting applied research on diseases of significance to tropical Pacific ecosystems, and helping to understand the ecology of disease in wildlife populations. Efforts focus on identifying and solving problems, and on forming partnerships and pooling expertise to quickly resolve wildlife health problems.

INVASIVE DISEASES: Since 2001, HFS has been at the forefront of efforts to prevent the entry of West Nile virus into Hawaii by sampling wild birds in collaboration with USDA. The HFS also has been instrumental in establishing a surveillance system for avian influenza in the wider Pacific Basin including Hawaii, Palau, the Commonwealth of the Northern Mariana Islands and American Samoa.



TUMORS IN SEA TURTLES: Fibropapillomatosis is a tumor disease affecting a large percentage of sea turtles in Hawaii and the Pacific, and is the major cause of stranding in green turtles in Hawaii. The HFS collaborates with the National Marine Fisheries Service to investigate the possible causes of green turtle fibropapillomatosis and identify the environmental factors contributing to this disease. These studies have amassed evidence that a herpes virus is associated with the disease and that turtles with fibropapillomatosis are immunosuppressed.



CORAL REEFS: The HFS collaborates with the University of Hawaii, National Park Service, U.S. Fish & Wildlife Service, and the American Samoa Department of Marine & Wildlife Resources to understand causes of coral reef mortality in the Pacific. HFS scientists have introduced a standardized system to characterize coral lesions and are applying microscopy to detect potential causes of disease in corals and characterize lesions at the cellular level. HFS personnel also produce coral disease identification cards to assist biologists in characterizing the impact of disease on coral reefs throughout the Pacific.



SEABIRDS & MARINE MAMMALS: HFS staff collaborate with the U.S. Fish & Wildlife Service and other state and federal agencies to investigate mortalities of native seabirds and endemic waterfowl in remote atolls in the Northwestern Hawaiian Islands. After identifying a worm as a major cause of mortality of endangered Laysan Ducks, the HFS and other agencies worked to ensure that this parasite was not translocated to Midway Atoll National Wildlife Refuge during efforts to re-introduce this duck to its former range. Assistance is also provided for the establishment of new populations of endangered Laysan ducks on Midway Atoll NWR.

The HFS assists the National Marine Fisheries Service by providing necropsy services and determining causes of mortality in stranded marine mammals.

MAJOR PARTNERS:



REEF FISH: The HFS works with the University of Hawaii and the State of Hawaii Department of Land & Natural Resources to understand the causes of reef fish mortality. Recent findings reveal that a fish introduced from the Marquesas into Hawaii in the 1950s has a high prevalence of a protozoal parasite. Native fish that school with this introduced fish are being evaluated to assess the effects of this parasite on their populations.

Mortalities in wildlife populations can indicate imbalances or problems in ecosystems, and the causes of certain wildlife mortalities may have a direct impact on human health. However, little is known about the health or causes of mortality in marine organisms. Given the expansion of human communities in coastal areas, marine ecosystem health will assume increasing future importance. The HFS, with its expertise in wildlife health issues, provides critical assistance and support in this arena.

For additional information about the USGS NWHC Honolulu Field Station, please contact:

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