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BEFORE THE  
HOUSE SUBCOMMITTEE ON FISHERIES, CONSERVATION,  
WILDLIFE AND OCEANS

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Thank you for recognizing the importance of addressing the impacts of invasive species on our nation's natural resources. You have chosen an excellent forum to consider this issue, not only because of Hawaii's high number of vulnerable endemic species, but also because of the innovative approaches that Hawaii has developed to address invasive species. As the Manager of the Maui Invasive Species Committee, I would like to offer some perspective on the problems we face and approaches we have developed to address invasive species at the local level. I cannot overemphasize the importance of partnerships at all levels of our work.

#### Hawaii's Invasive Species Committees

In Hawaii, on each of the major islands – Hawaii, Maui, Moloka'i, O'ahu and Kaua'i – an invasive species committee is working to prevent the establishment of new invasive species, control targeted incipient species, and educate and involve the public in prevention and control activities. Each island-based committee benefits from the participation of local, state, federal, and nonprofit scientists and resource managers, who are among the most knowledgeable in the world in the field of invasive species. However, the committees do more than identify threats. Working under the Pacific Cooperative Studies Unit of the Research Corporation of University of Hawaii, action plans are translated into on-the-ground efforts to prevent, control, eradicate and educate.

Using the Maui Invasive Species Committee as an example, concerned local resource managers first began meeting in the early 1990's to consider how to stop the spread of invasive members of the Melastome family, in particular, *Miconia calvenscens*. The group recognized the need to address more species, and formed the Maui Invasive Species Committee in 1997. The Committee secured funding to hire staff in 1999. We now have 14 crewmembers, including supervisors, working on terrestrial plants and animals. The Committee's work is supported by positions addressing administrative, operations, data analysis and education/public relations needs. The Maui Committee meets bi-monthly to exchange information, review progress, and set priorities. Similar committees formed and now work on the other islands.

At present, more than half of Maui's field effort focuses on *Miconia calvenscens* because of the severity of the threat this plant poses to our watersheds. Left unchecked, *miconia* also threatens Hawaii's coral reef ecosystems. Landslides, massive erosion and coastal siltation are likely to occur if *miconia* is allowed to develop into the shallow-rooted monotypic stands that now dominate Tahiti's former native forests. Our other targets include five priority plant species, 14 incipient, potentially eradicable plant species, and three priority terrestrial vertebrate species.

Although the island-based invasive species committees are a relatively new development, the approach is working and is gaining widespread recognition at the national level, which included the recent opportunity to showcase our efforts to the National Invasive Species Advisory Committee. Although more funding is certainly needed to address targets on each island, the structure and progress to date are positive signs. Note, however, that nothing has been mentioned about aquatic or marine invasive species and the island-based invasive species committees.

#### Aquatic Invasive Species

To date, Maui has not adopted or addressed any aquatic or marine invasive species.

The O'ahu Invasive Species Committee has agreed to conduct a limited amount of work on water hyacinth (*Eichhornia crassipes*). The Kaua'i Invasive Species Committee is working to control a small infestation of cattails. In other words, although we have an excellent structure in place to detect invasive species, obtain access to work on private or public lands, and mobilize crew to control targeted invaders, our mandate does not currently include aquatic and marine species. Yet there is a pressing need to address aquatic nuisance species. I would like to focus specifically on inland aquatic systems.

Hawai'i has a long history of intentional inland water introductions. During the first round of introductions, dating to the 1800s, most species were brought in for food purposes. During the 1900s and through the 1960s, species were intentionally released for public purposes including mosquito control, crop enhancement and recreation. Mixed in with intentional releases were hitchhiking diseases, parasites and snails. During the 1980s and 1990s, despite increased awareness of negative impacts, more nonnative species appeared in Hawai'i's inland waters, through both authorized and accidental introductions. Today, more than 50 species of nonnative fishes, invertebrates, reptiles, amphibians and plants are established in Hawai'i's streams, reservoirs and other inland waters. As an example, the Asiatic clam (*Corbicula fluminea*) is now widely distributed in these habitats on Kaua'i, Maui and O'ahu.

How are these species impacting Hawai'i's native freshwater animals and habitats?

Nonnative species, such as the smallmouth bass (*Micropterus dolomieu*) and jewel cichlids (*Hemichromis elongatis*) are voracious predators that feed on native gobies and shrimp. The digging habits of suckermouth catfish (*Hypostomus cf. watawata*) and crayfish cause stream erosion and increase water turbidity.

Nonnative species often carry parasites that can spread to native species. The apple snail (*Pomacea canaliculata*), originally introduced in taro patches to harvest as native escargot, proved too small and unpalatable for consumption. Instead, the snail is destroying the culturally important taro plant by creating holes in the fleshy part of the plant, which is made into poi, a favored traditional food. The snails can kill young plants by eating the stems and the holes leave the plant more susceptible to disease.

Nonnative aquatic insects are carriers of deadly human diseases, including dengue fever (Hawai'i's last major outbreak was in 2001-2002), malaria, yellow fever, encephalitis, and West Nile Virus. Freshwater invasive plants alter the productivity of fresh water systems, reducing fishery yields, changing water chemistry, and preventing oxygen absorption. The invasive water fern, *Salvinia molesta*, recently covered the entire surface of Lake Wilson on O'ahu, costing the state nearly \$1 million dollars in clean-up and control costs.

#### Hawai'i's Needs & Invasive Species Committees

What does Hawai'i need to address aquatic invasive species? Fortunately, Hawai'i's needs are well laid out in the recently completed and comprehensive "State of Hawai'i's Aquatic Invasive Species Management Plan." I would like to highlight three components of the Plan that I believe island-based Invasive Species Committees (ISCs) may be able to help address: early detection, response and control, and education and outreach.

**Early detection:** The ISCs attempt to focus on incipient species – those species that are not yet well established. Early detection is essential if we hope to have a cost-effective strategy of stopping the spread of invasive plants or animals. One identified objective of the Plan is to engage those already working in the field to be aware of key aquatic invasive species that they might come across. On most of the islands, the distribution of target terrestrial species is island-wide. In other words, we already have staff working in many of the areas where detection efforts could be occurring. With additional training and staff resources, detection of aquatic invasives could be incorporated into existing programs.

**Response and Control:** The staff of the island-based invasive species committees is already trained in how to identify and control targeted invasive species and record and interpret relevant data, using geographic information systems. Each target species requires specific control techniques, which may vary depending on biology, habitat, and landowner access. Although marine or inland aquatic species will obviously require different techniques, the existing operational approach of the ISCs could be modified to include aquatic species.

**Education and Outreach:** As noted in the Plan, a multi-sector approach is needed. The ISCs have the most to contribute at the island level, utilizing local media and existing connections with local agencies, community businesses and organizations.

## Partnerships are Key

The work of the island-based Invasive Species Committees is possible because of support from our partner agencies. The ISCs work in close collaboration with each other, with county, state and federal agencies to identify and target key species. We receive county, state, federal and nonprofit funding that allows us to target our priority invasive species. Yet, the available resources are not adequate to meet the need for existing terrestrial targets. The picture is much worse for aquatic nuisance species. On Maui, at the state level, one individual is responsible for surveying and monitoring all of Maui County's streams and coastline, responding to turtle and whale strandings, and addressing invasive species issues. Maui County includes the islands of Lanai and Moloka'i and has 210 miles of coastline. As noted, the invasive species committees have not adopted aquatic invasive species targets at any meaningful level.

The State's current initiative to significantly increase state funding is a welcome step, but its success hinges not only on legislative will, but also on the willingness of other partners to provide matching funds.

Coordinated planning at local, national, and regional levels is critical. I strongly support efforts to legislatively authorize the National Invasive Species Committee (H.R. 2310) and believe that the provisions for public assistance and rapid response capabilities would greatly enhance existing on-the-ground efforts to control invasive species in Hawai'i.

Additionally, passage of H.R. 1080, the National Aquatic Invasive Species Act of 2003, would help Hawai'i's innovative partnerships expand their scope to increase efforts to protect the islands' vulnerable and precious aquatic resources.

In summary, innovative approaches are working in Hawai'i. The need for continued partnering and additional resources is critical. Your interest and support are crucial to our work. Thank you for the opportunity to testify.