

**STATEMENT OF SUZANNE D. CASE
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before the
Subcommittee on Fisheries Conservation, Wildlife and Oceans
Committee on Resources
U.S. House of Representatives**

April 15, 2004

Mr. Chairman and members of the Committee, thank you for the opportunity to testify today on the serious growing problem of invasive species in the Hawaiian Archipelago. I am appearing here today on behalf of The Nature Conservancy.

In my comments I am going to cover several points.

- First, I will describe why oceanic islands like Hawai`i are so unique and why the influx of invasives species poses such a great threat.
- Second, I will tell a story that poignantly illustrates how prevention is the best approach in dealing with this growing threat.
- Third, I will share with you a decade's worth of lessons learned and models developed as we and our many, state, federal and private partners joined forces in mounting an aggressive defense against the scourge of invasives pests.
- Finally, I will offer suggestions as to how you can help Hawai`i protect its future economy, health and environment.

Background

The Nature Conservancy is dedicated to preserving the plants, animals and natural communities that represent the diversity of life on earth by protecting the lands and waters they need to survive. The Nature Conservancy has more than 1 million individual members and over 1,900 corporate associates. We currently have programs in all 50 states and in 28 other nations. To date our organization has protected more than 12 million acres in the United States and has helped local partner organizations preserve 117 million acres worldwide. The Nature Conservancy itself owns a network of more than 1,400 preserves in the United States – the largest private system of nature sanctuaries in the world. Our conservation work is grounded on sound science, strong partnerships with other landowners, and tangible results at local places.

Since 1980, The Nature Conservancy's Hawai'i chapter has established a statewide system of 12 preserves totaling 32,000 acres, and helped protect another 8,600 acres in privately-owned preserve lands. Working with the federal government, we have helped acquire 150,000 acres for national wildlife refuges and parks in Hawai'i. Today, we are taking conservation to a new level in Hawai'i by protecting the larger landscapes and biological systems of which these preserves are a part. Together with other public and private landowners, we are protecting almost 1 million acres of ecologically important lands through voluntary, cooperative partnerships that allow landowners to share expertise and resources and work across ownership boundaries

The Nature Conservancy determines where and how to do its work through a planning process that identifies areas in the country containing the most viable and important examples of plant and animal communities. This process further identifies the principal threats to the integrity of the sites. An overwhelming 94% of our sites have identified invasive species as the most significant threat to the integrity of biodiversity.

To address this threat, The Nature Conservancy has launched a five-year, \$35 million Conservancy-wide Invasive Species Initiative to reduce and manage this threat to worldwide biological diversity. The Invasive Species Initiative takes a two-pronged approach to the invasive species crisis: (1) building strong public policy to address this threat on its multiple levels, and (2) building capacity within our operating units and with partners (in information, skills, people and resources). We hope our activities on the ground will serve as models for the most effective methods of prevention, early detection, eradication and control of invasive species and the restoration of invaded sites.

Invasive Species Impacts on Island Ecosystems

At the global level, Hawai'i stands as a biogeographic province: a world region marked by its own set of unique species. The uniqueness of Hawai'i and other Pacific islands is largely due to their remote and isolated geographic location and their tremendous topographic and climatic diversity. For example, the Hawaiian archipelago has nearly 10,000 endemic species, which are found nowhere else on Earth. Some, like the silversword of Haleakala, are found only on a single island, a single mountain, a single region of the mountain. All of Hawaii's native birds are also endemic.

Many of the biological characteristics that make islands so special, and of such substantial conservation value, also render them particularly vulnerable to the establishment and impact of invasive species. Such characteristics include the relative paucity of indigenous species (providing for greater vacant niche space and less competition than would be found on the mainland and more unique speciation), the small size of island populations (rendering them more prone to extinction), and their evolution in isolation (leading, for example, to loss of defensive behaviors and consequent vulnerability to introduced predators). Other factors that have been cited as increasing the impact of alien species invasion on islands include the lack of natural enemies experienced by introduced species (which often arrive without the predators and competitors that regulate their numbers in continental populations), and patterns of human exploitation of islands. (O. Cheesman, et al.)

When a species is accidentally or intentionally introduced into an insular landscape or seascape, the consequences can be devastating to agriculture, public health, tourism and various other economic activities. In Hawai`i just two pests – the Mediterranean fruit fly and the Formosan ground termite – already cost the state \$450 million annually in lost agricultural revenue and property damage alone. Should a third major pest like the Red Imported Fire Ant slip through our borders and become established, those costs could escalate even further. A 2002 Nature Conservancy study (Huffman, 2002) that examined the potential impact of the Red Imported Fire Ant in Hawai`i estimated the potential cost of this pest to households at between \$13 and \$41 million annually. The costs to agriculture, the nursery industry and wildlife were not calculated but could push that figure substantially higher. The potential impacts of invasives to Hawai`i business interests were featured in the cover story of the April 2004 edition of Hawaii Business magazine – “UNWANTED: DEAD OR ALIVE – How Invasive Species Could Kill our Economy.”

Story of the Hokule`a – why we need a comprehensive prevention program

Based on what we have learned in more than twenty years of land management in Hawai`i and in observing first-hand the adverse impacts of invasive pests, The Nature Conservancy believes that our first priority must be enhanced prevention – stopping alien pests before they get here or before they spread – followed by early detection, rapid response and eradication.

A real-life example best illustrates this point. On May 2, 1995, three canoes in the historic Polynesian voyaging fleet sailing from the Marquesas back to Hawai`i reported biting sand flies on board. The crews had already seen for themselves the swarms of these ‘no-no’ flies at beaches and streams in Nuku Hiva in the Marquesas, and the inflicted sores on the legs of bitten Marquesan children. These tiny, voracious flies breed in beach sand or in streams, and are most active on sunny days. Peak swarms can inflict up to 10,000 bites per person per day. Millions of dollars have been spent trying to control the flies in the Marquesas – with little success; complete eradication is regarded as impossible. Fortunately for Hawai`i, the crews of the canoes understood the severity of the situation and took great pains to destroy these flies before they reached our islands.

To do that the crew had to remove immediately all suitable habitat – starting with all food and produce, including all experimental provisions. Further, because dark crevices can hide flies and eggs, the insides of all the canoes had to be washed down. Insecticide was air-dropped from Coast Guard planes, while the canoe had to remain 100 miles off the coast of Hilo. All the hulls had to be cleaned and sprayed, and all extra sails had to be opened and dragged in the ocean. Just prior to landing the crew had to drop the masts and rigging in preparation for fumigation.

This was not the celebratory homecoming the Hokule`a crew had envisioned. They not only gave up the glorious welcome from friends, family and other well wishers, but also had to destroy all gifts of friendship – food and produce – from their hosts in the Marquesas. However, the crew agreed that the alternative would have been unthinkable – biting flies in our back yards, parks, and beaches. Hawaii’s reputation as a desirable vacation spot would have been spoiled with potentially crippling impacts to our tourist-based economy.

The story demonstrates the need for pre-entry prevention measures and a statewide rapid response capability. Globalization has opened up many new pathways of invasion. In the Pacific, the increased movement of people and goods has resulted in more than 20 new non-native species becoming established in Hawai`i every year in recent decades. This is in astounding contrast to prehistoric times, when the rate of new species establishment in the islands is estimated to have been one new species every 50,000 years!

In the words of one of our colleagues on Maui, “Once you allow an invasive pest to become established, it’s almost impossible to eradicate. Expensive control costs are permanent. There’s no putting the mongoose back in the cage.”

Building Strong Public Policy

In the early 1990s, the magnitude of the threats posed by the continued introduction of invasive pests into Hawai`i led to widespread agreement among scientists, farmers, enforcement groups and government agencies that stopping the influx of new pests was essential to the State’s future well-being. In 1992, The Nature Conservancy of Hawai`i and the Natural Resources Defense Council prepared a report entitled *The Alien Pest Species Invasion in Hawai`i: Background Study and Recommendations for Interagency Planning*. This report described the roles, legal mandates, and resources of each agency or organization involved in pest prevention and control in Hawai`i. It also identified the major problems in the current system, and called for a comprehensive pest management strategy linking the various players in a coordinated system. The background report set the stage for multi-agency development of an *Alien Species Action Plan* in 1993-94. This effort involved over 80 individuals from more than 40 government, non-profit, and private agencies, organizations, and businesses. In 1994, an oversight committee made up of leaders of key agencies and organizations finalized the action plan and reformed itself as a permanent Coordinating Group on Alien Pest Species (CGAPS).

Through CGAPS, a public-private partnership representing the interests of agriculture, conservation, defense, health, transportation and tourism, Hawai`i has made significant progress in the last decade in the fight against alien pests. In 1996, the group launched a major media campaign titled "The Silent Invasion," which dramatically increased media coverage and public awareness of the invasive species issue. The campaign included television commercials and specials, print ads, dramatic pamphlets, and a statewide eradication effort targeting the invasive weed *Miconia*, widely recognized as the most invasive and dangerous alien plant species of Pacific Island nations. In 2001, CGAPS conducted a multi-agency study to determine the capacity needs for addressing the invasives problem in Hawai`i. The study concluded that addressing the threat adequately would cost an estimated \$53 million per year in State funds.

It became clear, however, that CGAPS lacked the necessary authority to implement policy recommendations or to allocate funds. What Hawai`i still needed was leadership and commitment at the highest levels, coordination and cooperation among all affected agencies and a sustainable source of dedicated funding. Hawai`i had a strong need for cabinet-level coordination among all state agencies that have responsibility for controlling invasive species on

the ground, agencies that regulate the pathways in which invasive species can gain access into Hawai`i, and agencies that use and promote the pathways or natural resources.

In 2003, the State of Hawai`i passed legislation that called for the formation of the Hawai`i Invasives Species Council, a forum where state agency chairs and department heads will identify and address gaps in Hawai`i's invasive species prevention and response measures. The Council developed a statewide strategic plan and submitted an administrative budget request of \$5 million annually for four years to develop a comprehensive statewide invasive species prevention and control program. This budget request is to be matched 1:1 with local, federal and private dollars.

Building Capacity Through Partnerships

The Nature Conservancy became involved in controlling and eradicating invasive species in Hawai`i from the time it acquired a conservation easement for its first preserve on Moloka`i in 1982. In Hawai`i the major cost of conservation is not the acquisition of land, but the ongoing cost of land management, particularly the ongoing control and eradication of invasive alien species. The threat of habitat conversion by invasive species is the greatest threat to prime native habitat conservation areas in Hawai`i. More than 75% of the \$4.2 million conservation budget for The Nature Conservancy's Hawai`i chapter goes towards control and eradication of invasive alien species, including: ungulate control through fencing and hunting, rodent control through baiting, and invasive weed control through integrated pest management activities.

In the 1990's The Nature Conservancy expanded its focus from preserve-based protection to a landscape scale approach to conservation management. This meant working across our borders with adjacent landowners as well as with public and private partners across the state.

In 1991, a model for large-scale forest protection was pioneered on East Maui. That year six public and private landowners and the county government formed the East Maui Watershed Partnership, a cooperative effort to protect a 100,000-acre forest ecosystem that is the island's primary source of water. Recognizing that they shared preservation of the watershed as a common interest, the partners agreed to pool resources and implement an active watershed management across the entire East Maui landscape. Such management is focused on control and eradication of the threat of invasive species – including ungulate control, invasive weed control and forest restoration.

Today after more than a decade of hard work, the East Maui Watershed Partnership has become the prototype for large-scale forest protection efforts in Hawai`i. Its success has spurred the formation of similar watershed partnership across the state. Nearly 950,000 acres of important watershed area in Hawai`i have been protected within these unique public-private partnerships that have recently come together under the umbrella of the Hawai`i Association of Watershed Partnerships.

In 1997, another prototype partnership evolved on the island of Maui in response to the need for an early detection and rapid on-the-ground response to an array of incipient invasive species –the

Maui Invasives Species Committee. In subsequent years Invasive Species Committees (ISCs) formed on all major Hawaiian islands. Each of the five ISCs are voluntary partnerships of county, state, and federal agencies, nonprofit organizations, and private landowners working together to protect their island from the pests that pose the greatest threat. ISC members meet regularly to coordinate actions and resources and to track progress on species and issues. Each ISC has a field crew that carries out the action plan by mapping – including GIS mapping of populations of targeted invasive species, controlling through on-the-ground pest management techniques including manual weed pulling and appropriate targeted chemical applications, and monitoring their priority target invasive species. ISCs also function as early detection and rapid response teams for new plant and animal pests.

While Watershed Partnerships manage invasive alien species inside a focal conservation area and often prevent the spread of established pests, the ISCs address invasives island-wide, often outside the focal conservation area into buffer areas or introduction points, and focus on incipient invasive populations and local prevention.

These two partnership models that have developed in Hawai`i through years of close, urgent work with multiple public and private participants demonstrate the need for a balance between a comprehensive landscape-scale approach and a focused single species approach to prevention, eradication and control of invasive species in Hawai`i. Through alien species prevention, these partnerships represent our best hope for ensuring the long-term survival of our native forests.

Partnerships Across the Pacific Islands

Because many oceanic islands share similar invasive species issues, The Nature Conservancy this past year launched a partnership effort to empower effective invasive species management across the Pacific Islands. From our experiences in Micronesia and North America, we have found that peer learning networks are a proven strategy for improving conservation skills and building cooperation between trained professionals. Now we are building on these successes to develop a learning network that specifically addresses the threat of invasive species in the Pacific.

The Nature Conservancy recently joined with several partners – South Pacific Regional Environmental Programme, the Cooperative Island Initiative on Invasive Species, the World Conservation Union/Invasive Species Specialist Group, the National Park of American Samoa, Conservation International, the Palau Office of Environmental Response and Coordination, and others – to establish the Pacific Island Invasives Learning Network (PIILN). This participant-driven network will meet priority needs, rapidly share skills and resources, provide links to technical expertise, increase information exchange and accelerate on-the-ground actions in the fight against invasive alien species in island ecosystems and economies. Funding for the initial planning of this learning network was provided through a \$35,000, grant from the State Department and \$40,000 from The Nature Conservancy of Hawaii's Global Hawai`i Initiative.

The Pacific Island Invasives Learning Network will serve teams of Pacific Island agencies responsible for conservation and natural resource management as well as agriculture,

international trade and other economic and human welfare interests. The PIILN will build the skills of multi-agency teams in the Pacific – using peer learning forums and lessons learned from around the world – to address the threats posed by invasive species. Participating teams will be recruited from Micronesia, Melanesia, Polynesia and Hawai`i, with each team representing a single nation, state or archipelago.

PIILN and The Nature Conservancy are now seeking public and private funding to launch the network, hire a coordinator and hold the first working meeting next year. We believe that PIILN will be a highly effective and far reaching strategy to address invasive species and it will have a lasting impact on conservation in Pacific Island nations.

Federal Involvement is Needed

Several key invasive pests are currently at Hawaii's doorstep – West Nile Virus, the Red Imported Fire Ant and Sudden Oak Death are already established in California, while the brown tree snake is well established in Guam. All are just a plane flight or cargo shipment away from Hawai`i. As a tropical island archipelago Hawai`i's highly vulnerable ecosystems and economy are vastly different from those of the mainland United States. Hawai`i contains the only tropical forests in the United States. It needs special protection not just from international but also from domestic U.S. pests. However, questions of federal preemption often frustrate attempts to implement protections for Hawai`i that may be stricter than those the federal government proposes for states generally.

Several years ago, the Hawai`i Ant Group petitioned the U.S. Department of Agriculture for an exemption to federal preemption for ant species not yet in Hawai`i, which has no native ant species. The petition succeeded, which will strengthen the ability to implement protective measures in an effort to keep out new ant species such as the dangerous Red Imported Fire Ant. However, that success is just a small step toward protecting Hawai`i from a single category of threats.

The current bill before this subcommittee, H.R.3479, "The Brown Tree Snake Control and Eradication Act of 2003" would support enhanced quarantine measures for Hawai`i by establishing pre-departure quarantine protocols in Guam and designating the brown tree snake as an agricultural pest in the US.

Federal legislation and regulation to protect vulnerable island ecosystems and other areas is essential. Broader quarantine measures to protect Hawai`i from invasive alien species before they arrive are needed. Unfortunately, for Hawai`i, current federal quarantine protection is aimed primarily not at protecting Hawai`i from invasive species on the mainland, but at protecting the mainland from invasive species in Hawai`i.

This is illustrated clearly when you look at the different procedures for entering and exiting Hawai`i at the airport. When you arrived, you voluntarily filled out a form asking if you were carrying any plant or animal material. The purpose of this form is primarily to identify agricultural pests or any of the 79 plants on the State's noxious weed list, a list which has not

been updated in over 10 years and contains plants that are mostly agricultural nuisances – not environmental, human health and welfare, or economic nuisances. However, upon your departure, all of your luggage will be x-rayed and your carry-on baggage screened by USDA inspectors to ensure you are not bringing any pests from Hawai`i – such as the Mediterranean fruit fly which is an invasive alien species introduced into Hawai`i in the first place – to California or other mainland destinations.

The current system is grossly inadequate for protecting Hawaii's environment, health and economy from invasive species. Hawai`i needs the kind of protection from incoming pests that it affords to the mainland United States via pre-departure inspections of passengers and cargo leaving the state. Pre-departure inspection from all mainland departure points to Hawai`i may be logistically impossible. However, enhanced post-arrival quarantine and inspection service in Hawai`i are certainly feasible. Hawai`i needs to be provided relief from federal preemption restrictions and increased support from federal agriculture inspection authorities to address adequately the invasive species threat level in Hawai`i posed by the other states in the U.S.

We believe that in addition to having strong prevention measures in place, Hawai`i needs enhanced early detection and rapid response capabilities. Strong federal capacity, procedural clarity, and cooperation among federal, state and private entities in Hawai`i continues to be crucial for adequate early detection and rapid response to newly discovered invasive species threats.

Finally, we support the passage of H.R. 1080 “National Aquatic Invasive Species Act of 2003.” The Nature Conservancy was contracted by the State to coordinate the development of the State's Aquatic Invasive Species Management Plan which was recently approved by Hawai`i Governor Linda. Our marine program is active in the multi-partner efforts to remove invasive algae from our reefs and we welcome increased federal assistance and coordination for aquatic invasive species early detection/rapid response and eradication efforts at the state level.

Summary

In summary, The Nature Conservancy sees an urgent need to raise the profile of the invasive species issue, particularly from the prevention and policy angle, at the highest levels within our government. We see it not just as a subset of protected area management through on-the-ground control of existing introduced species. We see the uncontrolled influx of new invasive species into ecosystems as a global biodiversity threat on par with habitat destruction.

In many places, such as islands, invasive alien species influx is the greatest single threat to biodiversity. This threat is rapidly on the rise with globalization, unrestricted movement of cargo and trade, and the subsequent movement of alien invasive species into new areas. Hawaii's modern role as the commercial hub of the Pacific makes it particularly vulnerable. Every non-native invasive plant or animal that makes its way into a new ecosystem threatens to take over and push out, even to extinction, the very biodiversity elements we are trying so hard to protect. We need to prevent movement of new invasive species across borders - international and domestic - and ecosystems, not just control the ones that are already here.

In closing Mr. Chairman, we would like to thank you for your efforts to help address invasive species challenges. Thank you again for the opportunity to testify. I would be pleased to answer any questions.

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