



Protecting Hawaii from Invasive Pests Findings and Recommendations from the Coordinating Group on Alien Pest Species

The Silent Invasion. Few problems are more costly or far-reaching in their consequences to Hawaii than the silent invasion of harmful alien pests. Despite having one of the world's longest-standing and most comprehensive quarantine systems, Hawaii is in the grips of an invasive species crisis that is the worst in the United States. Scientists warn that alien pests are entering the State at an alarming rate. Unless we act now to halt this influx, Hawaii's future will be seriously at risk.

Alien pests threaten the State's economy, its environment, and the health, safety and quality of life of its people. Consider these facts.

- Each year an average of 20 new insects become established in our islands, half of which are known pests.
- For the past five years, an average of 100 new alien plants each year have been discovered in the islands.
- A single alien pest that slipped through our borders – the Formosan ground termite – now causes nearly \$150 million in treatment and damage repair costs annually, most of which is paid by homeowners.
- Hawaii's agriculture industry estimates it is losing \$300 million per year from potential markets that refuse Hawaii exports because of alien fruit flies that infest many island crops.
- Alien weeds and non-native animals such as Miconia, axis deer, and rats are slowly degrading the State's forested watersheds and are the number one reason Hawaii is the endangered species capital of the U.S.

Hub of the Pacific. Hawaii's evolutionary isolation and its modern role as the commercial hub of the Pacific is what makes these islands particularly vulnerable to alien pest invasion. Hawaii is the primary shipping link between North American, Asian, and other Pacific Rim ports, handling nearly 19 million tons of shipped cargo each year. Honolulu International is the 17th busiest airport in the world, carrying 7 million tourists to the islands each year.

Hawaii itself is reliant on these links – over 80% of the goods consumed here are imported. Inevitably, however, cargo shipments, passenger flights, military transports, mail, and other traffic entering Hawaii bring with them living plants, animals, and microbes that would have been unable to reach the islands on their own. Hawaii's farmers have been especially hard hit by this influx. Needed and promising crops are struggling under a siege of pests that include papaya ringspot virus, taro-root aphid, and banana bunchytop disease.

As bad as these pests are, the greater concern is the many more damaging pests that have not yet reached Hawaii and which could impact the State's multi-billion dollar visitor industry. Hawaii has been extraordinarily fortunate. During the last decade, the list of potentially devastating pests intercepted at our borders includes Asian longhorn beetles, biting sand flies, red fire ants, piranhas, and the brown tree-snake.

Coordinating Group on Alien Pest Species

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A History of Protection. One reason for this good fortune is that Hawaii has a long history of pest protection that dates back to 1888, when King David Kalakaua declared a quarantine on imported coffee to prevent the introduction of coffee rust and other diseases. Today, under the leadership of the State and federal departments of agriculture, more than 25 State, federal, and private organizations dedicate a portion of their resources to designing, implementing, and improving alien pest prevention and control measures. The fact that we have well-established programs, staffed by trained people, puts Hawaii in a good position to eventually solve the alien pest problem, given adequate resources.

Recent State and federal appropriations for emergency-response operations are also containing or keeping harmful alien pests out of Hawaii. Two examples illustrate this point. In 1997 federal funding for brown tree snake research and control, once considered pork barrel spending, doubled to \$1.6 million. In 1998 it more than doubled again to \$3.6 million. Since that time, the number of interceptions of this dreaded snake from Guam has been drastically reduced – from seven prior to 1996 to only one in the last five years.

Meanwhile, in 1996 the State launched "Operation Miconia", an effort to eradicate a cancerous Latin American plant with the potential to overrun our native forests and watersheds. On Oahu and Kauai, all known miconia plants have been located and removed, and the plant has been kept off of Molokai and Lanai. Miconia remains a serious threat on the Big Island and is currently contained on Maui.

Improving Pest Protection Systems. Existing programs and emergency funding requests, however, will not win the war against invasive pests. The people and agencies that work on the front lines are unanimous in their assessment that unless we begin to make significant improvements to our prevention and rapid-response systems, the many damaging pests that have not yet reached us, will reach us.

This past year, the 28 organizations belonging to the statewide Coordinating Group on Alien Pest Species (CGAPS) conducted a strategic planning project. Its goal was to identify the capacity needed for an effective invasive species prevention and control program that prevents new invasive species from entering into the State, removes newly-established species, and controls those that are already here at a level that reduces the risks and mitigates the hazards at a level acceptable to the people of Hawaii.

To determine overall program capacity needs, CGAPS used case studies of existing and potential invasive pest species that included a broad range of taxonomic groups, including both intentional and non-intentional pathways from both foreign and domestic sources. These were matched up with the needed operational components of an invasive species program (e.g. prevention, early detection, rapid response, control, enforcement, and public outreach) to deter those threats. The end results are an overall picture of what is needed for a comprehensive program for the State of Hawaii. The basic findings and recommendations are presented here. Detailed information sheets and budgets projections are also available upon request.

Improving our protection systems will take time, and it will require significant funding. But we need to start making the needed investments now and we need to regard enhanced pest prevention as an ongoing cost. In the long run, our investments will more than pay for themselves in the damage they prevent. In that respect, alien pest prevention is a lot like medicine. The costs are always far cheaper if one catches the disease early and treats it before it spreads.

One of Hawaii's great, unsung advantages as a visitor destination and a place to live is all the things we don't have – such as snakes, biting flies, and human malaria. Most of us take this for granted. It is important to remember, however, that the same exceptional environment that makes these islands so inviting for people also makes it inviting for pests. If we fail to halt their accelerating spread, we court almost certain disaster. If we allow Hawaii to become a paradise for pests, it will no longer be a paradise for people.