



Protect Hawai‘i — 10 Ways to Help Stop the Silent Invasion

Invasive species are harmful alien (non-native, introduced) plants, animals, insects and even diseases that can enter Hawai‘i and affect our economy, environment, health, and quality of life. Here are 10 ways that you can help protect Hawai‘i from invasive species.

1. It takes everyone to protect Hawai‘i from invasive species.

Hawai‘i is well known for its unique and beautiful environment. As adaptive as it is, it is also fragile and vulnerable to invasive alien plants and animals.

How can invasive species affect you? Snakes may decimate island bird populations, including endangered native birds. Aggressive stinging ants and biting sand flies can make beaches, parks, playgrounds, hiking trails and outdoor activities unbearable. Invasive plants can take over native forests, causing erosion and other detrimental effects on the watershed. Reefs can become overgrown with alien seaweeds. Economically, Hawai‘i’s visitor industry relies on the pest-free environment and recreational areas that attract millions each year.

We all have a responsibility to help protect Hawai‘i so that our families may enjoy its beauty for generations to come.

2. When returning to Hawai‘i, always fill out the agriculture declaration form completely and honestly.

Completing the “Plants and Animals Declaration Form” is an important part of protecting Hawai‘i. Produce and plants may harbor invasive insects or plant diseases that can harm our agriculture industry or native forests. Declare all fresh fruits and vegetables, cut flowers, plants, soil, sand and animals. You must also present these items at the Agricultural Inspection Counter, which is located near the exits in the baggage claim area. Inspectors will make sure there are no hitchhiking pests or diseases that are not found in Hawai‘i.

Bringing gifts for friends and family? Consider commercially packaged food products, baked goods, photos and other non-agricultural gifts.

3. Report a pest.

Report illegal or unknown animals, insects and plants to the State Pest Hotline at 643-PEST (643-7378 direct, toll free).

643-PEST is also the number to call to voluntarily turn in illegal animals. Under the state’s Amnesty Program, anyone who voluntarily turns in an illegal animal will not be prosecuted and no penalties will be assessed. Illegal animals may also be dropped off at any office of the Hawai‘i Department of Agriculture, any municipal zoo or any Humane Society. The penalty for owning an illegal animal includes fines of up to \$200,000 and three years in jail. Animals turned in under amnesty will be placed in zoos or similar educational facilities on the mainland.

4. Got dead bird? Call 211.

If you find a dead bird, dial 211 direct and toll free from any island, to report it for disease testing. Hawai‘i doesn’t have West Nile virus or bird flu (avian influenza), but these

diseases could arrive, and an important part of surveillance and early detection is testing dead birds. A call to 211 will be answered by Aloha United Way operators, who will dispatch agency staff to retrieve the bird for testing. For more information on this program, or to use our online dead bird report form, visit www.gotdeadbird.org.

5. Don't plant a pest. Ask for native or non-invasive ornamental plants.

What we plant in our yards can spread to the forest, harm our watersheds, and even endanger the survival of native Hawaiian species. A few examples of ornamental plants that have invaded our native forests include miconia, fountain grass, Australian tree fern, and rubbervine. Be aware that new invasive plants are being used in landscaping and continue to be sold at many nurseries and garden shops, right alongside plants that are either native to Hawai'i or have proven to be non-invasive. Help protect Hawai'i — ASK for non-invasive or native plants.

6. Keep your pets (cats, dogs, rabbits, parrots, reptiles, fish) at home.

Abandoned, escaped, or purposefully released animals can cause great harm to native species and ecosystems. Even dogs and cats can do terrible damage to native ground-nesting seabird colonies. Within a two-week period in 2002, one or two cats killed an entire colony of 93 wedge-tailed shearwaters at Ho'okipa, Maui. In 2006, abandoned dogs killed nearly 180 shearwater chicks at Ka'ena Point on O'ahu. Released aquarium pets compete with and prey on native fish and shrimp, and aquarium plants dumped into Lake Wilson caused a nearly \$2 million catastrophe in 2003.

Unwanted pets may be given to animal shelters. Never dump unwanted aquarium pets and plants into streams or the ocean.

7. Always clean your hiking boots, running shoes, packs, and other gear after every hike or hunting trip.

Many invasive plants have small or sticky seeds that can easily be moved from one location to another. The simple precaution of scrubbing your gear can keep some of the worst invasive plants from spreading around the islands or into the heart of our remaining native forests.

8. When you fly or sail, keep a clean ship, inside and out.

Invasive species can get a free ride to Hawai'i aboard private planes and boats. For example, biting sand flies (AKA "nono's", or "no see-ums") almost made it to Hawai'i by hitchhiking aboard three of the Polynesian voyaging canoes returning from their historic 1995 journey to the Marquesas. Biting sand flies are tiny and breed in wet sand and mud, and each biting sand fly can inflict 5,000 bites per hour, which fester for weeks. Luckily, the infestation was detected and destroyed before the canoes returned to Hawai'i.

Boats may also carry invasive marine species attached to their hull (this is called "hull fouling") or in their ballast water. Clean your hull thoroughly before cruising, and if your boat uses ballast water, clean the tanks regularly and conduct open ocean water exchanges.

9. Don't spread invasive seaweeds.

When you snorkel, dive, or anchor, always clean your gear and boat before moving to a new spot. Invasive seaweeds like gorilla ogo (*Gracilaria salicornia*) and smothering seaweed (*Kappaphycus* spp.) form dense mats over the reef, overgrowing and killing coral, and reducing

habitat and food for a multitude of reef dwellers. Seaweeds can spread when small pieces of it break off and are carried to a new location. Help prevent invasive seaweeds from hitchhiking to reefs across the state by cleaning your gear.

10. Prevent the interisland spread of invasive pests.

Be aware that some invasive species have very limited distributions in our state. Here are some examples:

•**Varroa bee mite** (*Varroa destructor*): Limited to O‘ahu, the goal is to control the mite population to very low levels on O‘ahu and to prevent the mite from moving to other islands. The movement of bees or beekeeping equipment into the state and interisland is restricted. Honey bees around airports and seaports are being controlled, but swarms should be reported immediately to the state's toll-free Pest Hotline at **643-PEST**.

•**Coqui frogs** (*Eleutherodactylus coqui*): The largest infestation of coqui frogs is on Hawai‘i Island, with a smaller infestation in Maliko Gulch on Maui. Although quarantine measures are in place to limit the spread of these frogs via nursery plants, frogs may go undetected on plants, building materials, vehicles or other items from infested areas. For areas not known to have coqui, call the toll-free Pest Hotline at **643-PEST** if you hear a two-note whistle that sounds like a bird calling at night.

•**Stinging nettle caterpillars** (*Darna pallivitta*) have also been traveling on nursery plants. They have been reported from East Hawai‘i, and limited areas on O‘ahu and Maui. Report suspected nettle caterpillars to **643-PEST**.

•**Little fire ants** (*Wasmannia auropunctata*) also have a limited distribution on East Hawai‘i and one small site on Kaua‘i. These ants are extremely small, but powerful stingers. Although Hawai‘i has two types of stinging red ant, little fire ants are considered much more devastating. Any suspicious stinging ant should be reported to **643-PEST**.

•**Smothering seaweed** (*Kappaphycus* spp.). Known to occur only in Kaneohe Bay on O‘ahu, this seaweed (and other invasive seaweeds) can spread to new reefs when pieces are moved. Always clean your dive and fishing gear, boats and trailers. Divers and reef enthusiasts are encouraged to watch for new species on the reefs and to report new or unusual species to **643-PEST**.