Kia'i Nā Moku O Maui Nui

"Guarding the Islands of Maui County"

Fall 2008

Newsletter of the Maui Invasive Species Committee

No News Is Good News

By Shannon Wianecki
Editor

If you're reading this newsletter, you're probably familiar with miconia—the plant pest that instigated the formation of MISC—but you might not know about Osage orange or cat's claw. Some of MISC's top successes are stories you've never heard. That's no accident. They didn't make headlines because the crises were averted. We stopped these pests in their tracks. MISC's early detection and rapid response strategies are working; here are a few examples of successful eradications.

Eradicating **Osage orange** (*Maclura pomifera*) from Maui looked like a simple enough task on paper. It required the removal of a single plant in Ha'ikū. But what a plant! Back in Texas and Arkansas, Osage orange's native range, its huge, nasty thorns reportedly inspired the invention of barbed wire. "They can pop a car tire," says field crew supervisor Mike Ade. And here on Maui, they were poised to do exactly that. A 300-foot long hedge of Osage orange dangled its thorns over a busy Ha'ikū road with little to no shoulder. In April 2006, the MISC crew successfully tackled this monster—sparing Maui's gulches and ranchlands from invasion. While the plant's thorns are no fun, it's the abundant fruits that cause the real trouble. "They look like a cross between a big lemon and a brain," says Ade. The rippled, fleshy fruits are favored by birds and livestock who spread the invasive tree's seeds far and wide. Even after being hacked back, Osage orange can send root suckers up from taproots deep underground. MISC field crews must diligently return to round them up, making sure this Southwestern native doesn't naturalize on Maui.

The menacing thorns of osage orange threatned Ha'ikū until MISC crews eradicated this plant.

"The most difficult challenge with eradicable species," says Ade, "is that no one on the crew has worked on them." Developing a search image—critical to spotting a plant in the field—is difficult when few, if any, local examples exist. "They're easier for me," says Ade, "because I'm from

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In this issue:

Message from the Manager

The "E-Word" – Hedging our Bets

By Teya Penniman
MISC Manager

Eradication. The word *eradication* has such an air of finality about it: *Pau*. History. Gone. Kaput. What we're finding, however, is that the word and its application can be a bit muddled in the context of invasive species work.

When I first started working at MISC, the word was rarely used in its entirety; instead, to say its name evoked a cautionary admonition – "We don't use the "E-word." As if saying it out loud would be equivalent to naming "He-who-must-not-be-named" from the Harry Potter series. The hesitation was not because eradication itself was deemed bad. To the contrary. However, because eradication is often so darned hard to achieve, it seems best not to promise what might be unattainable. And yet, for most of our target species, eradication is the long-term goal.

"Because eradication is often so darned hard to achieve, it seems best not to promise what might be unattainable."

This edition of our newsletter chronicles some of MISC's challenges and successes in the business of eradication. In the challenge department, we have coined the term "re-eradication" for those species that we have eradicated from Maui several times now. The opportunity for repeat successes arises both from re-introductions to the island and from the discovery of new locations.

The primary article on eradication details the successful removal of four species (as far as we know). But even that project had a tentative title: the "Trial Eradication Program." Willing to state the possibility, we were not quite willing to guarantee that we would actually eradicate the chosen target species.

As you will glean from the stories, the key to success lies, in part, in choosing your targets well. Success also depends on having a cadre of experts whose knowledge, observations, and identification skills help alert us to the latest threats. Last but not least, our successes stem from the hard work of the field staff and their daily persistence amidst the buggy forests, spidery thickets, and dog-riddled neighborhoods of Maui.

The goal of eradication might be lofty. It certainly is difficult and can be a long-term mission. We may continue to be a bit hedgy in our use of the "E-word." But make no mistake—successful eradication of our chosen target species will continue to be the language spoken at MISC.

Photo by Philip Thomas

Parkinsonia aculeata, *a plant no longer found on Maui.*

Landowner Spotlight

Haleakalā Ranch: Balancing Conservation and Profit

By Lissa Fox
Public Relations & Education Specialist

Ranching in Hawai'i is no easy task. The cost of living here is high—even for cattle. Materials and supplemental feed are shipped from the mainland, and if cattle have to be shipped for sale the cost is even higher. Ranchers in Hawai'i are also plagued by the same problem that helps make Hawai'i the endangered species capital of the world: invasive species.

The fields of Haleakalā Ranch stretch towards Haleakalā National Park, from its northeastern boundary at The Nature Conservancy's Waikamoi Preserve, across the mountain to the rolling hills of south Kula. By virtue of its location, the ranch serves as a buffer for the park and Waikamoi, slowing the spread of one of the most wide-ranging invasive species on the MISC target list—pampas grass. Every year the MISC crew surveys the ranch by helicopter, hikes gulches, and drives the network of access roads to remove pampas grass on Haleakalā Ranch property. Pampas control efforts would be crippled without their cooperation. The off-spring of this habitat-modifying ornamental, planted in some Kula yards, often don't take hold in the well-managed ranch. The stray seedlings that do survive will be easily detected before reaching the park's open volcanic slopes. Pampas is just one of many plant pests facing Haleakalā Ranch. Fortunately, ranch managers are up to the task of controlling those plants that MISC does not.

"No one has ever tried to control gorse on this scale."

Scott Meidell doesn't need to be reminded about the impact of invasive species, given the variety of pests that have made their way up to the ranch. The ubiquitous fireweed threatens to poison ranch pastures. Faya tree, wattle, and eucalyptus seedlings are continually sprouting throughout the ranch. Tumbleweed rolls across the lower pastures near Pūlehu Road. In many ways, Meidell is faced with a situation familiar to MISC: so many species, so little time. One Western European native has claimed so much ranchland that it can no longer be ignored. The ranch manager has lost over 5,000 acres of prime grazing land to a prickly problem called gorse. Ranchlands from 3,000 to 6,000 feet in elevation have turned dark green with gorse. Individual plants can reach the size of houses. In an effort to reclaim ranchland, Scott Meidell and Haleakalā Ranch devised an ambitious program of integrated pest management, starting with gorse.

Photo by Chuck Chimera

Goats who dine on gorse are part of Haleakalā Ranch's control strategy.

Haleakalā Ranch manager Scott Meidell faces the challenges of invasive species every day.

"No one has ever tried to control gorse on this scale," says Meidell.

Meidell developed a multi-faceted plan involving mechanical, cultural, chemical, and biological control. The most infested areas (those with house-sized gorse) are mechanically devoured by a shredder. Next, portable electric fencing is installed around the areas and goats and sheep are brought in to graze on the regrowth.

This strategy represents quite a shift for Meidell, a former manager of West Maui's Pu'u Kukui Watershed. "At Pu'u Kukui we had a zero tolerance policy regarding weeds and ungulates," he says. "I never thought I'd be importing goats." These are no ordinary goats; as kids they were highly habituated to a diet of gorse. These goat "specialists" are expensive, but worth it. The ranch currently has 400 goats, and plans to acquire upwards of 1,000. Once mature, the goats can be sold, offsetting the costs of control.

Haleakalā Ranch has also brought in a herd of smaller beasts, some with a few more legs. Spider mites, introduced as a biocontrol agent, feed on the gorse foliage, slowing or stopping growth. On another front, weevil larvae feed on the plant's seeds.

Swee **Haleakalā Ranch** on page 5

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the East Coast where many of these plants grow." How do local fieldworkers get an idea of what alien plants looks like? Ade hopes that invasive species committee crews across the state will be able to cross-train, swapping fieldworkers for a week at a time in order to familiarize themselves with the different species found on each island. In the meantime, fieldworkers study early detection field guides designed to help identify target plants. These tools helped Field Crew Leader Darrell Aquino recognize the slender tree with umbrella-like leaves growing in his friend's driveway. It was **bingabing** (*Macaranga mappa*), an ornamental plant brought from the Philippines in the 1920s that now lines the roadsides on O'ahu and Hawai'i Island. If it weren't for a quick study in early detection, bingabing would likely be infesting Maui County roadways as well. Instead, the two known locations on Maui and one on Lāna'i were nipped in the bud.

Field Crew Leader Darrell Aquino spotted bingabing before it could become a problem on Maui.

Once a plant has been eradicated, there's always the chance of reintroduction. **Common mullein** (*Verbascum thapsus*) was first eliminated from Maui in the late 1980s. Introduced on the island of Hawai'i to control erosion at the turn of the previous century, mullein established itself as an aggressive invader of one the state's most pristine native habitats: high-altitude shrubland. Its ability to overwhelm fragile ecosystems and displace native plants such as the silversword earned it a spot on the state noxious weed list. When mullein plants were found growing in Haleakalā National Park and for sale at a local nursery, they were quickly destroyed.

Photo by Forest & Kim Starr

Mullein has been eradicated more than once on Maui.

Two decades later, plants continue to pop up. MISC recently controlled two mullein sites in Kula, one alongside the highway, and another in a private yard. The homeowner had asked to be allowed to control the plant himself. After some time passed, MISC fieldworkers spotted the telltale stalks of eleven or more flowering plants in his yard. Not wanting to intrude on his privacy, we debated how to approach the situation. Luckily, MISC has a secret weapon: fieldworker Willie Midgley, a persuasive young man who happens to have experience in serving papers. Midgley successfully secured permission to control the plants, and the total known population was reduced to zero—for now. Since mullein's seeds remain viable for up to 100 years, we'll likely be seeing more of it in the future.

Cat's claw (*Caesalpinia decapetala*), a prickly invader from Asia, is considered a "local" eradication. This means that it has been eliminated from one location, but is still present elsewhere on the island. This aggressive climbing shrub was introduced to Hawaiian ranches in the early 1900s as a fence plant. Its bright yellow flowers give way to sharp, curved thorns that grab onto clothing and skin like a fishhook. The shrub has dug its claws into Kāpīpī Gulch in Ha'ikū, where eradication may not be possible. But fieldworkers were able to eliminate the species from a second site in 'Ulupalakua. "I consider them all local controls, or initial suppression," says Ade, "because we always find more." Indeed, it often seems that the more we look, the more we find.

Photo by Forest & Kim Starr

Cat's claw has been a successful invader on neighboring islands.

Two targets we haven't found sign of yet are **fire ants** and **snakes.** But MISC isn't idly waiting for these dangerous species to establish themselves in our vulnerable island ecosystems. We've worked with our partners to develop rapid response protocols, and educate students and the general public to ensure these plagues don't become established on our island. If and when they do arrive, we intend to be prepared.

Field Crew Supervisor Mike Ade is part of the snake rapid response team.

A lot of sweat and determination goes into keeping new invasions off the front page—and in these six instances, no news truly is good news.

Haleakalā Ranch continued from page 3

One of the goals of integrated pest management is reducing herbicide use. For the gorse project, chemical control is used only on outlying plants. Gorse has a notoriously long-lived seed bank; evidence suggests that seeds may remain viable anywhere from thirty to seventy years. "Gorse will be a constant management burden over the next twenty-five to thirty years," states Meidell. He anticipates that within five years the ranch will be at a point where it can scale back on the mechanical control—the shredder—but the goats and insects have long-term job security. Invasive species will continue to be a top priority for the conscientious managers of Haleakalā Ranch, especially as the ranch sets aside land for preservation.

Ranch managers are in the process of fencing 12,000 acres to create a preserve at 6,000 feet in elevation near Pu'u Pahu, just outside of the park boundary, above the uppermost switchback of Haleakalā highway. The first steps in the preserve's development include removing deer, pigs, and goats, followed by weed control. After replanting with native flora, Meidell hopes to have re-established the matrix of life found in the native sub-alpine ecosystem.

"The days are gone where you can regard your pastures as the back forty and do nothing," says Meidell. "We need to actively manage the pernicious weeds, especially those that threaten Waikamoi and the National Park." MISC is truly lucky to have such a weed-savvy landowner as a partner, and Maui is lucky to claim a company whose sense of stewardship has benefits beyond its boundaries.

New Science

Background Checks for Plants: Preventing the Next Plague

By Chuck Chimera
Weed Risk Assessment Specialist

Readers are well aware that the Hawaiian Islands continue to be inundated with intentional and accidental introductions of invasive species. Many seeds or other viable plants parts have been inadvertently brought into the islands in contaminated soil, in shipping containers or cargo, or as unwanted hitchhikers on clothing and luggage. However, the majority of our most notorious invaders got their start in these islands as invited guests—intentionally brought here for agricultural, forestry, or horticultural purposes.

Chuck Chimera checks for potentially invasive plants.

Wouldn't it be great if we could have run a background check on miconia that would have told us it would become a serious invasive pest before it was brought here? It's too late to prevent miconia from coming to the islands, but there is a system in place that hopes to prevent the "next miconia" from reaching our shores. The Hawai'i Pacific Weed Risk Assessment (HPWRA) is a system of 49 questions about a plant's biology, ecology and invasiveness in other parts of the world that allows us to predict whether a plant might become a problem in the islands.

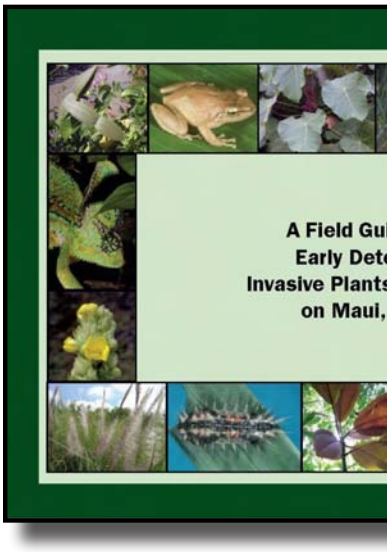
First developed for Australia and New Zealand, the system was later modified for Hawai'i by UH Botany Professor Curt Daehler. Tests show that HPWRA correctly identifies which plants are invasive about 95% of the time. It does this by using information from the scientific literature and the Web to answer questions such as: what types of climate a plant can tolerate, what types of natural defenses it might have (e.g. spines,

Early Detection: Keeping an Eye out for Invasives

What is "early detection" and why is it critical to conservation efforts in Hawai'i?

Early detection refers to the process of discovering a new pest species before it becomes established in the Islands. Ideally, unfamiliar pests would be intercepted *before* they reached our shores. Prevention is our best defense. However, no matter how tight our security at ports of entry, a few seeds, spores, and eggs are bound to slip through the net.

Our second best defense against alien pests is to find and contain them quickly. The faster we can detect a new species, the less expensive and time-consuming the control effort is. Once a species digs its roots in, sets seed, and spreads, it becomes almost impossible to eradicate.



MISC's target species, such as miconia or pampas grass, claim once pristine landscape as their territory. They threaten watershed functions, deprive our aquifers of essential water, and increase erosion. Other invasives, such as fireweed and rubber vine, are poisonous to humans or livestock. Invasive marine plants damage our coral reefs. These pests have bloomed into wide-ranging,

Be Our Eyes and Ears

Help us keep Maui County pest-free. It's easy! Visit www.reportapest.org for detailed descriptions of high-risk targets and how to report them. You can also attend a fun and informative workshop hosted by MISC and Pacific Node Information Basin (PBIN) staff.

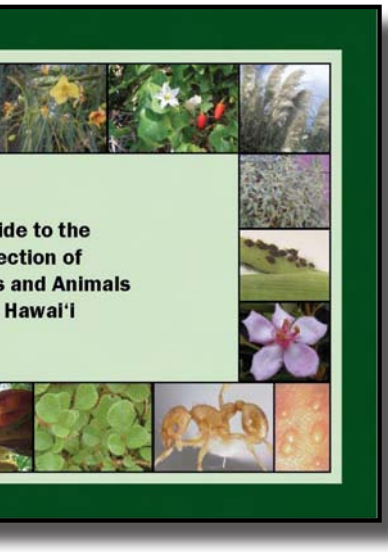
You will:

- learn which high-risk species to look out for and why
- practice identifying these species
- receive field guidebooks filled with information and pictures to assist in identifying species in the wild

expensive problems, but each started out as a lone seed or plant that might have been easily contained.

If we can detect a pest species before it settles in and calls Maui County home, we can stop the problem before it hatches. Case in point: snakes. It's no accident that snakes aren't slithering through our forests and beaches. MISC, along with other conservation and agriculture agencies, works hard to keep snakes out of Hawai'i.

A single snake report generates an immediate response; trained crews drop what they're doing to scour the landscape day and night for this dangerous threat. High school students pitch in to help search for a smaller trespasser: little red fire ant. Luckily, they haven't found any fire ants yet—but that hardly negates the importance of searching.



Maui County simply can't afford to idly wait for high-risk species to establish themselves in our vulnerable island ecosystems. Together with our partner agencies, MISC conducts surveys and develops rapid response protocols appropriate to each unique species. We educate students and the general public to ensure that these plagues don't get a foot or fang-hold on our island. If and when these unwanted guests arrive, we intend to be prepared.

You can help. Lend an extra pair of eyes and ears to MISC's early detection effort. While driving to work, going to the beach, or hiking, keep a look out for unusual plants and animals that might not belong here. You can stop a seedling from sprouting into a big problem by reporting it. Call 573-MISC or visit www.reportapest.org for more information, or to report a pest.

Want to know more about the HPWRA?

See the current list of screened species at http://www.botany.hawaii.edu/faculty/daehler/wra/

Other References

Daehler, C. C., J. S. Denslow, S. Ansari and H. C. Kuo. 2003. A risk-assessment system for sc reening out invasive pest plants from Hawaii and other Pacific islands. Conservation Biology 18(2): 360-368.

Pheloung, P. C., P. A. Williams and S. R. Halloy. 1999. A weed risk assessment model for use as a biosecurity tool evaluating plant introductions. Journal of Environmental Management 57: 239-251.

thorns, toxic sap), whether it produces viable seeds, and whether it is invasive elsewhere in the world. After a certain number of questions are answered, a score is generated that predicts whether a plant will have a low or high risk of becoming invasive. In some cases, certain plants fall in a "gray area" indicating further evaluation is needed before a confident prediction can be made.

Over 600 plant species have been screened using the HPWRA to date, mostly through the dedicated work of Shahin Ansari and Huang Chi Kuo, former and current UH Botany graduate students. I had some pretty big shoes to fill when I started this position in September 2007. Fortunately, the training and education I received working at United States Geological Services-Biological Resources Division, with the UH Botany graduate program, and at Haleakalā National Park has given me the background to continue this work. Another screener started working in early February, which will allow us to greatly increase the number of completed assessments.

The service is free and is completely voluntary. Organizations such as the Maui Association of Landscape Professionals, among others, have agreed to use the system as part of a voluntary "Codes of Conduct." They have pledged to screen new plant introductions using the HPWRA for their invasive potential. Sale and use of invasive plants will be discontinued wherever possible. Requests for assessments can be e-mailed to hpwra@yahoo.com.

In an ideal world, we would never import invasive species into the islands. In reality, new plants will continue to be brought in for personal or commercial uses. The HPWRA, although not perfect, is the best available tool we currently have to predict and hopefully prevent the next plant plague from getting to Hawai'i and harming our fragile environment.

Partners Pulling Together

Pursuing Common Solutions

By Elizabeth Anderson
MISC Program Specialist

MISC's office and baseyard couldn't be in a more idyllic spot—the 39-acre Haleakalā Research Station of the College of Tropical Agriculture & Human Resources (CTAHR) on Piʻiholo Road. Just above Makawao town, the property has bicoastal views, lush abandoned orchards, and a diverse garden boasting a variety of unique species. MISC shares the pastoral Piʻiholo site with the East Maui Watershed Partnership (EMWP). CTAHR's generosity in hosting MISC and EMWP at Piʻiholo allows both organizations to direct more resources to field operations.

MISC became associated with CTAHR in 1999 when our first paid staff members were hired and we needed an office space and baseyard. At that time, the Nitrogen Fixation in Tropical Agricultural Legumes (NifTAL) Center was located at the old Maui High School at Hāmākuapoko. NifTAL was an international program within CTAHR. There was plenty of room at the old high school and CTAHR offered to share the site with MISC. When NifTAL closed and CTAHR returned the school grounds to the county, an arrangement was made to host MISC and EMWP at CTAHR's Haleakalā Research Station on Piʻiholo Road.

The Piʻiholo site is one of CTAHR's oldest research stations. Pasture management and macadamia nut research were conducted here, as well as evaluation

MISCellaneous Files

Dear Dr. MISCellaneous,

I'm a newcomer to the islands and recently purchased a property in Haʻikū. It's a lush two acre lot and it's quite different from my old yard in California. I'm eager to plant things that remind me of the beautiful California landscapes. Do you have any suggestions on what I should plant? There's tons of plants that I'm planning on ordering off the Internet and they'll get delivered straight to my doorstep! I can't wait to start!

Dear. Ms. Californian,

Thank you for writing to me first before taking such a big step in transforming your new yard into a Californian fiesta. Here in Hawaiʻi, we are very fortunate to have plants that evolved on their own and are found nowhere else in the world. These native plants have made our islands special and unique from other places in the world. Therefore, we have quite a large array of interesting and beautiful native plants that you could use in your new landscape instead of planting non-natives. If you plant the right plant in the right place, it'll be much easier to care for and will save water.

Secondly, it can be very risky to order live vegetation over the Internet and have it sent through the mail. For one thing, you may unknowingly order a plant that is invasive. Also, vegetation shipped by mail may be infested with pests or diseases new to Maui. Seed mixes can contain weedy species. If you do order from the Internet be sure it's a reputable business. Better yet, support local businesses.

Take the time to learn more about native species that will benefit your yard and the invasive plant species that may wreak havoc on your property in the long-run. A great resource is the Hawaiʻi Ecosystems at Risk website (www.hear.org). Here you'll find information on invasive species as well as natives. If you'd like Maui-specific information, check out our website at www.mauiisc.org. We're here to help you make the right decision so that we can avoid the introduction of the next invasive plant to Maui.

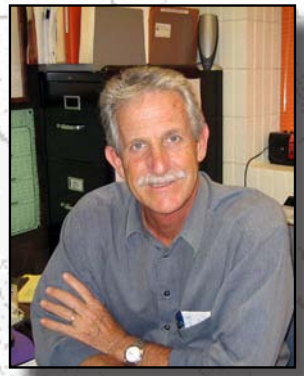
Thanks for asking!
Dr. MISCellaneous

of temperate and sub-tropical tree species. The site also served as a training ground for legume inoculant production for scientists from developing countries. As upcountry agricultural production migrated toward the Kula-Ōmaʻopio area, CTAHR conducted less research at Piʻiholo. MISC and EMWP moved into the facilities in 2002.

"It seems there are plenty of invasive species to go around"

The MISC and CTAHR connection goes far beyond that of a standard landlord and tenant. Harold Keyser, Maui County Administrator for CTAHR, describes the synergistic relationship.

"It seems there are plenty of invasive species to go around," says Keyser, "and both groups contribute to their control and eradication." He noted that while MISC targets miconia, pampas grass and coqui frogs, CTAHR focuses on gorse, fireweed and other agricultural pests. Both groups work together to control banana bunchy top virus.



Harold Keyser, Maui County Administrator for CTAHR.

"CTAHR has instructional and research programs in watershed management and water quality. The field activities of MISC in controlling miconia provide immediate intervention of threats," explains Keyser. "Both approaches are required to maintain our natural resources."

The other side of experimental agriculture.

CTAHR has four sites on Maui and Keyser is responsible for keeping them safe, productive, and sustainable. Keyser definitely has his hands full with overall responsibility for the staff, facilities, and programs in Maui County—including the Maui Agricultural Research Center in Kula and the Cooperative Extension Service in Kahului and Hoʻolehua. "Each County Administrator in CTAHR is issued a large bottle of aspirin at the beginning of each month to assist in carrying out our duties," he jokes.

What does Keyser see in the future for CTAHR on Maui? "The Dean of CTAHR recently granted our request for an Invasive Plant Control and Management Specialist to coordinate extension and research activities, and work closely with groups like MISC, Maui Community College, and the watershed partnerships, as well as farming and ranching communities," he says. "Getting new faculty positions is not easy, so we are very pleased."

The MISC offices and baseyard in Piʻiholo.

MISC is fortunate to have such a dedicated and generous landlord. "The benefits are clear," says Keyser, "in being partners that pursue common but complex problems which require our respective strengths and resources."

Committee Member Spotlight

Starr Squared

By Teya Penniman
MISC Manager

When sorting out what's invasive and what's not, it helps to have some local expertise. Faced with Maui's tremendous biodiversity, how do we know which species are new invaders, which are mere transients, and how widespread the new invaders have become? In Maui County, a lot of that knowledge is being generated by a highly energetic and dedicated pair of parataxonomists–Forest and Kim Starr. Their encyclopedic knowledge of plants and animals has been gained from years of careful observation in the field. Often working closely with national and international scientists, the Starrs identify, collect, photograph, and preserve numerous plant and animal specimens.

Now rarely seen (or heard) without one another, the Starrs first met in the business program at Cornell University in New York. After graduating from college, they moved to the Valley Isle, where Forest was born and raised, under the illusion that they were pursuing careers in business. They soon found themselves volunteering on projects to protect Maui's natural resources and, as Kim puts it, "hanging out with the experts." It's hard to pin down exactly when they became the dynamic identifying duo of Maui, but their first paying job in natural resources was targeting invasive plants in East Maui.

Photo by Forest & Kim Starr

Forest and Kim Starr, the dynamic duo of taxonomy.

The Starrs helped set the standard in Hawai'i for how to conduct roadside surveys for non-native plants. In 2002, they began driving every paved road on Maui, most at 5-10 mph. Their results include comprehensive distribution maps and GPS points for approximately 100 plant species. This project (and funding from the U.S. Fish & Wildlife Service) formed the basis for a successful eradication program undertaken by MISC and the U.S. Geological Survey. They have since conducted similar roadside surveys on Moloka'i and Lāna'i.

As if knowing several thousand species of plants wasn't enough, the expert taxonomists were tapped to assist the Bishop Museum with surveying the Kahului Airport for invertebrates. Their work helped establish that 10% of

Photo by Forest & Kim Starr

Kim and a fearless Laysan albatross on Midway Island.

the invertebrates in the surrounding area were endemic (found nowhere else on earth), significant because the airport is a high-risk location for introduction of new, potentially damaging non-native species. They also discovered a new species of long-horned beetle (*Plagithmysus kahului*) and documented 250 new island invertebrate records.

In the digital era of taxonomy, preserving specimens often involves photographic images. It would be hard to find a more dedicated or accomplished pair of shutterbugs in this arena than Forest and Kim. Enter "Starr plants Hawaii" into your search engine and you'll discover an amazing collection of plant images. Browse a bit more and you'll realize that this duo excels at making voluminous information easily accessible. They've added plant images from a wide variety of sources, always with appropriate credits, created online identification games, and posted all of their reports. Amazingly, their images are all available for public use - they only ask for appropriate credit.

Their work, both volunteer and paid, has taken them from the sand dunes of Maui to the peaks of Haleakalā and across most of the Northwest Hawaiian Islands, to the last exposed piece of rock in the chain, at Gardner Pinnacles. Forest notes with optimism that they haven't made it to Necker or Nihoa – "yet."

At Kanahā Beach, Forest and Kim have donated countless hours of their time restoring the native plant community by replacing kiawe, pickleweed, and buffelgrass on the dunes with native species such as ʻohai, naio, and ʻakiʻaki grass. Have they seen a difference over the years? Not one to mince words, Forest replies, "Yeah, it's gone from a garbage dump to a botanical sanctuary." They are quick to give credit to their partners in the Kanahā effort, including Community Work Day, and many other local volunteers. The Starrs have focused on raising funds and doing winter plantings – 2,600 plants just this last winter – and they rightfully express a sense of ownership about the project. They seem equally at home on Haleakalā, where they have participated in annual silversword counts since 1991.

In the case of the Starrs, the power of two is definitely more than its sum. No matter what project holds their laser-like focus, you can be sure these highly accomplished conservationists are making a difference on Maui. ☆☆

Now accepting nominations for the 6th annual Mālama i ka ʻĀina Award

Maui Invasive Species Committee, the Maui Association of Landscape Professionals, and the County of Maui present the award in recognition of a landscaping business or individual for their exceptional work in protecting Maui County from invasive species.

Nominations are due October 8, 2008

MISC
MAUI INVASIVE SPECIES COMMITTEE
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Working to protect Maui Nui from invasive species that threaten our environment, livelihoods and quality of life.

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Haleakalā National Park

Hawai'i Department of Agriculture

Hawai'i Dept. of Land and Natural Resources

Maui County Department of Water Supply

Maui County Office of Economic Development

Maui Land & Pineapple Co.

Pacific Islands Exotic Plant Management Team

The Nature Conservancy of Hawai'i

University of Hawai'i -
Pacific Cooperative Studies Unit

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USDA Forest Service

US Geological Survey - Biological Resources Div.

USDA Tri-Isle Resource Conservation
and Development Council, Inc.

The Maui Invasive Species Committee is a partnership of government, non-profit, and private organizations working to protect Maui County from the most harmful invasive plants and animals.

MISC works to prevent invasive species from becoming established, controls invasive species on private and public property free of charge, and educates people about how to protect Maui County.

MISC
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