

Kia‘i i Nā Moku o Maui Nui

“Guarding the Islands of Maui County”

Winter 2010-2011

Newsletter of the Maui Invasive Species Committee

ASKING ALBIZIA To Go

By Shannon Wianeki
MISC Editor and Curriculum Writer

How does a two-person team control 850 invasive trees? If you're MoMISC, you ask for permission first—from the landowner, the ancestors, and the trees themselves.

When Lori Buchanan of the Moloka'i/Maui Invasive Species Committee (MoMISC) learned that albizia trees were invading a steep gulch in Nā'iwa, she started strategizing. Native to the Indonesian archipelago, albizia rapidly monopolizes disturbed mesic and wet forests in Hawai'i, and can rise to over 120 feet tall with wide, interlocking canopies. Because albizia trees fix nitrogen in the soil, they alter Hawaiian forests to favor non-native plants.

The Nā'iwa discovery was the only albizia population on Moloka'i—making it a good candidate for eradication. But controlling the trees would be a huge project, requiring the cooperation of many stakeholders.

First Buchanan approached the

landowner, who granted access to the site. Land and air surveys revealed a fifteen-acre patch of mature trees, some with trunks measuring seven feet in circumference. Before rounding up extra hands to help with control work, Buchanan consulted *kumu* Mikiala Pescaia, who has genealogical ties to the area.

"It's a good idea to ask permission before you do anything," says Buchanan. "Every place is sacred, or has some history, and so it's always a good idea to consult the indigenous culture."

"Nā'iwa is *makahiki* and hula grounds. The crew needed to know why it's special before working there."

Pescaia agreed to ask her ancestors to bless the project and to share the importance of the site's numerous platforms and *heiau* with the crew. She explained how killing during the *makahiki* season would be inappropriate, since it was a time of peace and rest.

"She took us to the edge of Kalaupapa and said, 'This is where the spirits leap off,'" says Buchanan. "After that, the crew was hyped."

*"It's a step
in restoring
a whole
genealogy."*

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By Teya Penniman
MISC Manager

"You can't treat a thousand acres on your own."

“What is *hana kūpono*? What is Hawaiian protocol? It's right behavior, conducted at the right time." These words by MoMISC coordinator Lori Buchanan captured the essence of the 2010 Hawai'i Conservation Conference theme.

Every summer, the Hawai'i conservation community gathers to "talk story" about the work of protecting our natural resources – sharing strategies and successes. Over the last several years, conference organizers have sought to incorporate and celebrate Hawaiian culture as part of the annual meeting. The 2010 theme focused on applying traditional and western knowledge systems to conservation work. Not sure what that means? Lucky for us, Buchanan helped bring that concept into focus.

As you will learn in this newsletter,

the Moloka'i/Maui Invasive Species Committee (MoMISC) quietly manages to move mountains with what seems to be a sand bucket and hand trowel: their staff is small and they don't ask for much. The articles about The Nature Conservancy and *albizia* highlight the importance of partnerships and community support in getting the job done with such limited resources. But MoMISC is also tapping into a sense of place and respect for Hawaiian protocol to help ensure success.

As Buchanan explained, "Hawaiians come from the perspective that all living things have spirit." Proper protocol includes asking for permission from the land and the ancestors of the land to conduct the work. It includes acknowledging the contributions that the plants have made to our environment, even if you are about to remove them, because "you go through

cultural protocols with plants the same way you would with anything else."

Western knowledge still has its place, whether it's mapping helicopter surveys across the East Moloka'i watershed with a GPS unit or planning the logistics of removing a massive stand of *albizia* trees. But as Moloka'i is showing, embracing the Hawaiian perspective while using Western techniques can be good for the project and good for the workers.

And Buchanan's take-home message for others working in conservation? "If there was a spiritual component that would make your project more effective, would you do it? Of course you would. Adding the cultural perspective of Hawaiian spirituality makes sense. You can't treat a thousand acres on your own."

We invite you to read about MoMISC and learn why we are honored to have a close working relationship with our sister ISC on the island of Moloka'i. ☺



Invasive albizia were encroaching on this archeological site on Moloka'i.

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"Guarding the Islands of Maui County" is the official newsletter of the Maui Invasive Species Committee. To join our mailing list please call 573-6472 or email miscpr@hawaii.edu.

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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.

PARTNERS PULLING TOGETHER

TNC MOLOKA'I

By Wendy Swee

MISC Education/Outreach and Data Associate

Ed Misaki, Moloka'i program director for The Nature Conservancy (TNC), loves showing off the island's three preserves, each a showcase of unique endemic species. These lands were his training ground, and he enjoys seeing others realize what special examples of evolution Hawaiian plants and animals represent. But for conservation on Moloka'i to truly succeed, he says, people must realize that community support offers more protection than even the goat-proof fences that encircle the island's preserves.

Founded in 1951, The Nature Conservancy is a leading conservation organization working around the world to protect ecologically important lands and waters for nature and people. It established Kamakou, its first preserve on Moloka'i, in 1982 with a conservation easement from Moloka'i Ranch.

Kamakou lies near the summit of the island's highest mountain. Clouds and mist often signal a visitor's proximity to the rain forest. The preserve sign, almost illegible for its lichen patina, marks the entrance to a lush world of exuberant

shrubs, prehistoric-looking ferns, and *ōhi'a* trees bearing red, orange, and yellow blossoms. A boardwalk leads through Pēpēōpae Bog, where sedges grow taller than miniature *ōhi'a* trees carrying full-size blooms.

Pelekunu Preserve encompasses the highest sea cliffs in the world and a freshwater stream containing native aquatic animals, such as the famed *ōōpu*, gobies that climb sheer waterfalls with suction-cup-like pelvic fins.

Mo'omomi, the third preserve, added in 1988, contains more rare coastal species and intact sand dunes than any other place in the main Hawaiian Islands.

Misaki and the field staff began a program of "passive restoration" in the preserves—removing invasive species in hopes that native species recover on their own. By removing and mulching invasive kiawe trees at Mo'omomi, they've seen native plants return in succession—first native grasses, and then a kaleidoscope of dune plants like the "star of Mo'omomi," the rare silvery *ēna'ēna*. Nest burrows for the native shearwater, *ua'u kani*, have also

See "TNC" on page 8



Ed Misaki surveys the dune ecosystem at Mo'omomi.



How do you control 120' tall albizia? Field crews girdled the massive trunks with chainsaws and applied a small amount of herbicide.

"Albizia" continued from page 1

We knew we were going to sweat and work our butts off, but people would appreciate what we were trying to do. It put our work in a whole new light.

"Mikiala sees all her cultural sites being taken over by invasive species. Our work is important to her, to her ancestors, and to future generations. It's a step in restoring a whole genealogy."

Mikiala Pescaia asked her ancestors for permission before entering the work site. She outlined appropriate behavior for the crew to observe while working: no swearing, negative thoughts, smoking, or removing anything from the area.

Then, says Buchanan, "She went to the edge of the gulch and said to the trees,

'You guys have to go. Thank you for what you've provided—oxygen, shade, etcetera, but you have to go. Lori and MoMISC are going to come and take you out.'"

Actually, it was Lori, MoMISC, and a small army. Kamalani Pali, the other half of MoMISC, helped organize crews from The Nature Conservancy, Maui Invasive Species Committee, and U.S. Fish and Wildlife Service. John Neizman from the Department of Land and Natural Resources assisted with clearing the access road. Two retired foresters volunteered to cut and treat trees. The U.S. Department of Agriculture Plant Materials Center donated ninety pounds

of native *kāwele*, *ʻāʻaliʻi*, and *āweoweo* seed mix. Before controlling the trees, Pescaia and the crew spread the seeds throughout the site, to repopulate the forest with native plants and suppress albizia regrowth.

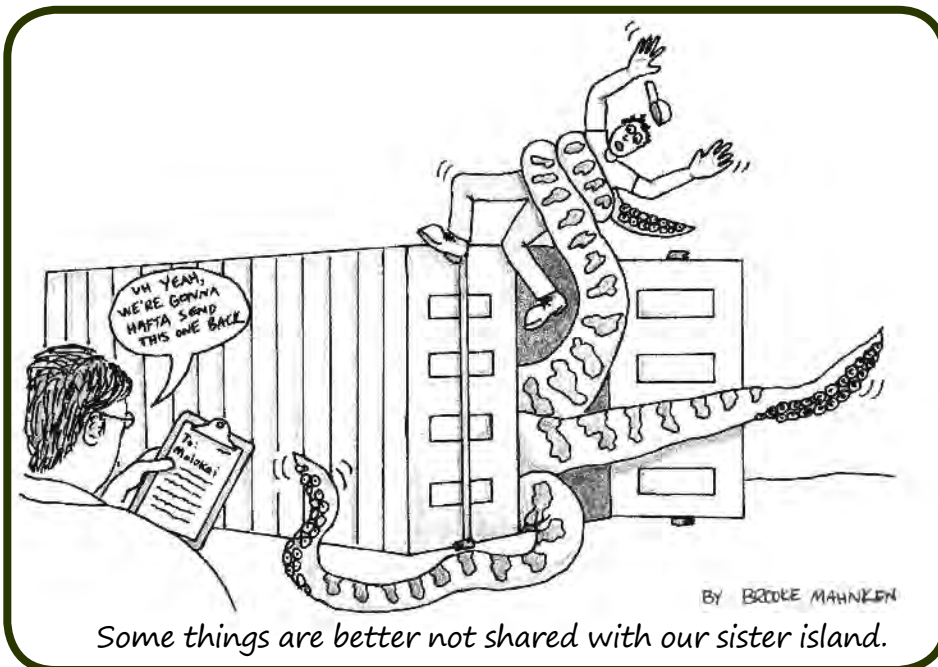
Scientists and cultural advisors agreed that the best time to start work was the first week of March, after *makahiki* had passed. The crew girdled massive trunks, scraping the bark off with chainsaws to get to the heartwood and swabbing the cuts with small amounts of herbicide. Despite the heavy labor—three days of wielding chainsaws and rappelling to reach cliff-side trees—no one was injured.

Local businesses pitched in, too. Molokaʻi Community Federal Credit Union and Ron Kimball of Kamehameha Schools helped feed the workers. Mac Poepoe and Kanohowailuku Helm, local fishermen who have published a Hawaiian moon calendar, gave a *pau hana* workshop on how to be a *pono* fisherman. Realtors Diane and Larry Swenson accommodated visiting crews in their roomy warehouse.

A year later, only four of 850 albizia trees required re-treatment. The project brought together community members, field staff, and cultural practitioners. Work crews valued the opportunity to practice traditional protocols while working to free the island's native forests from invasive pests. There's no arguing that involving the community and asking for permission resulted in resounding success. The lessons learned during the albizia project will be applied to future control efforts on Molokaʻi and Maui.

"So many components had to come together. Everybody had to be on board," says Buchanan. "But that's our job: to make it easy for people to help us." ☺

MISC COMMUNICATIONS



A VIEW FROM ABOVE



By Stephen Ambagis
Owner, Resource Mapping Hawai'i

Resource Mapping Hawai'i, a small company based on the Big Island, formed in response to the conservation community's overwhelming demand for techniques to detect, map, and monitor invasive species over large landscapes. Agencies across the State, such as The Nature Conservancy, U.S. Geological Survey, and Department of Land and Natural Resources, identified the need to test data collection techniques for mapping a suite of ecosystem-changing weeds.

Because many invasive species in Hawai'i are widely distributed and the terrain is so inhospitable to human traffic, it was imperative to find a way to track their spread from above. Our early work focused on using satellite images. The results were inconclusive. Images taken from space cover large areas, but they are coarse; individual details are hard to distinguish. Our next approach was to collect aerial imagery. Taken from airplanes, these images cover smaller areas with higher resolution. There

"We can map and monitor large areas where 'boots on the ground' are difficult."

are a number of different types of aerial imagery, but only some of them effectively map plant species. After several pilot projects and research around the state, we determined that the best approach for mapping species was a combination of ultra-high-resolution natural color data and hyperspectral data.

Everyone knows what "natural color data" is—even if the term is unfamiliar—because we use it every day when taking snapshots of our kids or garden. It's a simple reproduction of the light and colors we see in a frame.

"Hyperspectral" is a word that is thrown around in remote-sensing circles but is not clearly understood by most people. It refers to images that have a large amount of data stored on a per-pixel basis. They capture more color frequencies than are detectable by the human eye, essentially tripling our ability to "see" wavelengths, from 800 nanometers to 2,400 nanometers. This technology allows us to investigate not just the shape and color but also the chemical properties of the objects in the

frame. Originally developed for use in the mineral mining industry, hyperspectral images can reveal carbon, nitrogen, and water content.

Analyzing hyperspectral data takes years of experience, expensive software, and lots of research. Each plant or mineral may have a unique spectral signature. Identifying the signature you're interested in and separating it from the others in the image is a complex process. In comparison, almost anyone with some botanical knowledge and a basic understanding of computers can learn to analyze natural color data.

It's important to realize that neither imaging technique can map all species all the time. Invasive strawberry guava is difficult to distinguish from native forest plants, even at high resolution; this species is more easily mapped using hyperspectral analysis. Australian tree fern is the opposite; its spectral signature is almost identical to that of the native *hapu'u* fern, but botanists can tell the two apart using natural color data.

For the time being, hyperspectral data is still expensive to collect and difficult to analyze. As the technology improves and becomes more financially attainable



Australian tree fern as it appears in natural color aerial photography. Botanist recognize this invasive fern by its characteristic shape.

See "Imagery" on page 8

Top Six MoMISC Targets

Australian Tree Fern (*Cyathea cooperi*)



- Native range: Australia
- Aggressively outcompetes Hawaiian plants in forest understory. Wind-spread spores can travel over seven miles from parent plant.
- Widespread on main Hawaiian Islands except for Moloka'i, Lāna'i and Kaho'olawe
- On Moloka'i, isolated introductions have not yet naturalized. Plants at private residences were removed and replaced with native *hapu'u* ferns.

Rubber vine

(*Cryptostegia madagascariensis*)

- Native range: Madagascar
- Smothers other plants. Poisonous. May interfere with heart function and cause intestinal upset. Milky sap can cause burning rashes. When dry, sap can cause coughing, nose swelling, and eyelid blisters.
- Present on main Hawaiian Islands except Kaho'olawe.



- On Moloka'i, several infestations have been controlled and sites are being monitored for seedlings.

Fireweed (*Senecio madagascariensis*)

- Native range: Madagascar
- Invades pastures, disturbed areas and roadsides. Produces up to 30,000 easily spread seeds. Toxic to livestock.
- Invading Maui and Hawai'i Island, found on other islands. Priority target on Kaua'i and O'ahu.
- On Moloka'i, found in isolated areas.



The ERADICATORS



By Shannon Wianecki
MISC Editor and Curriculum Writer

The Moloka'i/Maui Invasive Species Committee has an impressive reach. Tackling everything from fifty-foot-tall trees to stinging jellyfish, the two-person MoMISC team successfully prevents scores of invasive species from overrunning an entire island. The secret, according to MoMISC dynamo Lori Buchanan, is making invasive species control everyone's *kuleana*.

Empowering Moloka'i residents with tools to *mālama i ka 'āina*, care for the land, MoMISC distributes fire ant detection kits at fairs, gives weed workshops for Monsanto irrigation and spray crews, and negotiates with ranchers to prevent the importation of cattle from fireweed-infested pastures. When Buchanan and fellow MoMISC staffer Kamalani Pali approach homeowners growing Australian tree fern, they offer to replace the foreign pest with native *hapu'u* ferns.

Species that are pervasive problems on other islands are being eradicated on Moloka'i: fountain grass, pampas grass, and gorse.

"We're careful about which targets we choose to eradicate," says Buchanan. "Once we take on a target, we're very serious. We're in for the long haul. We're going to eradicate the seedbank."

MoMISC also collaborates with the Division of Forestry and Wildlife (DOFAW) to control species such as wood rose, palm grass, and New Zealand flax that are too widespread to be eradicated but threaten wilderness areas. "Wood rose is distributed throughout the island. I wouldn't take it on as a target for eradication," says Buchanan. "But I will

"The secret is making invasive species control everyone's kuleana."

control a population growing at 2,500-foot elevation on the border of a pristine native forest."

In Hālawā Valley, Barbados gooseberry, a nasty arboreal cactus, is too entrenched for MoMISC's limited staff to effectively control, says Buchanan. "Instead, we go to the organizations that are doing *kalo* restoration there and say, 'You know, you have some issues in this valley. We can train you and provide you with maps, GPS, and methodology.' We share our expertise on methods that are effective."

Rather than waiting for pests to become problems, MoMISC is always on alert for incipient invaders.

"Cattle was brought in from Maui and distributed to ranches all around the island. Now we're seeing fireweed pop up," says Buchanan. "We're trying to nip that in the bud."

When island ranchers planned to import another 700 head of cattle from gorse- and fireweed-infested pastures on Maui, MoMISC intervened. The ranchers agreed not to bring in cattle at this time and MoMISC offered to develop a protocol for importing livestock without unwanted hitchhikers.

At present, Moloka'i is miconia-free and they plan to keep it that way. Starting in 2005, she and Pali strapped on helicopter helmets to survey the island's forests from above for miconia's telltale purple leaves. They targeted areas that would most likely be infested with seeds carried by birds first, then worked their way across the island. "It's a cycle," says Buchanan. "We'll go back now to where we started. This year we have 14 hours of flight time and a pretty nice map. We keep on looking."

Nestled within The Nature Conservancy's Moloka'i headquarters, MoMISC operates as a mobile, responsive extension of the island's other conservation agencies.

"MoMISC is the blanket organization, because we have no boundaries," says Buchanan. The Conservancy, National Park Service, Natural Area Reserve System, and DOFAW are bound to specific locations under their jurisdiction, while MoMISC "can go east to west, north to south. It makes us ideal."

"Of course we don't go hog wild. We're only controlling jellyfish in the area where kids swim. We did mangrove because it's breaking up the sea wall at the wharf. If it's a clear threat to human health and the environment, we'll respond. That's our mission: to respond rapidly and do whatever needs to be done."

In the absence of a full-time Hawai'i Department of Agriculture representative on Moloka'i, MoMISC is often summoned to identify unusual species that turn up on the island. "We've been called for everything from spiders to glowing, floating things on the water," says Buchanan.

MoMISC also keeps sharp lookout for the light brown apple moth and stinging nettle caterpillar—two agricultural pests that haven't yet been sighted on Moloka'i. The crew assists Chevy Levasa of the U.S. Department of Agriculture in monitoring traps and collecting survey data that will expedite control efforts should these pests arrive.

"Lori and I work as a team," says Levasa. "Considering that we don't have a state inspector, I think we do a really good job. We get the word out. Together we earn the trust of the community, by being available."

"We're all working for the same goal," says Buchanan. "Keeping our native forests pristine." 🌿

Tumbleweed (*Salsola kali*)

- Native range: Asia
- Highly invasive in open, disturbed landscapes. Mature plants produce up to 200,000 tiny seeds. Public safety hazard; windstorms blow tumbleweeds into oncoming traffic. Rolling, burning tumbleweeds can spread wildfire.
- Expanding in Upcountry Maui. Found on O'ahu, and Hawai'i Island.
- On Moloka'i a single infestation was eradicated.



Little fire ant (*Wasmannia auropunctata*)



- Native range: Central and South America
- Infests houses and farms, damaging crops and stinging workers. Disrupts the balance of native ecosystems. Promotes plant pests such as aphids. Blinds pets and other animals.
- Infesting the windward side of Hawai'i Island; isolated nests found and controlled on Kaua'i and Maui. Alos a MISC target.
- Not yet found on Moloka'i, Early detection efforts underway.

Coqui frog (*Eleutherodactylus coqui*)

- Native range: Puerto Rico
- Loud, incessant call from dusk until dawn. Adverse economic impacts on tourism. Decreased export plant sales and decreased property values. Eats huge quantities of insects disrupting ecosystem balance. Potential food source for snakes.
- Widespread on Hawai'i Island; limited populations Maui, Kaua'i, and O'ahu. Also a MISC target.
- In 2002 and 2010 lone coquis were reported and subsequently captured by MoMISC. Early detection efforts are underway.





The rare silvery 'ena'ena is one of the native dune plants that has returned following the removal of invasive kiawe at Mo'omomi.

"TNC" continued from page 3

multiplied as the *kiawe* staging area for feral cats disappeared, and local trucks now stay on the track marked by TNC across the dunes.

By building fences and controlling feral ungulates in the other preserves, TNC has succeeded not only in improving forest integrity but also in slowing the sedimentation rate impacting the island's coral reefs—improving fishing sites for the community at the same time.

In addition to resource management, TNC leads public hikes and student field trips in the preserves and places high importance on training docents and volunteers, including them in the organization's work.

Desiring the ability to address invasive threats beyond the confines of their preserves, the TNC weed managers led the call in the early 1990s for the Moloka'i branch of the Maui Invasive Species Committee.

The Conservancy lent the fledgling MoMISC office space, transportation, a computer, and its first employee—Lori Buchanan, who credits TNC for sparking her interest in native Hawaiian species. When she accompanied her son on a field trip to the Kamakou Preserve, she says, "The docent from Canada told me which plants I was looking at and what was going on with my mountain. It hit me that I should know this already, and I didn't." So she signed up for TNC's docent training program, logging over 100 hours before she was tapped to lead MoMISC.

TNC continues to provide MoMISC with office space and manpower when needed, especially for suppression of large targets like *albizia*. The sister organizations divide responsibilities to reach mutual goals—such as solidifying community support. Misaki claims this is especially crucial on a small island like Moloka'i: "It's about working with your community for long-term support. You don't see results right away—it's about engaging, informing, making them part of your organization."

To that end, TNC relies on a community advisory council, holds *ahupua'a* meetings to address local concerns, hires locally, and sponsors Moloka'i Earth Day, attracting more than 1,000 of the island's 7,000 residents to learn about their roles in preserving natural and cultural resources.

Misaki acknowledges the importance of community support and the aid of partners like MoMISC in carrying out TNC's mission: "The ecosystem doesn't have property boundaries." ☺



"Imagery" continued from page 5

for conservation managers, the use of hyperspectral data will become more widespread. In the meantime, we're focusing on ultra-high-resolution natural color imagery to manually identify the plants of interest.

On Moloka'i, we will assist The Nature Conservancy and MoMISC in searching over 6,000 acres for invasive Australian tree fern by collecting high-resolution photos of dense forest. Using these imaging techniques gives us real benefits: we can map and monitor large areas where "boots on the ground" are difficult, and produce very precise measurements of invasive infestations. It also gives us a snapshot in time for retrospective looks at the environment. While we're using this data to assess certain species that are known problems now, in ten years we may discover other species of concern. We'll be able to look back at our images and determine whether or not the species were present when the data was first collected.

We will never exhaust the need for botanists on the ground investigating specific plants, but we may be able to help the process of scanning landscapes for insidious populations. ☺

Forest ecologist Stephen Ambagis has worked in the field of remote sensing and vegetation mapping for the past ten years. He started mapping Hawaiian ecosystems for the U.S. Geological Survey-Biological Research Division and subsequently started his own business as a specialized data and mapping solutions provider.



Ed Misaki, Lori Buchanan, and Kama Pali

CHAIR EXTRAORDINAIRE: PAT BILY



By Adia White
MISC Summer Crew 2010

Hiking through The Nature Conservancy's Waikamoi Preserve, I yelped when a rubbery striped snake plopped down from the branch of a blooming *ōhi'a* tree. Behind me I heard Pat Bily giggle, and immediately knew the culprit. Maui Invasive Species Committee's new chairperson is bright-eyed, amiable, and one of the sneakiest practical jokers you will ever meet.

Invasive species are no joke to Bily, the Conservancy's invasive plant specialist on Maui has dedicated much of his life to demolishing them. His favorite weed to raze is Himalayan ginger, an invasive that creeps into the native forest of Waikamoi Preserve. Once a month for the past twenty years, Bily has led volunteers into Waikamoi to put a stop to this plant. For Bily, leading volunteer groups is not only effective but also rewarding. "Volunteers who had worked with me in the mid-nineties came back a couple years ago," he says. "They were stunned. 'Where's the ginger?' they asked. It made them feel good to see native plants filling in the previously occupied gaps."

Bily's commitment to Hawaiian flora extends beyond his professional life. He spends what little free time he does have at home working in his flourishing native plant garden. Admitting that he hadn't been to the beach in four months, he chuckled and said, "I feel most at home when I'm killing ginger."

Bily has had his hands in Maui soil for the past thirty-four years, though

he didn't start as a conservationist. He first worked in landscaping on Maui, ironically advising clientele to plant non-natives in their back yards. Over time, Bily fell in love with the unique native flora of Hawai'i and, in turn, with managing the plant species that threatened it. His passion for identifying the best methods for invasive species control on both small and large scales has made him a top-notch plant assassin, thus binding his future to that of MISC.

Bily's involvement with MISC predates the committee's official existence. He was one of the founding members of the Melastome Action Committee (MAC), a team of volunteers from different organizations devoted to controlling invasive melastomes such as miconia. MAC was the seed of miconia containment, eventually sprouting into MISC.

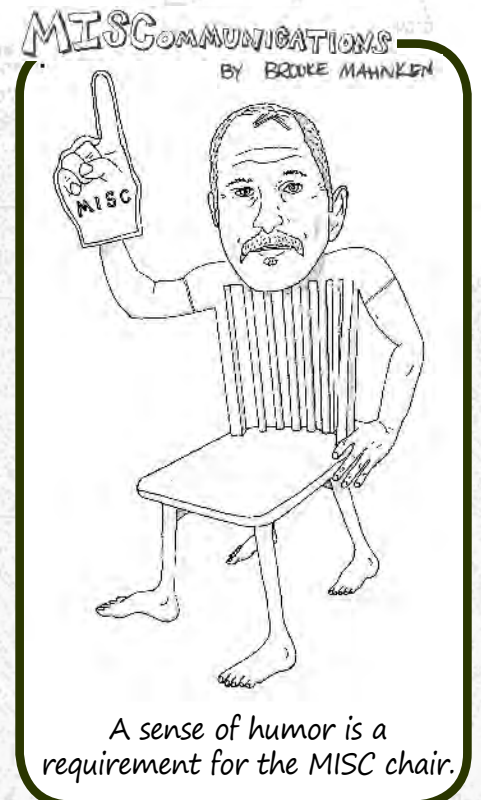
Bily surveyed Maui for hidden pockets of miconia, in coordination with MAC and TNC. Through networking and word of mouth, he discovered seven populations outside of the primary Hāna infestation. TNC was able to control all seven—even eradicating a satellite population found in West Maui. If these plants had not been found, miconia would have infested 'Iao Valley.

Bily also captured a small, loud amphibian invader shortly after its initial arrival on Maui. He and the state's wildlife biologist suspected this obnoxious noisemaker might be a coqui—an invasive pest native to Puerto Rico. They sent the frog to the Smithsonian, where researchers confirmed its identification. Coqui later became one of MISC's primary target species.

In light of Bily's presence during many

of MISC's crucial steps, his new role as committee chair is a natural fit. Bily has seen many changes over the years. He envisions that MISC will focus more time and resources on invasive species detection and prevention. In his ideal world, landowners will combat persistent invasives such as pampas and fountain grass on their own properties, freeing MISC from this responsibility. Bily anticipates great progress while MISC continues to galvanize the battle against invasives across the state.

Don't pass up a chance to volunteer with The Nature Conservancy and Pat Bily, one of Maui's extraordinary botanists, but watch out—you never know what might be lurking in the forest.



THE GO-TO GUY

By Lissa Fox
MISC Public Relations & Education Specialist

As half of the staff of MoMISC, and the sole member of the field crew, Kamalani “Kama” Pali, has his work cut out for him. Any given day could have him responding to a report of a coqui frog, eradicating false *awa*, searching by helicopter for miconia and Australian tree fern, going door-to-door looking for banana bunchy top virus, or scooping stinging jellyfish off the bottom of Kaunakakai Harbor.

Pali started during the summer of 2005, effectively doubling the capacity of MoMISC. “What I needed at the time was a plant killer, but also a public relations person and a data person,”

His willingness to learn has been a huge asset to MoMISC. A Hawaiian studies major in college, Pali didn’t have an extensive computer background or experience in advanced GIS work. But he didn’t shy away from the opportunity for on-the-job training with TNC’s data specialist Russell Kallstrom. “He’s come a long ways,” says a grateful Buchanan. “He can do it all.”

Pali’s favorite project to date? The albizia eradication. “Most of the projects we work on started before I got there. This is the first one that I was there when it started and will see all the way to the end,” he says. It’s no small task eradicating

fifteen acres of fifty-foot-tall albizia trees. “We’re still finding a couple seedlings, but the number is coming down.” It’s a feat that MoMISC couldn’t accomplish alone. Pali helped lead partners from five different agencies through the project, getting along with everyone and jumping in to give input.

According to Buchanan, Pali has a unique gift for working in the field. “We don’t have to talk, we just go. It’s like we operate telepathically.”

After a day of removing invasive species from Moloka’i, Pali comes home to work on his own land. A third generation Moloka’i farmer, Pali helps manage his family’s cattle, goats, and pigs. He and his three brothers maintain a labor-intensive *kalo lo’i*. Pali has a family of his own to raise as well. He and his wife both work in conservation, setting quite the example for their two young boys.

Keep your eyes peeled for the industrious Pali. You can be sure that wherever you find him—the field, the office, or at home—he’ll be working hard. ∞

“He’ll go anywhere, do anything.”



Lori Buchanan, MoMISC coordinator, explains. Pali fit the bill. The unassuming young man hired to be a “killer” has learned to be adaptable; he’s the go-to guy for everything from data entry to preparing maps for reports and aerial surveys.

“He’ll go anywhere, do anything, from fence building with The Nature Conservancy (TNC) to bird banding. He just does whatever,” praises Buchanan. The variety and combination of the work is what Pali enjoys. “I go all over the place, learn all kinds,” he says. “I feel pretty good at the end of the day.”



MISCELLANEOUS FILES

Eh, Doc!

I stay Maui, but I like go Moloka'i fo' my cousin's grad party. I like bring tings for my 'ohana there: smoke meat, kalo, banana plants for Auntie, and a hunting dog for Uncle. I can jus take 'em on da ferry, yeah?

-Moloka'i Grown

Good question, Molokai Grown,

You know how unique Moloka'i is—same goes for its plants and animals. Some of the worst invasive species on Maui haven't made it to Moloka'i. Not that you were planning on bringing miconia to your Auntie or anything, but you never know what's hiding under that banana leaf—could be a little fire ant or a coqui frog.

As for your hunting dog, it's okay to bring pets inter-island but make sure your dog is clean—no hitchhiking seeds on its fur or feet. But chinchillas, guinea pigs, and livestock require inspection and, for livestock, you need a certificate of ownership. Any potted plants or propagative parts (banana corms, kalo) need to be inspected by the Hawai'i Department of Agriculture before going inter-island. On Maui, call 873-3962. Check it out on the internet at www.hawaii.gov/hdoa and have fun going *holoholo*!

Mahalo!

Dr. MISCellaneous

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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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