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*Working to protect Maui Nui from invasive species that threaten
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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.*

*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.*



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Kia‘i Nā Moku O Maui Nui

“Guarding the Islands of Maui County”

Fall 2007

Newsletter of the Maui Invasive Species Committee

Giving Back to the ‘Āina

The Hāna crew takes back the forest one miconia tree at a time.



By Joylynn Paman
Public Relations &
Education Specialist



The Hāna field crew is the driving force behind MISC's miconia control operations in East Maui.

Growing up in the islands, especially as a native Hawaiian, you're raised with values that shape your future, the future of your family, and future generations. Whether you're a fisherman who reaps the benefits of a healthy reef and brings home choice mullet for your tūtū's dinner, or a keen hunter who disappears into the forest, hauling back a wild boar that will feed your 'ohana at the next baby lū'au, you've learned that if you mālama the 'āina, it will mālama you.

MISC's miconia workers in Hāna are no exception. These East Maui Hawaiians take on one of the most difficult invasive species battles facing Maui Nui on a daily basis. They are not only reshaping the future of Hāna's forests, they are protecting their heritage and lifestyle.

Some Hāna miconia workers have been saving East Maui's forests since the inception of the miconia control program. Others joined the effort within the last few years. But regardless of the length of time they've been controlling the leafy pest, they all say the same thing, "We're winning the battle, one miconia plant at a time."

For Uncle Sam Akoi III, the miconia crew leader who has been with the project for almost a decade, it is obvious why his work is important. "All the years I'd hunt and didn't pay a lot of attention to natives but now through the job, I learn." He's able to put his skills as a hunter to work for the environment. Under his leadership, the crew's hard work has paid off. "We used to find miconia

by the thousands before. Today, we can walk couple acres and not find much." Controlling miconia has become a way of life for Uncle Sam - his way of giving back to the 'āina that has provided for him and his family for years.



*Sam Akoi III,
Hāna Miconia Field Crew Leader*

See **Giving Back** on page 10

In this issue:

- Miconia biocontrol - a promising new tool?
- Incident Commander: Jeremy Gooding
- MoMISC takes charge of Moloka'i
- MISC field workers sing to their own tune



Message from the Manager Most Wanted: MICONIA

By Teya Penniman
MISC Manager

**“Are we making a difference?
We believe so.”**

Miconia has dominated the target species list since MISC's inception in 1999. More than half of all of our field time is dedicated to working on this single species. In fact, MISC's origin can be traced to miconia.

The discovery of miconia in East Maui, along with several of its plant “cousins,” was the impetus for forming MISC's predecessor – the Melastome Action Committee (MAC). The name refers to the highly invasive family of plants, the melastomes, which includes Koster's curse (*Clidemia hirta*) and tibouchina. Since then, the MAC has morphed into MISC with a full-time staff and a multi-species focus. But miconia continues to be a bad-boy “poster child” for invasive species in Hawai'i and elsewhere. It is a well-deserved reputation.

Our feature article describes miconia's frightening ability to forever alter our life-giving watersheds. Our profile on Committee member Jeremy Gooding highlights one individual's efforts against miconia, but belies the scope and duration of the contributions from members of the Committee. MISC partners have played significant roles in the battle - from the early days of sounding the alarm to securing funds, writing professional articles, conducting field work, contracting for and managing aerial operations, processing data, drafting press releases, talking to legislators, organizing conferences, pushing for biocontrol, “housing” the initial Hāna crew, and providing ongoing direction and guidance to the work. Our success to date is inconceivable without strong inter-agency support.



Miconia calvescens

MISC has been engaged in the miconia crusade for so long and so intensely that it is easy to lose track of the enormity of what we are trying to accomplish. We operate multiple ground crews across an invasion that covers over 39,000 acres of some of Maui's most difficult terrain. We operate two helicopters simultaneously to survey and control miconia in inaccessible areas. We rappel into sites that can't be easily accessed by ground or air. Much of the work occurs on private property, which means contacting individual property owners for permission to work on their land. And then when new seedlings emerge, we do it all again.

Is it worth the effort? Are we making a difference? We believe so. We have developed an effective ground-air approach that is a model for the rest of the state, while continuing to make improvements to the process. We have strong public support and awareness. And, perhaps most importantly, we are seeing a decrease in the number of mature trees in areas we have consistently controlled. Our biggest challenge continues to be finding long-term stable funding. We hope this newsletter inspires you to support the work to protect our precious watersheds from miconia, our island's most aggressive invader.



Kenji Nishida

Larvae of the butterfly *Euselasia chrysippe*

New Science

Miconia Biocontrol

By Tracy Johnson

USDA Forest Service Institute of Pacific Islands Forestry

Helicopters, herbicide and hard work on the ground have been essential to slowing the spread of miconia (*Miconia calvenscens*) in Hawai'i, and helping prevent the disastrous consequences of invasion visible in Tahiti. But managing miconia in the long term is going to require help of another sort: specialized natural enemies imported from miconia's native range. Since the early 1990s, biological control researchers have been in pursuit of insects and pathogens that might restore balance to Hawaiian ecosystems and slow the unfettered growth and reproduction of miconia.

The challenge for our biocontrol workers is to identify which species, out of roughly 200 found attacking miconia in Central and South American rainforests, have the greatest potential for controlling miconia without



Kenji Nishida

Sap-feeding psyllid *Diclidophlebia lucens*

threatening other plant species in Hawai'i. Initial surveys and studies were based primarily in Brazil and Costa Rica. Even finding *M. calvenscens* in these countries is difficult, presumably due to the impacts of its many natural enemies that keep it in check. The search for biocontrol agents has narrowed to perhaps a dozen species of insects and pathogens that appear likely to significantly damage miconia and remain host-specific. Some of these potential biocontrol agents are currently being reared in specialized state and federal quarantine

laboratories in Hawai'i, where they are evaluated for their ability to feed and develop on a range of plant species.

Observations so far indicate that several potential agents are restricted to a narrow range of host plants including *M. calvenscens* and a few of its close relatives in the melastome family. Because there are no native or economically important melastomes in Hawai'i, host-specificity is not expected to be a major obstacle for miconia biocontrol. The biocontrol agents that carry low risk of unintended negative effects and high probability for beneficial impacts against miconia will be proposed for release. The decision to release a biocontrol agent is made by state and federal regulatory agencies in consultation with local experts and the public. The process for collecting, rearing, testing, and regulatory evaluation of each potential biocontrol agent is arduous and typically takes many years.



Kenji Nishida

Fruit-feeding weevil
Anthonomus monostigma

A fungal leaf-spot pathogen released in 1997 is the only natural enemy introduced against miconia to date. This fungus is now widespread on miconia in Hawai'i and may reduce survival of seedlings. Releases of the first of several additional agents are probably two to three years away. Two additional pathogens, a fungus causing pimples on leaves and a nematode that deforms new shoots and leaves, are currently being evaluated at the Hawai'i Department of Agriculture in Honolulu. Two insect species are being studied by the USDA Forest Service on the Big Island, with several additional insects in Costa Rica and Brazil awaiting further work. A variety of insect species will be studied with the goal of developing agents that attack miconia in multiple ways. The most promising insect agents include large stem-boring weevils, butterfly caterpillars that devour leaves, and tiny weevils, wasps and other species that attack flowers and fruit.

An effective miconia biocontrol agent will add another tool to the arsenal in the battle against miconia.

Dr. Tracy Johnson has worked for the USDA Forest Service Institute of Pacific Islands Forestry since 2000 as a Research Entomologist charged with developing insect agents for biocontrol of weeds in Hawaiian forests. Current targets include strawberry guava, cane tibouchina, and miconia.

The Musical Men of MISC

By Lissa Fox
MISC Field Worker

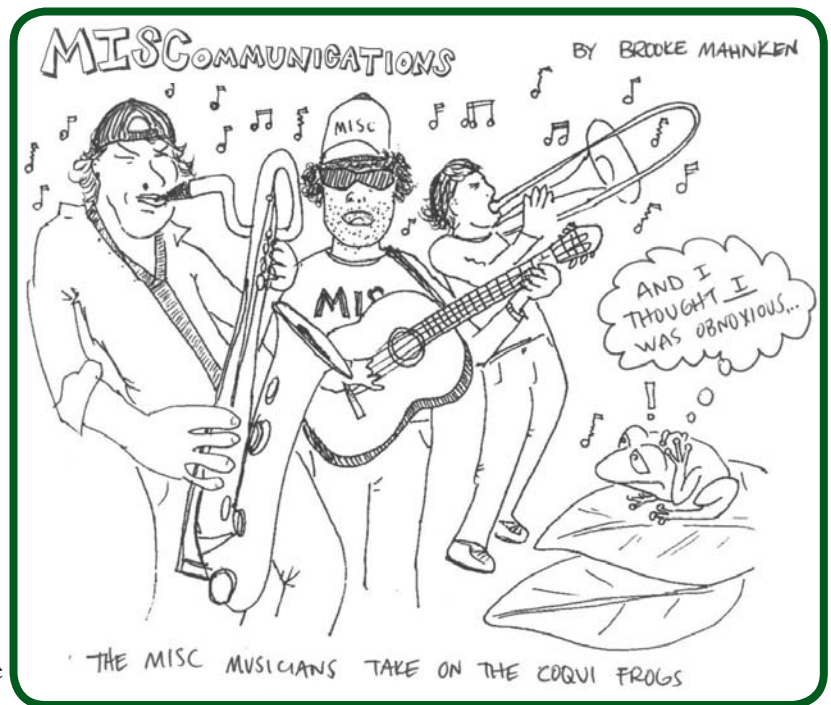
With 28 people, the staff of MISC is incredibly diverse, but after spending time with any of them you quickly notice a trend: these guys rock - literally. Whether you're meeting friends at an upcountry bar, escaping to a movie on the beach in Wailea, hanging out at Hāna Bay over the weekend, or just cruising around with the radio on, chances are pretty good you're tuning into a MISC musician. Our field crew boasts of a couple of rock stars and quite a few back yard crooners - each with stories as diverse as they are.



Scott Heintzman,
Field Worker/Musician

Take trombonist Scott Heintzman for example. He is the most energetic member of the plant crew. That energy may be the only way he keeps up with his busy schedule. It's not unusual for Scott to start his day at dawn in a tent in the mountains and end at 3 a.m., bouncing up and down with the horn section of his reggae band, Conscious Healing. This Maui-born musician started playing trombone in the 6th grade and hasn't stopped. "Music is super-fun," he says. "It's my meditation, I love performing 'cause I get fed from the crowd." He confesses to not enjoying music at first, but stuck with it long enough to teach himself to play his grandfather's old guitar. He soon moved on to bass, drums, and his favorite, piano, which he calls "every instrument in one." After high school Scott considered becoming a band teacher, but a Hawaiian botany class opened his eyes to the conservation field.

Floyd Helekāhi is the most melodious member of the miconia crew. At age 11 he teamed up with his classmates in a group called the Backyard Boys. With a mischievous glint in his eye he recalls his first practice session. "We would sneak into the band room, me and four other boys," he says. They played, instructor present or not,



because they "just decided to." Growing up in Hāna, Floyd was surrounded by music but was the only one of eight siblings to become a musician. Old Hawaiian songs are his favorites, particularly "Koali," the *mele pana* made famous by former Backyard Boy Pekelo Cosma. Floyd previously played in several bands in Hāna, notably as the drummer for the Paniolos; now he's content to fill in on occasion. To hear Floyd in person you have to be in the right place at the right time. Catch him playing 'ukulele down at Hāna Bay or at a lū'au. However, his clear falsetto voice can be heard almost daily in the rainforest as he sings a cappella on the miconia sweep line.



Floyd Helekāhi, Hāna Miconia
Field Worker/Musician

Chris Candito would have definitely been one of Floyd's Backyard Boys had he grown up a few years earlier and a few thousand miles closer. He's a blues and bluegrass influenced folk musician who has dabbled in heavy metal. Back in New Hampshire, his father and aunt played guitar and sang. At age 14 Chris got his first guitar and started lessons with Nick Bird, a 93-year-old bluegrass musician. He continued with lessons off and on throughout high school and played in a diverse range of bands, mastering bass and electric guitar. Chris now considers himself more of a lounge guitarist, the mellow musician in the corner. He's made several recordings,

See Musical Men on page 11

Committee Member Spotlight

Jeremy Gooding: Good News for MISC, Bad News for Miconia

By Teya Penniman
MISC Manager

On ranch lands just *ma uka* of Hāna town, a large map of East Maui is spread out on the picnic table. Two yellow helicopters wait 100 feet away. The pilots and MISC crew are gathered around the map, which divides the watershed into a grid system. In the midst of it all, and maestro for the day, is an animated man in a bright orange flight suit. Jeremy Gooding's short-cropped curly hair, dark tan, and mischievous eyes hint at his fondness for play, especially in Maui's waters. But today he is orchestrating the miconia aerial show. Jeremy has been the inter-agency Incident Commander for miconia operations since 2002; he knows the landscape and the history of miconia control efforts extremely well.

"We're focusing on Olopawa." A sweep of the hand covers labeled areas on the map. "If you run out of targets in that area, hit the *ma uka* section of the core." The spotters who are flying with the pilots pick up the GPS units that will record each helicopter's path and the locations of all plants controlled on this run. Within minutes the two birds are airborne, off on another mission.

How did a Waimānalo born-and-raised boy end up battling the purple plague on Maui? Jeremy came to Maui to lead the National Park Service's Exotic Plant Management Team for Hawai'i. He arrived with a degree in Resource Management from Colorado State University, several years' experience with the Big Island Natural Area Reserve program, and background in vegetation monitoring and feral ungulate control at Hawai'i Volcanoes National Park. His work in the Kipahulu area expanded his knowledge of the East Maui landscape and further developed his expertise in invasive plant control techniques. When Haleakalā National Park committed to an expanded miconia operation, Jeremy was tapped to manage the inter-agency effort.

He has an impressive grasp of what it takes to get the job done. "It's both a ground and aerial operation," Jeremy



Jeremy Gooding,
Miconia Operations Incident Commander

explains. "We need both to be successful." Explaining the miconia strategy is something he does frequently and well. Jeremy is often tasked with showcasing the Maui strategy to visitors from key funding agencies, legislators, and members of the media. He regularly speaks at regional and national meetings of resource managers. The Maui operation also serves as a training ground for crews from other islands who are working to prevent miconia from spreading across the island chain.

An aerial overview for those unfamiliar with the project includes time spent in the "core" where plants are easier to find, familiarizing the visitor with the search image. "Right below us – see it? The purple undersides of the leaves are visible with the propeller wash." A trip outside the core into one of East Maui's spectacular gulches engenders a not-too-heartfelt apology for the absence of visual targets. "It's getting hard to find the plants now," he laments while pointing out "ghost miconia" – the places where miconia plants have met their demise. The lack of targets in the peripheral areas is an excellent indication that the expanded strategy is working.

Back on the ground, another map shows just how thorough the process is. Inside each cell of the grid are colored lines that show helicopter flight lines, methodically sweeping back and forth until the cell has been completely covered. "We like it when the pilots color within the lines," Jeremy says.

Given the success he's seeing, what does Jeremy see as the biggest challenge to the miconia program? "It's hard to think ahead when you don't know what the funds will be from year to year." It's clear to him that keeping a long-term view will be as important as continuing to chalk up the daily victories. Also clear is that Maui is lucky to have Jeremy Gooding helping to chart the path, even though some days he might rather be out paddling, fishing, or surfing those blue waters.



Miconia seed heads can drape over roadsides, increasing the rate of seed dispersal by passing vehicles which spread the pest elsewhere around the island.

Miconia is a state noxious weed. Originally from South and Central America, it grows in wet to temperate forests from 1,000 to 6,000 feet elevation. Tiny miconia seeds are easily transported by birds, animals, muddy shoes, vehicles, and equipment. A small tree in its natural home, miconia can reach as high as 50 feet in Hawai'i.



The Purple Plague of East Maui

WHAT IS MICONIA? WHY IS IT A PROBLEM?

In the dense, multi-tiered forests of Central and South America plants compete for light and ground area. *Miconia* (*Miconia calvenscens*) starts life as a tiny, velvety seedling. It quickly unfolds enormous, quilted leaves with purple undersides designed to capture and maximize sunlight. It reproduces quickly too, scattering 10-20 million seeds annually in hope that some will survive. In its natural range, miconia is kept in check by competition, disease, and native predators. It's not a problem; it's not even very common.

In Hawai'i, it's an altogether different story. In the 1960s, someone brought this innocent-looking exotic plant to a garden in Hāna. Since then, miconia has earned a nasty reputation as the most invasive and ecosystem-modifying of all tropical weed species. Scientists consider it the greatest threat currently facing Hawai'i's native rainforests and watersheds.

Miconia is certainly not the sole culprit in the potential degradation of our watersheds. However, it has unique potential to create shallow-rooted monotypic stands devoid of all other plant life within a single human generation. The end result of a miconia invasion includes increased runoff, massive soil erosion, and damage to coral reefs due to sedimentation. Unfortunately, this sad fate has been observed in Tahiti, where miconia now covers 75 per cent of the native forest area.

CURRENT STATUS

After biologists discovered miconia on Maui in 1988, they rallied to eradicate it. No sooner had the volunteer crew finished then a larger population was detected in the wild. Miconia had gained a foothold in some of Maui's most challenging terrain: stretches of wet, tangled wilderness punctuated by sudden cliffs, loose rocks, and streams prone to flash floods. Aerial spot sprays began. Roads were bulldozed through the "core" - the most heavily infested area. The Maui Invasive Species Committee grew out of this original effort.

1960s
Miconia first introduced to Hāna.

History of Miconia Operations in East Maui



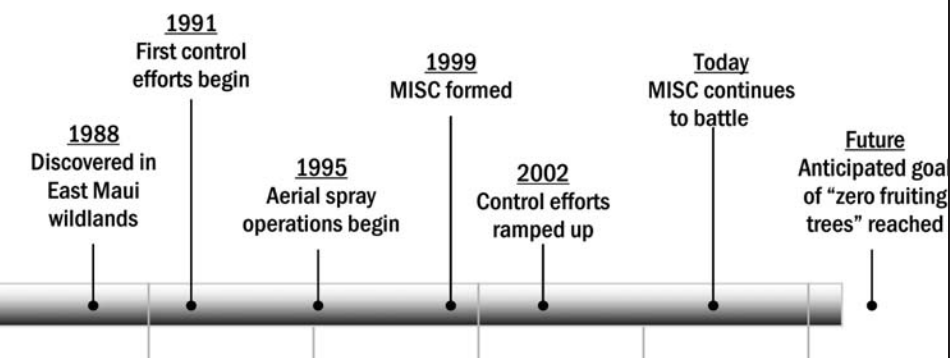


The miconia footprint, or infested area, is estimated to be approximately 39,000 acres on Maui. Over the last several years, the operation has significantly expanded, both in scope and sophistication. Thanks to numerous partner agencies, MISC's reach over miconia has broadened.

Six full-time MISC field employees fight miconia daily. An additional crew of eight logs one-third of its hours on miconia. GPS tracking and integrated GIS-database generated maps guide operations. Strict decontamination protocols prevent further seed dispersal. Helicopters search for and spray hard to reach plants. Meanwhile, ground crews slog through windward Maui forests, conducting extensive sweeps from Hāna all the way to Huelo.

The goal is to render miconia functionally extinct by interrupting its reproductive cycle. Management units have been created and systematically surveyed, ensuring thorough coverage and allowing for future comparisons over time. Since plants reproduce at four years, these units are revisited at least every three years. MISC employs a "containment" strategy similar to fire-fighting techniques. Major infestations are surrounded and worked on from the outside in. Once plants in the boundary areas are effectively controlled, crews can turn to the still-smoldering hot spots within.

See **Purple Plague** on the next page.



Miconia 101

Miconia identification

- Leaves are extremely large, averaging 3' long and 1' wide
- Leaves are dark green on top and purple on the underside
- Leaves have 3 prominent leaf veins
- Flower clusters are tiny and white to pink
- Berries are dark purple



One miconia tree can produce 10-20 million seeds annually!

What miconia does

- Miconia's large leaves deprive other plants of sun.
- It replaces existing forest habitats.
- Miconia's shallow root system:
 - increases the likelihood of landslides and erosion,
 - produces soil runoff that contaminates streams and coral reefs, and
 - prevents groundwater from recharging the aquifer.

What you can do

- Learn how to identify miconia.
- Never import or plant miconia.
- If you find miconia, report the location to MISC at 573-6472.
- If you have miconia on your property, call MISC and allow us to control it free of charge.
- If you're able to control it, please do so and let MISC know of its location.

LOOKING TO THE FUTURE

The lofty goal of “zero fruiting trees” is yet to be reached. However, progress toward that aim has been significant. The vast majority of seeding trees in outlying areas has been eliminated. We’ve stopped the spread; now we’re starting to clean up the primary infestations.



We now know that combating miconia is a long-term project. A challenge for the coming years will be controlling the massive recruitment of seedlings in areas where large, reproductive plants have been removed. Fertile miconia seeds persist in the soil for at least 10 years. When these new seedlings pop up, the MISC crew will be waiting. While the effort and cost involved in containing this fast-growing plague is considerable, our healthy forests are worth it. Fifty years from now, our children won't have to imagine the way the forests looked before the miconia invasion; they'll see it for themselves.

Island Hopping: Moloka'i

MoMISC is Mo' Bettah

By Shannon Wianecki
Editor

Shortly after MISC began battling Maui County's invasive species, managers realized that Moloka'i - with its pristine forests and wild coastline - was a little beyond their reach. Thus a Moloka'i-based committee was born, with a hip-hop sounding moniker.

Since October of 2000, the Moloka'i/Maui Invasive Species Committee (MoMISC) has diligently protected the Friendly Isle from alien invasion. The committee's stated focus is to “prevent and control incipient pest infestations through local communication, coordination and planning.”

That mouthful of words comes across rather more convincingly in person - especially when the person speaking is Lori Buchanan, the driving engine behind MoMISC's daily operations. “Aunty” Lori is a generous, forthright powerhouse who adds her own special twist to the committee's focus.

Lori is one half of the island's small but potent field crew; Kamalani Pali came aboard in July 2005. Together, Lori and Kama fight gorse, Australian tree fern, New Zealand flax, pampas grass, giant reed, Barbados gooseberry, fountain grass, long thorn kiawe, Mexican poppy, rubber vine, and banana bunchy top virus (BBTV).

MISCellaneous Files

Travel the Ferry, please be wary!

Dear Dr. MISCellaneous,

I'm a really athletic person and want to get the full experience when I visit Maui. I'm looking forward to snorkeling Molokini, hiking in Haleakalā, and maybe I'll even do a little hunting in East Maui. I've purchased my Superferry ticket and have my car packed with all my gear. Is there anything I should know before my trip?

Kaipo Holoholo

Aloha Mr. Holoholo,

Thanks for asking! Yes, there are a few simple things that you can do to help protect our islands. Before you travel, make sure to power wash your vehicle, especially the undercarriage, to dislodge mud that may carry invasive plant seeds or coqui frogs. And it's always good practice to keep your gear clean. Unwanted pests, such as invasive seaweeds and plant seeds, can attach to mud and debris on your snorkeling, hiking, or hunting gear. Finally, if you come across a boot scrubber at the beginning of a trail while you're hiking, by all means use it. This helps to dislodge any weed seeds that may be caught in the crevices of the soles of shoes. By doing these simple things, you're helping to keep invasive species out of native environments.

Mahalo! Dr. MISCellaneous

Even more impressive is the list of nasty pests they *don't* have to fight: miconia, ivy gourd, fireweed, inkberry, Himalayan raspberry, apple snail, stinging nettle caterpillar, fire ant, and coqui frog.

The absence of these species on Moloka'i is not accidental; rather it's largely due to the excellent rapid response and prevention efforts of the MoMISC team. Unfortunately, many weed seeds hitch rides from Maui and O'ahu by plane or ferry. Imported cattle present a special problem - seeds are carried in their digestive tracks as well in muddy hooves and fur. Moloka'i lacks HDOA inspectors to oversee and prevent these potential disasters.

Nevertheless, MoMISC's sustained efforts have kept many pests from becoming established on Moloka'i. The few coqui frogs that made the trip to the Friendly Isle were quickly silenced. Fountain grass hasn't been recorded on the island for more than a year. MoMISC staff has logged numerous hours in the air, surveying Moloka'i's rainforest for miconia; none found. If only all islands could be so lucky!

Recently the State Highways Division lent a hand digging up a stubborn patch of giant reed with a backhoe. The area was replanted with native species: *ma'o*, *aki'aki*, and *naupaka*. The Youth Conservation Corps jumped in on Barbados gooseberry control in Hālawā. Gooseberry has proven difficult to suppress. "It's like 'Night of the Living Dead,'" says Lori. "It grows in the air." Even when the pesky plant is severed near the root, it continues to grow in the tree canopy.

MoMISC's success depends on a creative approach to public outreach. For Lori, it entails penning a column for The Nature Conservancy's (TNC) Moloka'i newsletter that is both funny and adamant about protecting the island's natural resources. It also might require personally making calls on neighbors, to ask them to remove Australian tree fern from their yards.

Coordination and planning is different on an island where everybody knows everybody, infrastructure is simple, and community spirit runs high. Lori and Kama are by no means the only ones responsible for MoMISC's success. Like all of the ISCs, MoMISC has depended on a great many players from the start. Kalaupapa National Historic Park biologists, field techs, and endangered plants specialists contribute plenty of *mana'o* (thoughts). The

Department of Transportation provides a kiosk in the airport. TNC donates office space, plant identification expertise, and day-to-day oversight. TNC Director Ed Misaki serves as the MoMISC chair.

The other ISCs have expressed admiration for the way MoMISC enlists help from other agencies. What's their secret?

"We're very persuasive," says Lori. "We just use our charm...whatever it takes."

A prime example of successful partnership is with the USDA-Plant Health, Plant Protection Quarantine workers at the airport. The flight schedules mean the afternoons are available for survey work on such species as BBTV and gall wasp. Says Lori, "We give them maps and GPS units and suggest where to look for targets." She laughs. "It's good for us because they look official." (Sometimes a uniform is what it takes.)

"I always seek advice when I know I need it," says Lori. Luckily, she has a wealth of experience to draw from within the committee. "All capable, common sense plant people," she calls them. And of course, there's always MoMISC's sister organization. Lori says she can count on MISC for anything. "We're not separated by anything more than water. It's a great marriage." In the past, Aunty Lori has thought nothing of hosting the entire MISC crew at a family house. After a long day assisting MoMISC in the field, the hungry workers arrived to find a pot of stew waiting on the stove.

Lori says the best part about her job is getting to see results. "We're getting paid to *mālama ka āina* - take care of the land," she says. "What could be better?"

MoMISC is definitely one of the many reasons why Moloka'i is *mo' bettah*!



Lori Buchanan and Kama Pali, MoMISC

"It's like 'Night of the Living Dead,'" says Lori. "It grows in the air."



Tanya Vasquez,
Miconia Decontamination Aide

"I'm here to support the hard work of the six-man field crew. They deserve a lot of thanks for the work that they do and this is my way of doing my share."

Meet Tanya Vasquez, the Decontamination and Logistics Queen

So what happens to all the gear that the Hāna miconia workers use in the field? Well it doesn't get put directly into their washer at home. Instead, it needs to be specially handled to avoid spreading miconia seeds elsewhere and that's where Tanya Vasquez comes in.

She's been working diligently since 2000 to be sure that the field worker's efforts aren't wasted. She is the queen of decontamination and crew logistics, and helps with the administrative responsibilities in East Maui. With Tanya's assistance, miconia gear is kept in tip-top-shape, communication between the Hāna and Pi'iholo baseyards is streamlined, the crew's hours are logged, and things get done. She is definitely a multi-tasker which makes her such a great asset to MISC.

Giving Back continued from page 1



Darryl Tau'a,
Hāna Miconia Field Worker

he has walked hundreds of miles of forests (an added exercise bonus), has learned to properly use herbicides, and is trained to rappel from cliffs to access difficult-to-reach miconia plants.

Field worker Darryl Tau'a has seen the changes throughout his seven years with the operation. "At first, I thought the project was far-fetched and that they were out of their minds. At that time, we were dealing with 40 foot miconia trees, like how they have on the Big Island." As time continued, this Ke'anae resident saw the project progress and his conviction has grown.

Together with his crew,

But not all of the work is on the ground. On the days when the hunt for miconia occurs by air, long-time crew member Elroy Krause can be found at the LZ (landing zone) making sure the helicopters are quickly and safely refilled with fuel and herbicide. Fellow crew member Floyd Helekāhi looks forward to the tasks that take the crew to other islands, such as Lāna'i, Moloka'i, and Kaho'olawe, where MISC controls an array of invasive species. The diverse skills and experience gained by the miconia workers on off-island projects only enhance their ability to get the job done back at home.



Elroy Krause,
Hāna Miconia Field Worker

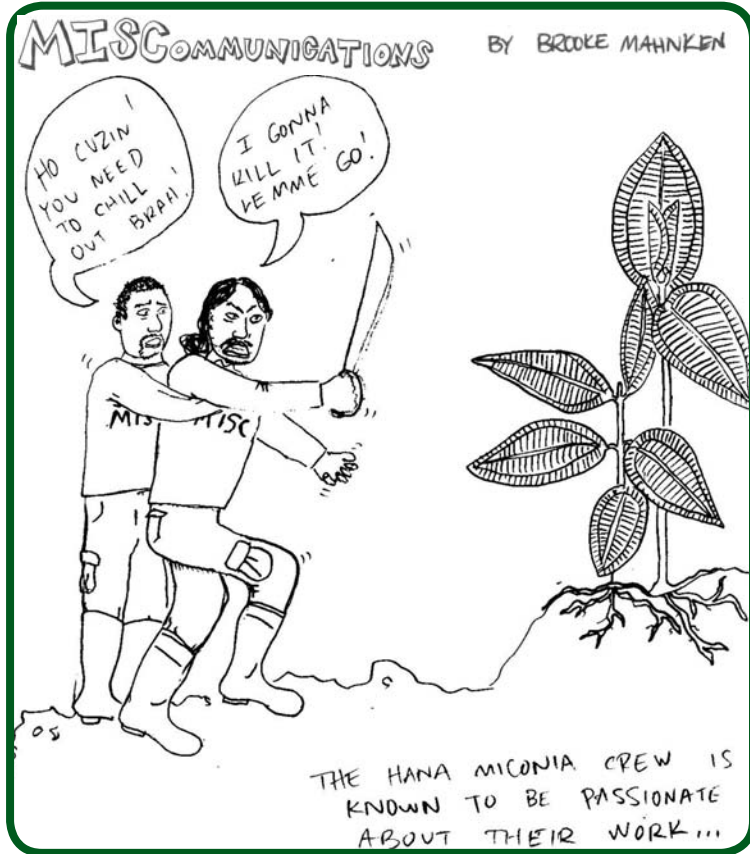


'Imi Nelson and Chad Smith,
Hāna Miconia Field Workers

And they are getting it done - one acre at a time - but sometimes find the work challenging in unexpected ways. Field worker 'Imi Nelson observes, "some days, we find choke plants and can stay all week,

but when got less plants, we go through 'em fast." Uncle Sam explains that his crew of six full-time workers can get frustrated because they are finding fewer plants in the areas that they search, but that's a blessing in disguise and the goal of MISC's miconia control work. "If never have us, then we'd have so much miconia all over," says Chad Smith, a four-year veteran of the field crew. "I like being in the mountains. Before, I didn't care much, but if no can go hunting, then that's no good. I like kill 'em, so the miconia no take over our forest."

For these Hāna miconia field workers, saving the 'āina is their main motivator. Many are hunters who live off the land; their families depend on the bounty. By being persistent and dedicated to the control of miconia, they are making a difference. Looking toward a positive future, Darryl points out, "When I get old and my grandkids ask, 'why didn't you take care of this back then?' I want to say that I did."



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his favorite being the 2002 "White Mountain Recordings," a series of acoustic guitar covers of classic folk music and originals. It epitomizes his recording goal: "To capture pure emotion in the moment."

Chris has an environmental science degree and has managed to combine his passion for music and conservation. "It felt good to tie it all together," he says about his collaboration with Abe Vandenberg for the score of the recent British Broadcasting Corporation (BBC) documentary, "Message in the Waves." The movie profiles marine conservationists in Hawai'i and their fight to educate people about the effects of plastic in the ocean. Chris hopes to continue to work with the BBC filmmakers.

"It's just meant to be," says frog crew member Abe Vandenberg about the number of musicians at MISC. For this West Virginia native who wants to "give back



Chris Candito and Abe Vandenburg,
MISC Field Workers/Musicians

and add to it [the environment], rather than throw it away," working at MISC has been a stroke of serendipity, musically. The talented saxophone and piano player, guitarist, drummer, and vocalist found himself recruited into Conscious Healing with Scott Heintzman, where he added his alto sax to the horn section. Working with a successful band has inspired Abe to pursue his own solo projects. He has launched his own production company, Abeslogic, developed a website, and recorded 3 CDs in addition to what he's done with Conscious Healing. His musical influences are "whatever speaks to him," everything from Phish to Debussy, John Coltrane, African beats, and the Star Wars soundtrack. Recording the "Message in the Waves" soundtrack was another coincidence brought about by his passion for conservation. Chris and Abe met the filmmakers through a former MISC co-worker. So whatever fate may bring, there's no doubt that this talented musician will continue to make himself heard.

So the next time you head out for a night on the town, tune in the radio, or find yourself at Hāna Bay, remember this: you may be listening to a musician whose passion extends beyond music. And why are there so many musicians at MISC? Chris Candito summed it up: "Conservation just attracts cool people."

If you would like to check out the musical men of MISC, here's a few places that you may find them:

Scott: Conscious Healing CDs sold at local music stores or playing at a local bar.

Chris: Listen to Mana'o Radio, 91.5 FM.

Abe: Check him out with the Conscious Healing band at a local bar or at www.abeslogic.com.

Floyd: Down Hāna Bay under a kamani nut tree with his 'ukulele.

All: Cruising in the forest as they control invasive species.