

# Environment



# Hawai'i

a monthly newsletter

Price: \$5.00

## *Hedging One's Losses*

When it comes to shorelines, Mother Nature can be fickle. What's a wide beach one day can practically disappear the next.

And when the buildable area of a shoreline lot depends on fixing a line in the sand, it's all too tempting to give nature a hand — planting salt-tolerant vegetation, putting in irrigation lines, and extending what appears to be a private lawn into what had been a public beach.

Our cover article and sidebar look at instances on the North Shore of Kaua'i where such practices are said to have occurred. With a newly minted law on the books, perhaps efforts to artificially set the shoreline will be a thing of the past.

Also in this issue, we survey recent developments in the battle against invasive species — specifically, albizia and strawberry guava. And we review the most recent book of erstwhile island researcher Robert Cabin, who continues, years after leaving Hawai'i, to judge what's wrong and right with restoration efforts here.

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## Efforts to Clear Encroaching Vegetation Ramp Up Along Kaua'i's North Shore

Caren Diamond halts her trek along the shore and peers through dense thickets of naupaka and heliotrope to a man working in his backyard. She warns that if he sees us walk past, he might say some nasty things about her.

Sure enough, he sees us, and he does.

"I hope you don't believe everything she tells you," Gary Fischer bellows as he marches toward us. He goes on to describe Diamond as a madwoman whom he's caught yanking up plants from the beach fronting his house.

For decades, Diamond, a longtime resident of Kaua'i's North Shore, together with attorney Harold Bronstein, have been the most stalwart protectors of public access along the beaches at Wainiha and Ha'ena, where owners of multimillion-dollar houses have planted and artificially enhanced and maintained salt-tolerant vegetation below the shoreline to extend their lots and keep the

public away. The result has been that houses have been built too close to the ocean, and during high tides or high surf the public cannot safely walk along the shore. Even when the tide is low, the countless "Kapu" and "Keep Out" signs posted in and around the plantings make members of the public feel like interlopers on their own beach.

Over the past several years, Diamond and Bronstein have together successfully fought the shoreline certifications of a number of these lots and are currently awaiting a decision by the Hawai'i Supreme Court in another. (More about that appears elsewhere in this issue.) They've garnered a lot of resentment, as well as fans, for their efforts.

Diamond says she rarely walks the beach now — it's too depressing and she doesn't want to deal with the hostility from some of her more rabid foes. But last month,

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Caren Diamond surveys the first area on the North Shore of Kaua'i to be cleared of vegetation under Act 160 of the 2010 legislative session.

# Environment



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Volume 24, No. 1

July 2013

## NEW AND NOTEWORTHY



**Undocumented Birds:** There's a new bird on Maui, and it arrived without any by-your-leave from the state. The golden pheasant (*Chrysolophus pictus*) was probably brought into the state sometime in the early 1990s and is now breeding in Waikamoi Preserve, managed by The Nature Conservancy of Hawai'i,

and likely the state's Hanawi Natural Area Reserve as well.

In an article in the April issue of *Pacific Science*, Ruby Hammond, of the Biological Sciences Department in Northern Arizona University, reports on what she was able to learn about the release of the species through discussions with researchers, land managers, and hunting guides. The first sighting of a golden pheasant at Waikamoi was made in 1996, she writes, and the first evidence of breeding in the wild came in 2010, with the collection of a juvenile male.

A male bird was detected in the area of Manawainui, part of Haleakala National Park, about 7 miles from the preserve, in 2005 and 2006, although it has not been seen since, she writes. Starting in 2008, biologists with the Maui Forest Bird Recovery Project began to see golden pheasants at Hanawi.

Hammond speculates that the initial release occurred at Waikamoi, which is far closer to a public recreation area than the two other sites. The present range of the birds today is around 40 hectares at Waikamoi and 6.5 hectares at Hanawi, she estimates.

The species is native to the mountains of Central China. As early as 1865, bird fanciers in Hawai'i introduced it to O'ahu and Kaua'i, but it never became established. Hammond notes that it was also introduced – without success – to Canada, New Zealand, Colombia, Tahiti, as well as Washington, California, Oregon, Texas, and Illinois. Only in Great Britain did the introductions meet with some limited success, she writes.

The male of the species has striking plumage, with a gold head and scarlet body. Its tail accounts for two-thirds of its total length, which can be up to a meter. Female coloration is much more subdued.

**Shift In Big Island Planning Dept.:** Bobby Jean Leithead-Todd, who served four and a half years as the Hawai'i County Planning Department director, is returning to the position she held before, that of director of the county's Department of Environmental Management.

As readers of *Environment Hawai'i* will know, Leithead-Todd made several highly controversial decisions. These include her approval of a planned unit development for Waikaku'u (overturned by 3rd Circuit Judge Ronald Ibarra), another PUD approval for Puako 1010 (which, challenged by the Mauna Lani Resort Association, is now being withdrawn), and her lax oversight of developer Scott Watson.

Replacing her as the Planning Department's head will be Duane Kanuha. He served in that post some 20 years ago and has since then been advising developers in North Kohala. Kanuha was also appointed by former Governor Linda Lingle to the state Land Use Commission. He was one of just two commissioners who voted against reversion of the 'Aina Le'a land to the state Agriculture District.

Kanuha's presence on the LUC was the subject of a lawsuit when, after the state Senate refused to approve his nomination, he continued to participate in decisions. His vote on the Koa Ridge development in 2010 was decisive. The Sierra Club, Hawai'i Chapter, appealed the approval because of Kanuha's participation. (A Circuit Court judge agreed with the Sierra Club – but the LUC later went on to approve the project when it came before the commission again.)



Bobby Jean  
Leithead-Todd

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*Environment Hawai'i* is published monthly by Environment Hawai'i, Inc., a 501(c)(3) non-profit corporation. Subscriptions are \$65 individual; \$100 non-profits, libraries; \$130 corporate. Send subscription inquiries, address changes, and all other correspondence to *Environment Hawai'i*, 72 Kapi'olani Street, Hilo, Hawai'i 96720. Telephone: 808 934-0115. Toll-free: 877-934-0130. E-mail: ptummons@gmail.com Web page: <http://www.environment-hawaii.org> Twitter: Envhawaii

*Environment Hawai'i* is available in microform through University Microfilms' Alternative Press collection (300 North Zeeb Road, Ann Arbor, Michigan 48106-1346).

Production: For Color Publishing

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ISSN 1050-3285

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### Quote of the Month

"Probably ... 50 percent of the people who buy a lot with albizia buy it precisely because of the albizia trees."

— Mary Begier, Realtor



## Behind Albizia's Beauty Lurks A Multitude of Undesirable Traits

Beauty isn't always skin deep. It's an adage worth keeping in mind when discussing the albizia tree (*Falcata moluccana*) that is ravaging Hawai'i forests and, more and more, residential neighborhoods as well. It's a gorgeous, stately tree to behold from afar. The graceful, spreading branches of mature trees reach skyward to nosebleed heights and cast into shadow up to an acre or more of land. A grove of albizia can, and frequently does, cover an area best measured not in square feet or even in acres, but in square kilometers, visible from miles away.

Up close, the tree is not quite as benign. Despite their apparent majesty, albizia trees have shallow roots and brittle-as-glass limbs, qualities that make them unwelcome neighbors and out-and-out menaces along highways and utility lines. At least one person has died while trying to cut down a mature albizia tree and several lawsuits have been filed in an effort to get landowners to take down trees that are putting the lives and property of neighbors at risk.

Testimony submitted on a resolution aimed at developing albizia control measures provides some idea of just how few friends albizia has in Hawai'i. Earlier this year, when the Senate held hearings on a resolution urging the Hawai'i Invasive Species Council to develop a strategy to control albizia, of the dozens of people submitting testimony, just one person — among the dozens testifying — opposed albizia control. Not even Sydney Ross Singer — champion of the coqui, mangrove, and waiawi — stood up for albizia. The measure, which was adopted as Senate Resolution 41, urges the Hawai'i Invasive Species Council “to develop and implement a comprehensive interagency plan for the control and eradication” of albizia and “to find partners to utilize the albizia trees that are removed,” and calls on the state Department of Agriculture to investigate biocontrol agents targeting albizia.

Albizia is a pest on all of the larger islands of Hawai'i. On Kaua'i, when a canopy of albizia grew over Kuhio Highway, the state Department of Transportation spent more than \$1 million to remove approximately 1,500 trees along a single mile of roadway. According to albizia expert Flint Hughes, of the U.S. Forest Service's Institute of Pacific Islands Forestry in Hilo, the DOT estimates that more than 40 percent of its damage claims involving falling trees and branches are

caused by albizia. Even where the trees are distant from the roads, Hughes wrote in his testimony to the Senate, “they are considered problematic and hazardous because limbs can fall into waterways and accumulate against bridges, potentially causing flooding and physical damage to critical infrastructure.”

“In addition,” he continued, “natural events such as hurricanes or storms often cause extreme damage to [albizia] stands, which in turn contributes to road closures, electrical outages, and property damage... It is currently estimated that there are between 50 and 100 miles of state roads along which [albizia] populations are maturing, growing in size, and reaching high densities.”

### A Success Story

On May 31, Sen. Russell Ruderman, who represents the Puna district of the Big Island and who introduced the resolution, convened a meeting of community representatives, agency officials, and others interested in addressing the problems posed by albizia.

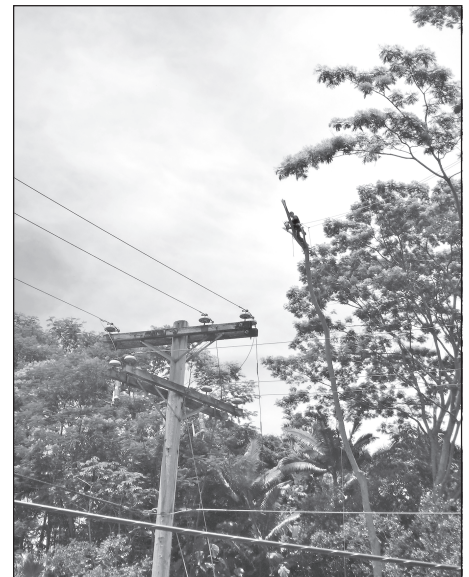
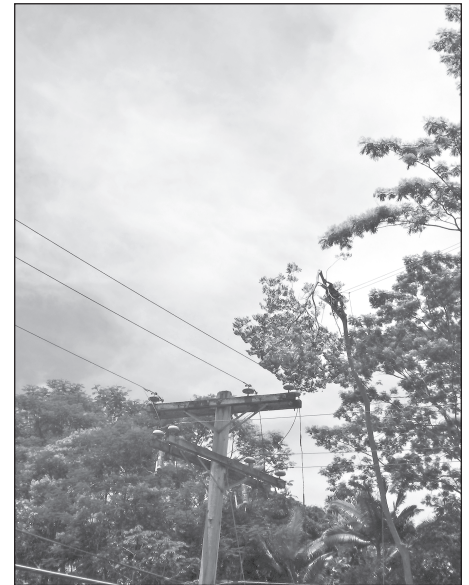
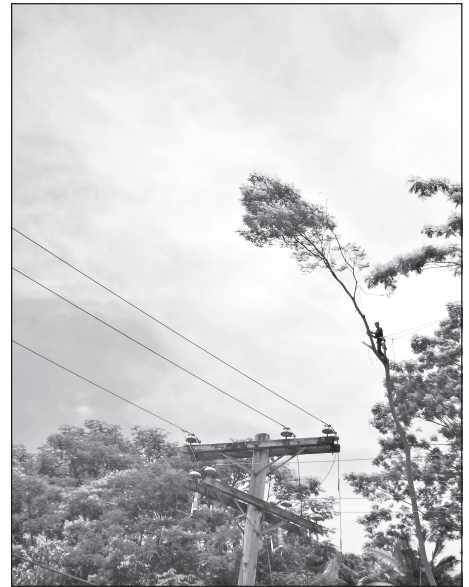
Among those attending were residents from the small community of Pi'ihonua, just mauka of Hilo along the Wailuku River. Plagued by blocked roads and flooding caused by downed albizia limbs, the community got together with Hughes and James Leary, an expert in pesticides with the University of Hawai'i College of Tropical Agriculture and Human Resources.

The result was the development of a successful “hack and squirt” method of killing mature albizia trees. According to Julie Tulang, “in one day, in a matter of three hours, and working in teams of two, the community was able to ‘euthanize’ 400 trees.” Teams would cut gashes in the trunks of mature trees — one gash for each six inches of diameter — and then put eight to 10 drops of the herbicide Milestone in each gash.

According to Springer Kaye, manager of the Big Island Invasive Species Committee, “it costs just \$3.50 to kill a tree — 50 cents worth of herbicide, \$3 worth of labor.”

After the trees died, Tulang said, the community was concerned there would be new trees coming up in their place. However, “there was a good understory of grasses, which came back in even thicker after the albizia was dead.”

Kaye added that within a year and a half of the trees being poisoned, “you eventually get



Contrary to the advice of professional arborists, this tree-trimmer has climbed high to cut back this albizia tree in Hilo. To be sure, he was secured by safety lines — anchored to an adjoining albizia.



## All About Albizia (*Falcata moluccana*)

### *What is albizia's native range?*

It is native to the Moluccas, New Guinea, New Britain, and the Solomon Islands.

### *When did it arrive in Hawai'i?*

It was brought to the islands in 1917 by noted Hawaiian botanist Joseph Rock as one of several species that were intended to reforest areas of Hawai'i that had been denuded by livestock, logging, and other human activities.

### *How many trees were planted?*

From the early part of the 1900s to the middle of the century, territorial foresters planted approximately 140,000 albizia trees on all islands.

### *How fast can it grow?*

Albizia is considered the fastest-growing tree species in the world, capable of growing 2.5 centimeters (more than an inch) a day. That translates to nearly a yard a month. Rock praised the tree for its rapid growth, noting that "trees nine years old had reached a height of over a hundred feet, a rapidity of growth almost unbelievable."

### *How long does it live?*

Rock believed the tree to be short-lived, but, "as it is an abundant seeder, there should always be a good stand of this tree present." In fact, trees planted by Rock nearly a century ago are still going strong on the grounds of the Lyon Arboretum.

### *What is its effect on native forests?*

Disastrous. 'Ohia, perhaps the single most important plant in any Hawaiian forest, dies out in the presence of albizia. (For details, see "Albizia Makes Inroads in Native Forests of Puna," in the February 2003 *Environment Hawai'i*.) The prodigious amounts of nitrogen and phosphorus that albizia adds to the forest floor facilitate the growth of other invasive species as well.

(Thanks to Flint Hughes' testimony on SR 41 for much of the information in this box.)

a tall snag. It just kind of crumbles in place."

Girdling trees can work just as well as the "hack and squirt" method, according to Eileen O'Hara, an aide to Ruderman and an organic farmer. The trees girdle easily, she said, and it doesn't take more than 10 minutes per tree. The trick is to remove enough bark so that the tree can't repair itself, Hughes warned. "Albizia is good about reconnecting its vascular tissue," he noted. "If you girdle only this much" – he held his fingers and thumb about three inches apart – "it'll grow back."

While the "hack and squirt" method is a cost-effective way of dealing with so-called "non-hazard" trees – those that are far removed from any property or improvements – Hughes and others advised strongly against its use on trees that are in close proximity to homes, roads, or other infrastructure. One of the factors that makes the method so cheap is the ability to walk away and let the herbicide do its work. As the tree dies, it sheds its branches; if they fall in an uninhabited area, no harm is done. If the tree is near any improvements, the shedding branches can cause substantial damage.

For trees that do pose a hazard, the experts were unanimous in advising that the trees be removed only by trained, professional arborists. The cost can run into the tens of thousands of dollars for the largest trees, but the damage they can cause – in terms of lost property, or even loss of life – can be far greater.

## **An Unfunded Law**

In an effort to give the state the ability to address natural hazards more efficiently, the Legislature passed a law in 2009 that gave the governor the power to authorize state employees to enter onto private property to mitigate hazardous situations before an emergency exists, after giving due notice to landowners and tenants. The law also allows the state to recover any expense incurred in doing so.

While in theory, the law could be used to take down albizia trees (as well as other hazards), in practice, it hasn't quite worked out as planned.

That, says Steve Sigler, an emergency operations planner with state Civil Defense, is because there are no funds to carry out the program. Act 76 sets forth a process that begins when a complaint is received about a potential hazard from a member of the public – say, a neighbor concerned that a branch from an albizia tree on an adjoining landowner's lot will fall onto his roof. When Civil Defense receives the complaint, Sigler said, the agency will do a site visit or, if it has no staff on the island where the complaint

originated (as is the case on the Big Island), it will investigate by asking the complainant to send photos of the hazard.

"In most cases," Sigler continued, "if it's albizia, I'll take the information to the vice director of Civil Defense, and if he feels it's appropriate, we'll follow up with the owner. Usually we'll send him a letter, make him aware of the concern and of the law. We ask him to take a look and let us know what mitigation he'll take. . . . Usually we ask them to contract with a licensed, bonded tree service and arborist."

About 70 percent of the time, the landowner takes care of the problem. When a landowner refuses to cooperate, "we send notice to the attorney general," Sigler said. "Then it's out of our hands. My understanding is the attorney general will contact the owner, tell them about the law – and from there, I'm not sure. It would have to go to the governor for review, see if he wants to send folks onto private property."

So far, he said, six cases have been forwarded to the attorney general. "If we have an owner we can't convince to mitigate, that goes into a 'pending funding' file. This law is not funded. We have no money to go onto private property to cut down a tree. That's where we're sitting until the Legislature decides to fund the law."

Although Act 76 may not have lived up to all expectations, state and local governments can take action on their own. Joseph Kamelamela, a deputy corporation counsel with the County of Hawai'i, stated that the county was preparing to file a complaint against a landowner in Hilo who had refused all requests to trim back an albizia tree that posed a hazard to traffic on a public roadway.

Meanwhile, Hawai'i County Councilmember Zendo Kern, who represents Puna, has introduced a bill that would amend the definition of refuse to include "unsafe flora." According to his aide, Barbra Lively, the bill "establishes a process that would allow the removal of hazardous trees that threaten human safety or private property. Property owners who do not take action will be required to pay the costs of removal or have a lien placed on their property to recoup removal costs." A council committee is expected to hear the bill sometime this month.

Hawai'i already has a "tree law" that is the envy of many other states, said Michael Kraus, president of Tree Works. "In the last 10 years," he said, "more and more the Hawai'i tree law is quoted as a good pattern for other states."

What he was referring to is a state Intermediate Court of Appeals opinion in 1981 in *Whitesell v. Houlton*. This "well-written deci-



sion,” he said, “gives a strong basis for the responsibility of the owner to mitigate the risk.” When a tree causes harm or poses an imminent threat to adjoining property, neighbors may require the owner to pay for the damage and cut back the offending branches or roots. If the owner refuses to do so, he can be held liable for damages incurred by the neighbor.

What’s more, under *Whitesell*, even if the tree poses no threat, “the landowner may always, at his own expense, cut away only to his property line above or below the surface of the ground any part of the adjoining owner’s trees or other plant life.” (*Whitesell* did not, by the way, involve *albizia*. The offending tree was a *banyan*.)

### Absentee Owners

In the spread-out, often unimproved subdivisions of Puna, *albizia* can quickly become a problem when absentee landowners, who probably number in the thousands, fail to tend their lots.

Mike Kraus said that people who purchase lots will sometimes bulldoze the entire acreage, walk away, “and come back three years later to 40-foot trees.”

Real estate agent Mary Begier had yet another take on the problem of absentee owners. Far from seeing *albizia* as a problem, she said, they often are drawn to purchase a lot precisely because of the presence of *albizia*. “You would probably find that 50 percent of the people who buy a lot with *albizia* buy it precisely because of the *albizia* trees,” she said.

O’Hara, a member of the community association for the Hawaiian Shores subdivision in Puna, pointed out yet another dimension—the underground dimension—to the problems posed by *albizia*. “We have a well and distribute water to all 1,300 lots” through underground pipes laid in 1971, she said. “They are now being contorted by *albizia* roots, which are breaking through the pipe and plugging it.” Although owners are supposed to keep the waterline easement clear, “that doesn’t always happen,” she said, and the problem “is especially bad with absentee owners.” Up to 25 percent of the absentee owners are Japanese and it is difficult to explain the issues to them, she noted.

On the same morning that community members gathered in Hilo to discuss *albizia*, the state Department of Land and Natural Resources announced the impending closure of the Lava Tree State Monument in Puna, to allow for removal of *albizia*. The work was expected to take several weeks, at a cost of \$41,000, according to the DLNR.



## Waiawi Control Agent Is On the Move, Very Slowly

In the words of waiawi warrior Tracy Johnson, “strawberry guava was on the radar of land managers for many decades” before a tiny biocontrol agent was finally released last year in hopes of suppressing its fruit.

And, given the excruciatingly slow pace at which the agent – the gall-forming scale *Tectococcus ovatus* – spreads, it may be many more decades before the effects of its release are visible to the naked eye.

As Johnson, a researcher with the U.S. Forest Service in Hilo, explained in a recent talk where he described what has occurred since about 3,000 of the minuscule insects were let loose into two small, fenced groves of strawberry guava (*Psidium cattleianum*) in Volcano (high elevation) and Waiakea (low), “the slow spread of *Tectococcus* from the release sites is due to their limited mobility.” Mature females are “locked inside the galls and can’t move,” Johnson said.

Juvenile “crawlers” must latch onto one of the growing sprouts of the strawberry guava plant and if a sprout isn’t nearby, the crawler will die before it is able to develop. Although males have wings, Johnson said, they don’t live long and what’s more, they don’t appear to be necessary to the insect’s life cycle. The females can reproduce on their own, he noted.

When the insects find a growing sprout, they attack the leaves and cause the plant to invest its own energy into forming the gall tissue, Johnson said. In this way, “they slow down the growth of the stem, limiting the amount of fruit produced,” he added. “The gall tissue is plant tissue – the plant is making a home for the galls instead of making normal tissue.”

As for concerns that the strawberry guava scale insect will find its way to common guava, Johnson said that in the home range – Brazil – of strawberry guava, the two plants are often found growing together. But the galling “is never seen on common guava,” he noted.



Gall on strawberry guava formed by the *tectococcus* insect.

“Obviously, there’s a very specific relationship” between the waiawi and the galling insect.

Even though the insect spreads slowly, it can have a significant impact over time. “On trees in Brazil, two to three years after infestation, fruiting is reduced by approximately 90 percent,” Johnson said. A similar effect is expected here; “the trees won’t die,” he said, “but they will produce a lower volume of fruits.”

The insect is being tested on three varieties of strawberry guava at each of the two sites. The red-fruited variety of strawberry guava “doesn’t do great at higher elevations,” Johnson said. “It grows and survives, but it’s taken a long time, without much fruiting until the last couple of years. At the lower elevation, it was taking off in two years, with substantial fruit right off the bat.”

The yellow-fruited variety “wasn’t too far behind,” he added. “The yellow is the kind you’re most likely to encounter in wet forests and does well at low and high elevations.... It’s the scariest we have.”

A third variety, described by Johnson as “the spindle fruit variety,” is more common on O’ahu and Kaua’i. “It has a robust stem and grows straight up, but it is reproducing way more slowly, even under optimal conditions.”

Although *Tectococcus* may perform as expected, Johnson stressed that it would work even better if combined with another biocontrol agent. “It can increase the effectiveness of other control methods by reducing resprouts and the spread of seeds. It has good potential for synergistic effects,” he said.

Johnson and colleagues have been looking at other candidates for controlling strawberry guava, including a stem girdler, a defoliator, and several other types of gall-forming insects. Finding one that is host specific – that is, it won’t infest other species of trees – is the big challenge.

“The rosette gall is probably the best second choice,” Johnson said, creating deformed leaves at the tip of the stem. “It’s a terminal condition for that stem tip, which will dry up and die and is dead from that point on. It’s a big energy sink and causes a good amount of damage.” The rosette gall is caused by a midge, he said, “but there’s a lot of unknown biology – it’s a challenging insect.”

Galling insects in general are good candidates for biocontrol since they are all tightly associated with a given plant, and therefore highly specific, Johnson said. And, because they limit stem growth or the amount of fruit produced, “they’re kind of an ideal agent if what we want to do is slow down growth.”

— Patricia Tummons

### *Encroaching Vegetation from page 1*

Diamond took *Environment Hawai'i* on a tour of the beach in front of some of those lots, including Fischer's.

While Fischer admits he did plant a hedge at his lot's edge, he points out that the county told him to do it. Diamond confirms that the county used to advise such plantings, but says it doesn't anymore.

As for the naupaka and heliotrope sprouts scattered across the beach in front of his hedge, Fischer suggests those germinated with no help from him. Going from one inch-high sprout to another, he asks incredulously, "Did I plant *this*? Did I plant *this*?"

On a different part of the same shoreline, Diamond shows how, planted or not, heliotrope trees have been cut so that they sprawl seaward, gobbling up the beach. When left alone, the trees normally grow straight up and then branch out.

"They've got it down to a science," she says of the handful of landscapers who are responsible for many of the naupaka-heliotrope hedges in Wainiha and Ha'ena, which are often dozens of feet thick and several feet high.

But that may be a problem of the past. On June 18, Gov. Neil Abercrombie signed Act 120, which forces the state Department of Land and Natural Resources to require property owners to "ensure that beach transit corridors abutting their lands shall be kept passable and free from the landowner's human-induced, enhanced or unmaintained vegetation that interferes or encroaches in the beach transit corridors."

Act 120 makes Act 160 of the 2010 Legislature permanent.

### **Act 160**

Act 160, introduced by former Rep. Mina Morita of Kaua'i, not only established a beach transit corridor that must be kept clear of artificially induced or enhanced vegetation, it also allowed the DLNR to pursue criminal charges and fines against landowners who failed to remove encroaching vegetation within 21 days of a department notice to do so.

Years before, the DLNR's Office of Conservation and Coastal Land asked about a dozen beachfront property owners in Kahala, O'ahu — which has the same problem that Wainiha and Ha'ena have — to voluntarily remove vegetation that was impeding public access. Only two did.

"The purpose of this measure is to make it explicit that the public has a right to transit along the shoreline and that the Department of Land and Natural Resources shall maintain access within the beach transit corridor," Morita wrote on her blog in April 2010 shortly after the



A heliotrope tree in Wainiha that has not been manipulated to hug the ground.

Legislature had overwhelmingly approved the bill that became Act 160. (Full disclosure: Morita sits on the board of *Environment Hawai'i*.)

Since then, the DLNR has been successful in getting more than two dozen landowners across the state to remove encroaching vegetation. As of January, it had pursued 44 cases, more than half of which were located on the south shore of O'ahu (which includes Kahala). The rest were in West and South Maui, West Hawai'i, and Wainiha.

The DLNR had opened only three cases on Kaua'i as of January, but the island may soon see a jump in enforcement cases, according to DLNR representatives. One of those three cases has already been resolved.

On March 1, state land surveyor Reid Siarot informed Peter Taylor, a surveyor for Wainiha property owner Robert Rucker, that before the state Department of Accounting and General Services could certify Taylor's proposed shoreline, Hawai'i Administrative Rule 13-222-19 required the "shoreline encroachment into the beach transit corridor be resolved by removing the vegetation seaward of the shoreline."

In the past, the state has used HAR 13-222-19 to require landowners to remove or obtain easements for structural shoreline encroachments only. But after the passage of Act 160, the DLNR began applying the rule to vegetation, Siarot says.

Rucker responded quickly, removing by mid-April a hedge that was about a dozen feet deep. (Whether or not the area will stay open remains to be seen. A sprinkler and buried irrigation lines were visible at the corner edge of the cleared area last month.)

Since Rucker's case, however, the DLNR has decided not to use the DAGS shoreline

certification process to implement Act 160. Instead, the OCCL will take the lead, Siarot says.

"The shoreline certification rules have to be followed and vegetation alone is not a justification to reject a certification application," according to OCCL administrator Sam Lemmo. "However, if our shoreline specialist [who accompanies DAGS on shoreline certification site visits] notices a case of vegetation interfering with beach transiting or egregious examples of vegetation growing out on the beach when he is out in the field, he reports them to OCCL for appropriate follow-up."

DLNR director William Aila testified to the Legislature on March 28 that his department had recently surveyed 80 properties on Kaua'i's North Shore and would be issuing notices to several landowners that appear to have induced vegetation onto the public beach.

In addition to the DLNR's efforts, the Kaua'i Planning Commission has also taken Act 160 seriously. In its January 2012 design approval for a Wainiha property owned by California's Gan Eden, LLC, the commission included a condition that the company apply for a right-of-entry from the DLNR to allow vegetation clearing seaward of the shoreline fronting the lot.

This past May, the DLNR's Land Division finally brought matter to the Board of Land and Natural Resources, which unanimously approved a right-of-entry to clear 3,750 square feet of vegetation "to expand the sandy portion of the beach area for use by the public." The board also authorized its chair to issue future rights of entry to maintain the cleared area.

### **Act 120**

Despite its success and Aila's suggestion that his department would soon be sending notices





Heliotrope trees in Wainiha and Ha'ena are often cut so they lean toward the ocean.

to Kaua'i landowners with induced vegetation, Act 160 actually had a sunset date of June 30. So this past session, the administration introduced Senate Bill 1162 and House Bill 931, which proposed making the provisions of Act 160 permanent. In addition, several of the legislators who had joined Morita (now head of the state Public Utilities Commission) in sponsoring Act 160 introduced House Bill 17, which extended the sunset date for just two years.

"If this were a public road or sidewalk, a neighboring landowner would be required to keep his landscaping from encroaching upon the public road/sidewalk. Similarly, the public needs landowners to maintain their landscaping to keep the 'beach transit corridor' safely passable. It is a reasonable requirement that should be enforceable," wrote Big Island resident Deborah Chang in testimony on House Bill 17, which is now Act 120. (Chang also is a member of the *Environment Hawai'i* board.)

Dozens of residents from coastal areas across the state, as well as the state Office of Planning, the Office of Hawaiian Affairs, the Chamber of Commerce of Hawai'i, and the DLNR, among others, testified in support of the bill, which proceeded to advance, while the administration's bills stalled.

In her testimony, Morita added that Act 160 has been "the only successful tool in dealing with abuses by abutting landowners who deliberately cultivate salt-tolerant vegetation to manipulate the shoreline and block lateral access."

DLNR's Aila added that the Act has been a deterrent to those who might be thinking of inducing seaward growth of their vegetation.

The strongest opposition to HB 17 came from the Land Use Research Foundation

(LURF), a non-profit research and trade association that represents some of the state's largest landowners and developers.

LURF director David Arakawa testified that the DLNR should first provide a report on the implementation of Act 160 so the public can evaluate whether it should be made permanent. He also asked that all pre-Act 160 agreements between private property owners and the state that require the state to maintain shoreline areas not be affected should HB 17 become law. Such agreements currently apply to a number of Waikiki hotels and properties along state Na Ala Hele shoreline trails.

Furthermore, "LURF maintains the belief that landowners who live along the shoreline have important property rights, as well as the legal right not to be prosecuted by the state or to be charged fees for non-performance of maintenance obligations which should properly be performed by the state," he wrote.

"The casting off of state maintenance responsibilities onto private landowners will result in landowner liability issues which will require state funding for the legal defense, indemnification, and payment of damages for personal injury claims and lawsuits," he continued.

To the Hawai'i Association of Realtors, the bills would require landowners to clear naturally occurring but "unmaintained" vegetation along the shore. (Chang, however, argued that the act only required the clearing of unmaintained vegetation that had been artificially induced or planted.)

In the end, although the administration's bills were not passed, the Legislature did approve HB 17, which had been amended to make Act 160 permanent and clarify that it "shall not be construed to modify or alter any

## Goodbye, One-Gallon Rule

If sand is stuck to your feet or in your hair or in your toy shovel, fine. If a little bit spilled into your beach bag, fine. If you need to take some with you for traditional cultural purposes protected by the state Constitution, that's fine, too. But if you want to take a bucket of sand from the beach to sprinkle in your yard, or for any other reason, even if it's only a gallon's worth, that is no longer okay under Act 120.

Act 120 doesn't just aim to protect Hawai'i's beaches by controlling unwanted vegetation. The act also prevents sand, coral, rocks, and "other marine deposits" from being hauled off the beach, a gallon at a time.

Until now, state law allowed people to take these materials from the beach, so long as what was taken didn't exceed one gallon per person per day.

"If people honestly knew how important sand was within an ocean ecosystem, you would have thousands supporting [HB 17]," wrote West O'ahu fisherman Carl Jellings in his testimony on the bill.

Act 120 allows for only the inadvertent taking of those materials.

agreement of the [DLNR] that was in effect or executed on the effective date of this Act."

Only four legislators voted against the bill, which also prohibits the intentional taking of sand, coral, and rock from beaches.

Because the bill was amended so that it doesn't affect existing agreements, LURF's Arakawa says he's happy with Act 120 as it is. He qualifies that, though, by saying he would have liked the DLNR's January report on enforcement activities to have been posted somewhere the public could easily find. He says he also would have liked further clarification on how penalties would be pursued and more public outreach.

"When people sell real estate for shoreline [properties]... I'm not sure whether this kind of stuff is disclosed," he says, adding that extending the sunset date, rather than making the law permanent, would have given the DLNR time to work with real estate agents on disclosure language.

On Kaua'i, at least, landowners have had a chance to talk with the OCCL during its recent survey of the North Shore.

The OCCL's Lemmo stated in an email that his office is "definitely doing enforce-

## Kaua'i Shoreline Certification Case Hinges on Credibility of Evidence

What kind of evidence is sufficient to prove that a shoreline certification was wrong? Are photographs and eyewitness testimony of where the waves wash and whether the shoreline had been manipulated good enough? Do photos need to be accompanied by maps? Do photo dates need to be independently verified?

These are the kinds of questions the Hawai'i Supreme Court is expected to answer with its decision on the appeal from Beau Blair and Caren Diamond of a 2008 shoreline certification in Wainiha, Kaua'i. The court heard oral arguments on April 4.

With Gov. Neil Abercrombie's signing last month of a bill that makes permanent the requirement that landowners keep the beach clear of artificially induced or maintained vegetation, this case may be one of the last of its kind. One of the goals of the legislation (now Act 120) was to end the practice of planting and enhancing salt-tolerant vegetation along the shore to expand one's lot and obtain a shoreline certification from the state. With a certified shoreline in hand, the county shoreline setback can then be determined; the further seaward the shoreline, the larger the buildable area of a lot. The result can be structures built dangerously close to the ocean.

In this case, the Board of Land and Natural Resources twice dismissed as "anecdotal" Blair's and Diamond's declarations and their photographs showing the planting and watering of vegetation along the shoreline of Craig Dobbin's property. Photos they provided also showed wave debris scattered far inland of a 2008 certified shoreline.

The Hawai'i Supreme Court already decided in 2006 in *Diamond v. State of Hawai'i* that because shoreline vegetation is often manipulated by landowners to extend their properties, vegetation lines alone cannot be used to determine shorelines for setback purposes.

In the case now before the court (*Diamond*

*v. Dobbin*), state deputy attorney general Linda Chow argues the state surveyor and the Department of Land and Natural Resources' coastal specialist considered not only the vegetation line, but also debris lines and erosion scarps in 2008.

And as far as the evidence Diamond and Blair presented, including expert testimony by National Tropical Botanical Garden (NTBG) director Chipper Wichman, it was not strong enough to persuade the board to depart from its staff's determination of where the shoreline should be — at the crest of the beach dune fronting Dobbin's property, Chow says.

Blair and Diamond argue that the shoreline should be 20 feet inland from the crest, where the state surveyor had proposed setting the shoreline in 2005.

Questions from the justices suggested some of them were convinced that the vegetation along Dobbin's property had been artificially enhanced. Whether they will agree that the shoreline should have been set further inland as a result remains to be seen.

### Background

Some of the photographs submitted by Blair and Diamond show that years before Dobbin bought his lot, the yard was mainly just a large flat lawn with a small dune covered by waist-high beach naupaka at the far edge near some ironwood trees. Debris lines can be seen scattered across the lawn.

Today, the naupaka is taller, denser, and blankets the lawn where the debris lines used to be visible.

Diamond and Blair, who regularly visited the beach there with their families, documented plantings in and around the shoreline area, as well as the installation of irrigation lines in late 2003 and early 2004. Jeffrey Galloway, who had recently bought the property, applied for a shoreline certification on June 27, 2005. (State law defines a shoreline as

the upper wash of the waves — not including storm or seismic waves — at high tide during the season in which the highest wash of the waves occurs, "usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves.")

Diamond, Blair, and Barbara Robeson, who also lives in the area, argued that the shoreline proposed by Galloway's surveyor used unnaturally cultivated vegetation to delineate the shoreline. After a site visit with them that October, state surveyor Reid Siarot recommended that the shoreline be located at the "debris line near the mauka edge of the naupaka hedge." When Galloway's surveyor failed to follow his recommendation, Siarot advised the DLNR's Land Division to reject Galloway's application.

Galloway then sold the property to Dobbin, who in January 2008 applied for a shoreline certification based on a survey he had done in December 2007. He proposed setting the shoreline at the dune crest.

By then, the naupaka had grown so thick it was nearly impossible to see debris lines on the property. In April 2008, Blair, Diamond, and Robeson visited the site with Siarot, who this time agreed with the proposed shoreline.

Blair and Diamond appealed the decision, submitting declarations as well as the photos they'd taken over eight years, but then-Land Board chair Laura Thielen found they were insufficient to support relocation.

Blair and Diamond, represented by attorney Harold Bronstein, appealed to the 5th Circuit Court on July 20, 2009. Circuit Judge Kathleen Watanabe ruled in their favor on April 6, vacating the Land Board's denial of their appeal and the certified shoreline. Watanabe also remanded the matter back to the Land Board.

So on May 21, 2010, the Land Board issued a new order, again denying Blair's and Diamond's appeal and locating the shoreline at the dune crest. Blair and Diamond appealed again, and once more Judge Watanabe agreed with them.

"The beach fronting Lot 12 is currently covered with salt tolerant naupaka and beach heliotrope trees planted by the prior owner to create an artificial shoreline," Watanabe wrote in her decision, adding, "The sand and other debris pushed mauka by the winter waves gets stuck and trapped in the roots. ... This artificially induced and enhanced vegetation is incorrectly being used to locate the shoreline and/or hinder the true location of the shoreline."

She wrote that Blair's and Diamond's evidence clearly showed that the shoreline reaches further inland than the dune crest, and added that the Land Board's position that only the

ment," but declined further comment because "it is an open potential violation proceeding."

"We hope enforcement of Act 120 will stop the loss of public shore," Diamond says.

No doubt Diamond is eagerly awaiting the fruits of the OCCL's efforts, which may one day restore the beach enough to entice her to resume her regular beach walks — for

pleasure, not as an enforcer.

As Morita said three years ago in her blog, "[H]opefully, with this more explicit language in statute, people like Caren Diamond and Harold Bronstein who have been guardians of the shoreline fighting in court these kinds of abusive planting and cultivating practices can get . . . much deserved rest from this battle." — **Teresa Dawson**





Caren Diamond and Beau Blair argue that Craig Dobbin's shoreline should be set near the fence post in the foreground. Attorneys for the state and Dobbin believe the line was properly set in 2008 about 20 feet seaward (to the right).

current year's evidence of the upper reaches of the wash of the waves should be considered is arbitrary, capricious, and an abuse of discretion or an unwarranted exercise of discretion.

The state, Dobbin, and his surveyor appealed to the Intermediate Court of Appeals, arguing that the circuit court improperly engaged in fact finding, rather than deferring to the Land Board.

Bronstein, however, argued to the ICA that, "the state surveyor simply cannot ignore his own prior recommendation of October 19, 2005, which approximately two years earlier, locates the shoreline as 'mauka of the dune crest.'" He added that the Land Board clearly abused its discretion when it analyzed only one year's wave data to locate the shoreline, "especially when as in this case, a physical structure may be present on the property for decades to come based upon that shoreline determination."

The ICA agreed with the state and Dobbin.

In its August 2012 decision, the ICA wrote that the Land Board didn't disregard Diamond's and Blair's evidence, but instead weighed it against the state's evidence, finding, among other things, that the photos they submitted didn't accurately depict the high water mark and weren't properly dated.

During the 2008 site visit, the state surveyor and DLNR staff conceded that the vegetation in the area had changed significantly since 2005 and that it was "having a notable impact on the shape and elevation of

the frontal dune as well as the extend of inundation for the wash of the waves," the memorandum continues. But they also found no evidence that the waves in the intervening years reached as far inland as they had in 2005.

### *Oral Arguments*

Earlier this year, the Hawai'i Supreme Court agreed to hear the case. During oral arguments, several justices struggled with the Land Board's conclusion, made without hearing live testimony, that Diamond's and Blair's evidence and declarations were not credible. They also seemed taken aback by the state's reluctance to admit that the vegetation fronting Dobbin's property was artificially induced.

"There are several findings I find simply unsupportable that the BLNR made. I'm not sure if it was even fair," Associate Justice Simeon Acoba said.

Regarding the Land Board's finding that was impossible to know from Blair's testimony what the photos were purported to portray, Acoba asked Chow whether that finding contradicted Blair's declaration, which included a list of dates and photo descriptions.

When Chow replied that Blair never stated that she took the photographs, Acoba asked whether it mattered who took them.

Whether or not Blair took them, Chow argued, the photos showed a limited amount of the property and "even if you look at the photographs, there's no correlation to a map.

... That is one of the requirements of the shoreline certification process [so] the surveyor can look at to put it into context."

She later added that the Land Board doesn't have to explain all of the factors it uses to determine the shoreline. The Legislature gave the board the authority to certify shorelines and once it makes a decision, there is a "presumption of validity" that the shoreline was correctly located.

Acoba and Associate Justice Richard Pollack also grilled Chow on the Land Board's decision that the NTBG's Wichman, who submitted testimony on the salt tolerance of naupaka for Blair and Diamond, was no plant expert.

Pollack noted that in the Land Board's first review of the case, it considered Wichman an expert, but in its second review, "all of a sudden, Mr. Wichman was someone they almost ridiculed. ... What happened?"

"They took a new hard look at all the evidence. ... There was a lack of reliability in the letter he submitted," Chow said.

Pollack was skeptical, saying the board's sudden decision that the head of the NTBG is no longer a plant expert "sounds like to me like they're trying to justify something."

To this, Chow replied, "The first finding says he appears to be testifying from some expertise. Looking at the letter, it just says he is the head of the NTBG. It does not say he has the credentials to be qualified as an expert."

To Chief Justice Mark Rektenwald, the case seemed really to center on whether the vegetation on the lot was artificially enhanced, and if it was, how far the waves would have reached without it.

Associate Justice Sabrina McKenna seemed to have had already made up her mind about the artificial enhancement. "Hasn't that happened here? Isn't that pretty clear in this case?" she asked Chow.

Chow replied that the current and previous landowners deny any artificial planting.

To this, Pollack said, "The point is, is that naupaka is going to grow on its own. And if you have sprinklers in the area, there's going to be windblown water and there's going to be seepage and it's going to grow."

To Diamond, all of this could have been avoided had the DLNR took action when the plantings and irrigation first went in nearly a decade ago.

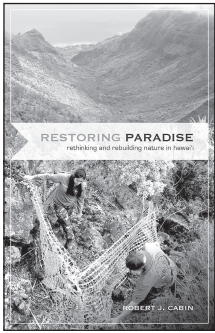
"DLNR doesn't ever follow through with somebody," she says. With the Dobbin certification, the surveyors set the shoreline pretty close to the edge of vegetation, but far enough inside the dune to say they weren't using the vegetation line exclusively, she says.

— T.D.

## BOOK REVIEW

# Restoration in Paradise – No Thanks To Science, Writes Former Isle Researcher

Robert J. Cabin, *Restoring Paradise: Rethinking and Rebuilding Nature in Hawai'i*. University of Hawai'i Press, 2013. 236 pages. \$24.99 (paper binding only).



For someone who claims to be a scientist, Robert Cabin sure harbors a lot of scorn for his peers. In his previous book, *Intelligent Tinkering*, Cabin championed a kind of Maoist, “let a hundred flowers bloom”

approach to repairing Hawai'i's broken ecosystems. Designers of projects intended to restore areas of potentially high ecological value, he argued there, need not be bound by any instruction from hidebound Ph.D.s who simply fail to understand the exigencies of resource management in the field.

In his latest book, Cabin continues that same theme—disparaging the research done by scientists (including his own work), while celebrating those who labor in the trenches, pulling weeds, planting native seedlings, installing mile after mile of fenceline across remote and harsh terrain.

At the heart of the book is Cabin's description of four restoration projects that inspire and excite the conservation community in Hawai'i: Hakalau Forest National Wildlife Refuge and Hawai'i Volcanoes National Park, both on the Big Island; the Auwahi dry forest on the south slope of Haleakala, on Maui; and Limahuli Garden, a branch of the National Tropical Botanical Garden on Kauai.

Time and again, Cabin extracts from those working in the field – the people who are largely responsible for these success stories – statements describing how their work was not helped (and perhaps was even harmed) by the studies and conclusions of botanists, biologists, and others conducting research that was intended to guide resource managers.

To give one example, Cabin cites his research at Limahuli. “In one sense, that research had gone well,” he writes. “Some of what we saw was quite encouraging... However, as was the case in virtually all of my other ‘straightforward experiments,’ the interpretation of this one turned out to be deceptively complex and inconsistent. In a nutshell, we ultimately found that the different native and alien species

sometimes responded to the different treatment combinations differently.” (Should anyone really be surprised that the folks of Limahuli found little value in his work, given his own description of it?) One tactful Limahuli staffer, David Bender, told Cabin that while his research “helped us confirm some of our intuitive ideas about how to proceed... We probably could have learned all that with a less formal trial-and-error approach.”

When Cabin asked Bender directly if he “had ever been able to extract any practical value from our more subtle, complex results that could not have been gleaned from a more informal experiment, he shook his head. ‘Not that I can think of.’”

In every case that Cabin describes, the work has been spearheaded by a strong, inspirational leader. Hakalau is inseparably bound in my mind with Jack Jeffrey, as is Auwahi with Art Medeiros. Without Don Reeser's efforts as superintendent, Hawai'i Volcanoes National Park would probably still be infested with goats. And without Chipper Wichman's hand at the helm, Limahuli in its present form would hardly be imaginable.

This factor alone may have made these four areas more likely to yield successful outcomes. But I don't think anyone would argue that to have success in the field, you first must enlist a charismatic leader. Nor, really, does Cabin argue this.

If anything, the point he seems to want to drive home again and again is so democratic as to verge on anarchic. Do whatever works seems to be his motto (but he's silent as to how we are to know what works). Although he seems to be mindful of the high price of science (field experiments are labor intensive, take years to conclude, have uncertain results), he never acknowledges the risks and costs of the trial-and-error method he appears to advocate.

## Biocontrol

In some respects, Cabin's description of what is occurring in Hawai'i seems to be terribly out of date. On the subject of biocontrol, for example, he proclaims it to be “highly contentious” and states flatly that, “To date there have been no unequivocal biological success stories in Hawai'i.”

This is very odd. In the bibliography providing references for the chapter in which that statement is made, Cabin cites an essay, “Biological Control of Lantana, Prickly Pear, and Hamakua Pamakani in Hawai'i,” by Clifton Davis, Ernest Yoshioka, and Dina Kageler, published in the authoritative *Alien Plant Invasions in Native Ecosystems of Hawai'i*, edited by Charles P. Stone, Clifford W. Smith, and J. Timothy Tunison. The authors describe the headway made against these three invaders thanks to the release of natural enemies. In the case of the prickly pear, several biocontrol agents were introduced, two of which were especially effective: *Cactoblastis cactorum*, a moth whose larvae burrow into the cactus “paddles,” and *Dactylopius opuntiae*, a scale insect. Photos accompanying the essay show the same landscape in 1954 and 1979; in the earlier one, there's prickly pear as far as the eye can see. In the later one, there's nary a cactus to be seen.

Cabin refers to one of these agents (but not the other) as the “biocontrol poster child” of the proponents of this practice: “*Cactoblastis* (my all-time favorite scientific name – whoever came up with it must have watched lots of Bugs Bunny/Roadrunner cartoons.)” Apparently *Dactylopius* is passed over as a “poster child” since it could not afford Cabin the opportunity to showcase his dry wit.

So why is the prickly pear story not a success story? At this point, Cabin's disparagement of science comes full circle. It cannot be stated with certainty that *Cactoblastis* suppressed the prickly pear, he says, since “there have been few careful studies of the *Cactoblastis* releases in Hawai'i,” making it “difficult to know how much credit this moth really deserves for the dramatic decline of some of the islands' formerly vast prickly pear infestations.” Yet those “careful studies” are the very ones that Cabin seems to regard as unnecessary, unhelpful, and a waste of time.

Since publication of *Alien Plant Invasions* in 1992, the field of biocontrol has grown by leaps and bounds – though one would not know it from reading Cabin. If the *Cactoblastis* was ever a poster child for biocontrol, surely it has been replaced by *Eurytoma erythrinae*, the parasitoid wasp that preys on the gall wasp that spread like wildfire through Hawai'i's wiliwili trees a few years back.

While there may be a few backwater areas where the tired debate continues over biological control measures for the deadly serious pests threatening Hawaiian ecosystem, where opponents still dredge up the mongoose and rosy snail introductions as Exhibits 1 and 2 against further biocontrol releases, the conservation community in Hawai'i, as a whole, has moved on. That Cabin has not is surprising.



## Taking On McKibben

All in all, it's hard to understand where Cabin is going with this book until the last chapter, when the clouds lift. (The last chapter, titled "Nature Is Dead: Long Live Nature," was first published in *American Scientist* earlier this year.) Cabin wants to be the Bill McKibben of the restoration ecology movement, and fancies himself well positioned to do this by being the voice of reason, the philosopher, the mediator between the nasty scientists in their ivory towers and the dirt-under-the-nails workers in the field.

He cites McKibben's 1989 book, *The End of Nature*, and then proceeds to make of it a straw man (Cabin's favorite opponent in all his arguments). He takes exception to what he calls "McKibben's concept of uncontaminated wild nature," which, Cabin writes, "died long before the advent of contemporary climate change."

This comes, however, just two pages after Cabin has quoted McKibben making a far more qualified statement about nature: "When I say 'nature,' I mean a certain set of human ideas about the world and our place in it." That's about as far from a concept of "uncontaminated wild nature" as you can get.

But lest anyone take his views as a criticism of McKibben, Cabin adds that this is not what he intends. "On the contrary, McKibben is actually one of my heroes, and I am a climate activist myself."

Cabin worked in Hawai'i just five short years. Yet he has somehow set himself up as an authority on conservation and restoration in the islands, writing a blog for the *Huffington Post*, several articles in scientific and not-so-scientific journals, and now, two books on the subject. In almost all these writings, however, he takes on a straw man of his own invention: the inflexible, authoritarian scientist who brooks no argument when it comes to setting out how Hawai'i's native ecosystems should be brought back to health.

I'll grant that I'm not on the frontlines of ecosystem restoration in Hawai'i, and I will concede that tensions exist at times between those who work mainly in the field and those who labor mainly in the labs. More often than not, however, I see both these camps fiercely united in their desire to devise ways to bring back the dry forests of Maui and Hawai'i, to protect the rainforest habitat of our remaining native bird species, and to ensure that the social, economic, and even moral values of high-functioning native ecosystems remain for generations to come.

I don't know what Cabin saw in his short time here, but it obviously wasn't that.

— **Patricia Tummons**

## A Journalist Wannabe

For whatever reason (it can't be the money), Robert Cabin wants to be a journalist as well as a scientist. For now, given the many crimes he has committed against the profession of journalism, he should stick with his day job (associate professor at Brevard College in North Carolina).

First and foremost, journalists must double-check their sources and statements. Cabin falters on this count. He cites a paper by Mike Tuland (that's Tulang, actually) and another co-authored by Dina Kafeler (Kageler). He attributes to me a trenchant article on pigs at Hakalau (October 1997 *Environment Hawai'i*) that was instead written by a journalistic intern working with us that summer (thank you, Sona Pai).

On page 26, he refers to something called the "Kilauea State Forest Preserve on the Big Island." Never heard of it – nor is it likely even to exist, given that the state has forest reserves (no preserves at all).

Cabin discusses the hawksbill turtle, an iconic species of Hawai'i Volcanoes National Park. "As far as we know," he writes, "it regularly nests only in the Hawaiian Islands." Actually, hawksbills, though endangered, are globally distributed.

In discussing the gorse infestation on Mauna Kea and what to do about it, Cabin disparages burns, since that would also mean "destroying any co-occurring native species." It beggars belief to think that any native plants

have managed to hold on in light of two centuries of depredations by sheep, goats, cattle – and, of course, gorse itself, which pretty much crowds out any other plant that might have the temerity to try to "co-occur."

For the record, birds are vertebrates.

Journalists should also be wary of using and abusing the freedoms afforded by the parenthetical phrase.

First rule: for every open paren, you need a close paren. Second one: avoid putting one parenthetical statement inside another. Both rules are violated in this passage (from page 107): "When the volunteers reconvened beneath a spreading *kauila* (a rare native tree in the buckthorn family that produces exceptionally dense, hard wood that the Hawaiians used to make *kapa* (cloth) beaters, vicious spears (*ihe*) and poles for construction inside the ten-acre enclosure, another Hawaiian man blew the *pu'ole'ole* (conch shell) once for each of the four cardinal directions.)"

At times, the parenthetical statements add an unintended soupçon of humor to a volume where levity is otherwise scarce or forced. There's this, from page 113: "He explained that shortly after my last visit, they had hand sown over a million '*a'ali'i*' (*Dodonaea viscosa*, a relatively common and hardy indigenous shrub in the soapberry family) seeds." And this, from page 146: "I walked over and stood beneath a remnant



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old *lama* (*Diospyros sanwicensis*, a member of the ebony family that produces edible persimmons and very hard wood that the Hawaiians fashioned into rafters and traps for deep ocean fish; they also pulverized the wood and mixed it with other materials to make compresses for the treatment of skin sores)."

Certainly the most serious of Cabin's journalistic crimes is plagiarism. In an email that arrived several days before the book, Cabin gave me fair warning: "I wanted to let you know that my original manuscript included an extensive annotated bibliography that allowed me to carefully document and give proper credit to all of the sources I used to write this book." He then puts the blame on the publisher for keeping him from doing this: "UH didn't feel this was appropriate for this kind of book, and thus had me replace this with a more informal, unannotated bibliography."

"I'm bringing this up because . . . I heavily relied on your various writings about Hakalau in several sections of Part I . . . As an author/budding journalist myself, I've become more sensitive to such issues."

Indeed, he did rely heavily on material that was published by *Environment Hawai'i*. To give but one example, compare what Pai wrote in her article, "At Hakalau Refuge, Hunter Pressure Overrides Conservationists' Concerns" (*Environment Hawai'i*, October 1997), to Cabin's text (in italics):

"Fencing of the HFNR's first management unit, the 550-acre Middle Honohina unit, was completed in 1988. Feral ungulate control on the refuge had officially begun. In 1989, a group of professional hunters from Hawai'i Volcanoes National Park came to the refuge to eradicate pigs and cattle from the unit. Following a concerted hunting effort that removed nearly all cattle and most pigs, snares were set within the unit and along the boundary to catch any animals that may have eluded the hunters. Two wild cows, 11 feral

## Save the Date: August 23.

On that date, William Aila will be the featured speaker at the annual fundraising dinner for *Environment Hawai'i*. Aila is the chairman of the Board of Land and Natural Resources.

The dinner and silent auction will be held at the 'Imiloa Astronomy Center in Hilo.

Tickets are \$60 per person, which includes a \$20 tax-deductible donation to *Environment Hawai'i*. A table of eight may be reserved for \$500.



William Aila

To make reservations, call our office at 808 934-0115.

Seating is limited; please reserve early.

pigs, and two feral dogs were eliminated by the snares. The unit was then declared ungulate-free."

*The refuge began by fencing a 550-acre mid-elevation subunit in 1988, employing professional hunters to systematically kill the pigs and cattle within this unit in 1989, and relying thereafter on snares to catch any remaining fugitives. After subsequently killing a few feral cows, pigs, and dogs, the snares stayed unsprung and the unit was declared ungulate-free.*

Altogether, pages 24-25 and 31-32 are lifted, with a few tweaks, from material previously published in this newsletter.

Much of the book is made up of long first-person accounts of his travels and experiences across the islands (including a description of a naked romp in Limahuli – TMI!). It is hard to argue that these are fabricated, and I won't, but much of the extensive dialogue he in-

cludes just doesn't sound right to anyone familiar with conversational English (much less Hawaiian pidgin).

For example, Cabin is describing an episode in which he, an overworked scientist, is trying to plug his overtime into a computer. Two field technicians, both "locals," pull his leg by telling him to use a special code they developed for just such occasions. "I assure you this is a really important code for people who work the kind of hours you do," one of them informs Cabin. They then "laugh heartily" and leave Cabin to figure it out. Probably something like this happened, but the dialogue is wince-worthy.

The book is replete with chuckles, hearty laughter, people saying things "matter of factly," and just about every other trite phrase used by writers thinking they are being colorful when they're just grasping at clichés.

—P.T.