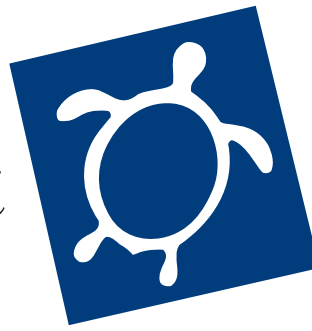


Environment



Hawai'i
a monthly newsletter

Science Faction

Summertime is science time in Hawai'i. The Hawai'i Conservation Conference is a three-ring circus with high production value usually held at the Hawai'i Convention Center in Honolulu.

Less publicized, wonkier, more informal – and older – is the Hawaiian Ecosystems meeting, launched by Honolulu native Peter Vitousek of Stanford University. Our cover story highlights just a few of the presentations made there in late June that advance our understanding of Hawai'i's precious natural resources and the threats they face.

Also in this issue: a look at the appellate court decision in a case involving a proposed residential subdivision in an 'ohi'a forest on the Big Island; a synopsis of the few environmental bills that crossed the legislative finish line; and our regular report on recent actions of the Board of Land and Natural Resources.

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At Annual Hilo Confab, Lots of Fast Talk On Recent Trends in Resource Science



Peter Vitousek

For the better part of the last three decades, every summer on the Big Island, Stanford University professor Peter Vitousek has hosted a meeting of researchers, resource managers, students, and others who have an interest in understanding ecosystem elements and processes in Hawai'i. This year, the gathering took place on June 27 and 28 at the University of Hawai'i-Hilo.

Unlike other meetings where these same people might present their findings, there are no breakout sessions. Those in the audience can take it or leave it, as far as the presentations go, but there are no hard decisions to make regarding what workshop or seminar to attend, which has the intended effect of exposing experts in one field to those with expertise in another – and discovering just where their interests might converge.

Presenters are given five or ten minutes to summarize their work and are held to that by Vitousek himself. With nearly 80 talks over two days, taking it all in is, as some have commented, like drinking from a fire hose.

Here, in no particular order, are some of the highlights from this year's gathering.



Band-Rumped Petrel Nest Confirmed at Army's PTA

The band-rumped storm petrel (*Oceanodroma castro*), Hawai'i's smallest seabird, used to be present in large numbers on all islands, but with the arrival of humans, its population declined drastically. By the

time the U.S. Fish and Wildlife Service listed the Hawai'i population of these birds as endangered last fall, nesting sites had been confirmed only on Kaua'i and Lehua island, although vocalizations led researchers to suspect nesting burrows could also be found on Lana'i and the Big Island.

After years of effort, Nicole Galase, the seabird project leader with the Natural Resources Office at the Army's Pohakuloa Training Area, and colleagues were finally able to confirm the presence of nesting burrows at around the 6,000-foot elevation of Mauna Loa, at PTA.

"Even though there have been sightings throughout the islands, and we had heard their calling, there was no discovery of a colony until this study," Galase said. "They're very elusive seabirds to study."

Prior to the bird's being listed as endangered, Galase said, "the Army collected data for consultation with the U.S. Fish and Wildlife Service. We did acoustic monitoring, night vision surveys, dog searches, personnel searches, and visual monitoring."

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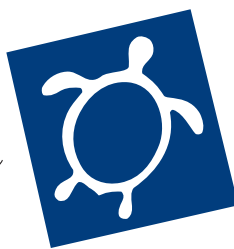


Band-rumped storm petrel.

PHOTO: ANNIE B. DOUGLAS / CASCADIA RESEARCH

Environment

Volume 28, No. 2



Hawai'i

August 2017

NEW AND NOTEWORTHY

Pepe'okeo Access Closed: On June 26, Steven Strauss, attorney for Scott Watson, informed the Hawai'i County Planning Department that his client intended to "permanently close" the temporary public shoreline access along his property in Pepe'okeo, about 10 miles north of Hilo. Watson and a neighboring landowner had developed the temporary route so Watson and his co-owner, Gary Olimpia, could build a large house near a coastal cliff along which ran the approved public access easement.

True to his word, on July 10, the temporary access was closed with a hogwire fence that, in addition, closes off the legal public access, approved as part of the Special Management Area permit conditions of the subdivision that created the lot. Strauss had stated that "the owners intend to post a sign showing the location of the existing legal access," but as of July 17, no sign had been posted.

A staffer with the Planning Department told *Environment Hawai'i* that formal complaints had been filed with the department and that its enforce-



ment division was in the process of scheduling a site visit.

In a "media release" that accompanied the letter to the Planning Department, Strauss stated that Watson and Olimpia "have tried, without success, to work out boundary and setback issues through three successive county planning directors and their staffs.... [T]he county has taken years too long without securing safe access for the community. Landowners regret that they must now modify their project and people will not be able to safely walk to the shoreline anymore."

Ashes, Ashes.... As the Public Utilities Commission considers whether to approve the power purchase agreement between Hawaiian Electric Light Co., the Big Island utility, and Hu Honua for a bioenergy plant in Pepe'okeo, one of the issues that has come up will be how ash from the plant will be handled.

In preliminary filings, Hu Honua claimed its ash handling plan was so sensitive as to not be part of the publicly disclosed documents. On July 12, the PUC disagreed and ordered Hu Honua to release the plan.

It did so two days later – and the plan itself, consisting of one page of ungrammatical prose full of misspellings, could lead one to think fear of public embarrassment was behind the desire to keep the plan under wraps.

The plan is short on details but suggests the ash will be highly desirable to local farmers as a soil amendment, raising the pH of the soil. Unlike sugar, the plan states, "corn, along with other crops grown (sic) prefer a more neutral pH soil condition. ... The successful ag farmers in the area requiring a more neutral soil pH for their crops (sic) must purchase lime." So Hu Honua plans on selling wood ash as a cheaper substitute for lime to area farmers.

Until such time as the chemical composition of the ash is determined, however, the ash will be trucked to a county landfill. The brief ash handling plan makes no mention of whether Hu Honua has consulted with the Hawai'i County Department of Environmental Management over its plans.

A staffer with the county DEM stated that anyone wanting to dispose of ash at the landfill would need a permit and that, to date, no one from the company had approached the department to discuss this.

Lloyd Loope: With sadness we take note of the passing of Lloyd Loope on July 4. For nearly 40 years in Hawai'i, he pioneered research into the devastation wrought by invasive species, worked tirelessly to bolster quarantine protocols, and gave willingly of his expertise and sage advice in supporting students as well as field workers who will, it is to be hoped, continue his efforts on behalf of Hawai'i's environment.

In 2000, Loope was honored with the Distinguished Service Award by the Secretariat of Conservation Biology in Hawai'i. As *Environment Hawai'i* noted in its report at the time, Loope "has been instrumental in just about every major conservation program on Maui in the last decade. It was Loope who sounded the alarm over the threat to native species posed by the planned expansion of Maui's Kahului airport to accommodate increasing numbers of overseas flights. Loope spearheaded the battle to eradicate Miconia, a weedy species that was threatening to establish a foothold on Haleakala's slopes. Loope was instrumental in establishing the Maui Invasive Species Committee, which has served as a model for similar committees on all the other islands."

His family asks that any donations made in his honor go to the Maui Invasive Species Committee, Box 983, Makawao HI 96768 (please make checks payable to UH-Foundation). Services are scheduled for September 2, 4 p.m., at the MISC office in Makawao.

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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

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

Production: Frances Officer

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ISSN 1050-3285

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Quote of the Month

"They've been there 11 years and they paid one year of rent."

— **Suzanne Case, DLNR director**

Few Environmental Measures Approved At Close of 2017 Legislative Session

The first session of the 2017 Legislature broke little new ground in terms of environmental law-making. About a dozen bills that nibbled at the edges of meaningful action made it across the finish line with the signature of Governor David Ige. One measure championed by many environmentalists that did pass both chambers – Senate Bill 1240, which would have limited aquarium-fish collection – was vetoed.

Here's a synopsis of the measures that did pass into law:

ENERGY AND GREENHOUSE GASES

Act 32, Paris Agreement: “Regardless of federal action, the legislature supports the goals of the Paris Agreement to combat climate change and its effects on environments, economics, and communities around the world.” That language appears in the preface of House Bill 559, and when Governor Ige signed the measure into law last month, it resulted in national attention being focused on Hawai'i as the first state to adopt a measure committing to the greenhouse-gas reduction targets set in the Paris Accord following the decision of President Donald Trump to withdraw the United States from that agreement.

The legislation extends the life of the existing Interagency Climate Adaptation Committee (ICAC), established in 2014, and gives it a new name: the Hawai'i Climate Change Mitigation and Adaptation Commission (CCMAC). The ICAC has already developed a website (climateadaptation.hawaii.gov) and conducted public outreach events.

In addition, the new law tweaks and expands the charge of the ICAC/CCMAC. By 2023, it is to develop and provide to the Legislature and governor a comprehensive report on actions that have been undertaken to address climate-change impacts, with an update to be provided every five years thereafter.

Before all that, however, the commission is to report on the work of the ICAC over the last three years by December 31 of this year. Among other things, the report is to identify major areas of sea-level rise impacts affecting the state through 2050 and recommend planning, management, and adaptation for hazards associated with

increasing sea levels.

Oddly, the measure sunsets the committee (and the supporting law, Chapter 225P, Hawai'i Revised Statutes) on July 1, 2022, six months before the final report is to be given to the Legislature.

Act 57, GEMS Funds to Schools: This measure (House Bill 957) allows the state Department of Education to take out as much as \$46.6 million in interest-free loans from the Green Energy Market Securitization (GEMS) fund, as part of the DOE's “cool the schools” initiative. Last year, a bill to use GEMS funds for air-conditioning in classrooms fell to the argument that this would actually increase energy consumption rather than reduce it, as the GEMS program was established to do.

Act 57 calls for the GEMS funds now to be used to implement energy efficiency measures “to substantially reduce energy consumption and lower kW load, which may allow classrooms earmarked for the ‘cool the schools’ initiative to install air conditioners without requiring expensive and time consuming electrical upgrades.”

The DOE was given no appropriation for repaying the loan principal; instead, this is to be repaid from “savings resulting from reduced utility costs as a result of the implementation of energy efficient lighting and other energy efficiency measures.”

Act 33, Carbon Farming: This measure (House Bill 1578) sets up a task force that is to look into ways to “increase climate resiliency and improve carbon sequestration in Hawai'i.” The chairperson is the director of the Office of Planning, while other members are the chairperson of the Board of Agriculture; deputy director of the Department of Health's environmental branch; director of the Office of Environmental Quality Control; director of the University of Hawai'i's Center for Island Climate Adaptation and Policy; administrator of the Department of Land and Natural Resources' Division of Forestry and Wildlife; an extension agent from the College of Tropical Agriculture and Human Resources at UH; representatives from the four counties appointed by their respective mayors; and three members jointly selected by the president of the state Senate and the speaker of the House of Representatives.

The task force's preliminary report is due to the Legislature before the start of its 2023 session. Its final report is due two years later. The task force sunsets on June 30, 2025.

WATER ISSUES

Act 5, Storm Water Management: This measure (House Bill 1509) amends the State Water Code (Chapter 174C of Hawai'i Revised Statutes). Language describing the element of the plan intended to protect water resources has been amended, so that the Water Resources Protection Plan must now also address “plans for storm-water management, reuse, reclamation, and remediation.”

The Hawai'i Farm Bureau and Land Use Research Foundation provided testimony strongly supporting the bill. Suzanne Case, chairperson of the Board of Land and Natural Resources and the Commission on Water Resource Management, testified that although the Department of Land and Natural Resources supports efforts to reclaim stormwater, the measure was unnecessary.

“To facilitate storm water projects and services, Act 42, Session Laws of Hawai'i 2015, authorized the counties to establish and charge user fees to create and maintain any storm water management system or infrastructure,” she stated. “We also note that each respective county Water Use and Development Plan will address the unique storm water reuse opportunities within its jurisdiction.”

House Bill 1509 moved through five committees (and three hearings) without a single amendment before being signed by the governor on April 26.

Act 125, Cesspools: The use of cesspools in Hawai'i has come under fire for years. The Environmental Protection Agency has cracked down on the state and counties for their ongoing use of gang cesspools well past the phase-out deadline, and now the Legislature is attempting to phase out private cesspools as well.

In this case, the deadline set by Act 125 (House Bill 1244) is a distant 33 years away, coming only on January 1, 2050. By that time, the law requires every cesspool user either to convert to a treatment system or to connect to a sewer.

But there are exceptions. If property owners can demonstrate, to the satisfaction of the director of the Department of Health, that it is infeasible to upgrade their cesspool, they can get a pass. Legitimate

Appellate Court Ruling Gives Teeth To Hawai'i County Development Plans

Over the last decade, Hawai'i County has approved Community Development Plans (CDPs) for most of the districts making up the Big Island. The Kona CDP was one of the first, adopted by the County Council in 2008, and resulted from years of community engagement.

But are the CDPs legally binding on the county, or do they merely provide guidance that county agencies may consider – but may also ignore – in making administrative decisions?

That question was at the heart of an appeal of the 2011 decision by then-Planning Director B.J. Leithead-Todd to approve an application to subdivide about 72 acres of land in South Kona adjoining property owned by Richard and Patricia Missler. The Misslers have argued that the Kona CDP prohibits such development.

The land, in the ahupua'a of Waikaku'u, is steeply sloped, climbing about 800 feet from the Mamalahoa Highway, where the landscape is characterized by scattered shrubby vegetation, to old-growth 'ohi'a forest in the mauka portion. In order to avoid having to put in water lines, the subdivision application proposed clustering 13 two-acre agricultural lots in the higher-

elevation area, with a remainder parcel of 41 acres in the lower, drier portion. In this way, residences built on the two-acre parcels could be permitted using catchment systems.

As Leithead-Todd later acknowledged, her staff made several errors in processing the subdivision application. Time extension requests by the applicant were not filed or were filed late, and her staff erroneously described vegetation on the property as consisting of "keawe, koa haole, and a variety of grass, shrubs and weeds."

When the Misslers' appeal was heard by the county Board of Appeals, Leithead-Todd said that, despite the errors, she would have approved the application anyway, because it was "consistent with provisions in the County Code on [Planned Unit Developments] as well as consistent with the General Plan, and the overall density was consistent with the zoning of five acres."

The Board of Appeals upheld Leithead-Todd's decision, and the Misslers then sought relief in the courts.

There, in the courtroom of now-retired Judge Ronald Ibarra, they prevailed. Ibarra determined that contrary to the view of the Board of Appeals and the Planning Depart-

ment, the county's CDPs had the full force and effect of law.

Another Appeal

Both the Misslers and the county appealed Ibarra's decision to the Intermediate Court of Appeals. The county argued that the Community Development Plans were advisory and that the Planning Department had ultimately to look only to the authority of the county's General Plan in determining whether to approve applications. The Misslers felt that Ibarra's decision concerning attorney's fees – he allowed them for the appeal to the court, but denied them for the administrative appeal – was too narrow.

The ICA published its decision on June 26. In strong words, the appellate court affirmed Ibarra's decision on the force and effect of the CDPs. It quoted provisions in the Kona CDP that, it said, "provide a detailed scheme for implementing the General Plan."

"Further, because the Kona CDP was adopted pursuant to the General Plan and Hawai'i County Code ... adopts and incorporates by reference the Kona CDP as an ordinance, the provisions indicated in the Kona CDP to be legally binding on County agencies hold the force of law."

Among those provisions is the requirement that, when it comes to "sensitive resources," the Planning Department is to inventory, among other things, "predominantly native ecosystems, which may not be

reasons "shall include, but not be limited to," small lot size, steep topography, poor soils, or "accessibility issues."

The new law also broadens the pool of eligible property owners who can apply for assistance with eliminating cesspools. In addition to owners of cesspools that are near the shoreline or near drinking-water sources, owners of cesspools that impact drinking-water sources or recreational waters also qualify, as do those whose cesspools "are certified by a county or private sewer company to be appropriate for connection" to an existing sewer.

INVASIVE SPECIES

Act 121, *Albizia Removal*: In 2014, the Legislature appropriated \$1 million to support a program to mitigate hazardous situations on private land in non-emergency situations. In practice, this has mostly supported efforts of state workers or contractors to go onto private land to remove albizia trees.

As of last November, more than half that amount was still available and unencumbered. Without legislative action, authority to spend down the balance would have lapsed on June 30. House Bill 144 reauthorizes the expenditure of funds from the original appropriation.

Act 31, *Rose-Ringed Parakeet*: From a pair of these birds introduced into the wild on Kaua'i in the 1960s, the population has grown to several thousand, and it now causes more damage to crops than any other bird or mammal, the Legislature states in its prefatory language to House Bill 655. In addition, there are concerns over the noise they make, the feces spread below roosts, losses to businesses, and the potential for the birds to spread disease to humans, pets, and native wildlife.

Act 31 provides funds to the Department of Land and Natural Resources to support the DLNR's work with the U.S. Department of Agriculture's National Wildlife

Research Center. The money is to help determine the current population size of the rose-ringed parakeet on Kaua'i, map sites where it roosts, describe its habitats and behaviors, estimate the damages to agricultural, commercial, residential, and natural areas caused by the bird, determine diseases it could carry, conduct trials on methods to discourage their breeding, and, finally, implement an effective control plan, "with an initial reduction target" of 500 birds.

And all this is to be done on a budget of \$75,000.

Act 186, *Coffee Berry Borer*: By this measure, the Legislature extended the life of Act 105, passed in 2014, that underwrote a program to subsidize coffee growers who purchased pesticides containing a fungus that shows promise in the fight against the coffee berry borer beetle. Now coffee farmers can obtain up to \$600 an acre each year, through 2021, to offset costs of controlling the pest.

— P.T.

considered endangered but are valued because of their nearly pristine condition.”

Another key element of the ICA decision concerned the Misslers’ contention that the county did not properly consider its public trust obligations in approving the subdivision application. Here again the ICA upheld Ibarra’s finding that recent rulings of the state Supreme Court bind the counties to weighing the impact of their decisions on public trust resources, especially that of water.

“The county contends that it fulfilled its duty under the public trust doctrine when it reviewed the ... permit in accordance with the criteria set forth in the Hawai’i County Code and when it sought review and comment of other agencies as to the effect of the permit on public natural resources. However, the county has duties under the public trust doctrine independent of the [Planned Unit Development] permit requirements found in the Hawai’i County Code,” the ICA wrote, referring to the Supreme Court’s decision in the *Kaua’i Springs* case. Under *Kaua’i Springs*, the ICA continued, “the county was ‘duty-bound to place the burden on the applicant to justify the proposed water use in light of the trust purposes.’”

Attorney Fees

Although the county lost on the merits, it will not be filing any appeal. It prevailed, however, on the issue of attorney fees.

The Misslers had asked for attorney fees to be awarded for their involvement at all levels of their appeal: at the departmental level, at the Board of Appeals, and in the courts. Ibarra had awarded their fees only against the Planning Department at the Circuit Court level, and not at the proceeding before the Board of Appeals, noting that at that level, the Misslers did not prevail.

Here, the ICA looked at the Misslers’ claim in light of a “three-prong” test to see if it meets the “private attorney general” test. If any one of the three prongs is not met, then the claim fails.

In this case, the ICA determined that it was unclear if the Misslers met the first prong (relating to “the societal importance of the public policy vindicated by the litigation”). It went on to find that the second prong — determining the need for private enforcement and the burden it placed on the plaintiff — was not met. In this, it agreed with the county, which argued that two Supreme Court decisions (*Waiahole II* and *Maui Tomorrow*) concluded that the private attorney general doctrine does not apply to cases arising out of contested case

hearings. “Because the second prong of the private attorney general doctrine is not met, we need not address the third prong,” the ICA wrote. (The third prong weighs the number of people who stand to benefit from the decision.)

Michael Matsukawa, the attorney representing the Misslers, was asked if his clients intended to appeal.

He replied that he has already prepared an appeal to the state Supreme Court but that can’t be filed until the ICA clerk files the judgment on appeal.

“The ICA was not willing to ‘make new law’ on the matter of attorney fees, he said, deferring instead to the Supreme Court on this issue. Matsukawa argued, though, that there are already cases supporting his clients’ position.

“In my draft petition to the Supreme Court, I note that the facts of the Missler case align with the facts in the cases in which the court allowed attorney fees (being the *SuperFerry*, *Honolulu Rail* and *Kawaihau Church* cases),” he went on to say. “In each case, a planning official issued a permit or approval to allow development to proceed, circumventing the law in the process. The complaining parties then filed direct actions in the circuit court (declaratory judgment actions) to ‘appeal’ since that is the only remedy available in such instances.

“In the Missler case, the only remedy available to them by law was to go through the agency appeal process and then the circuit court at the end of the evidentiary proceedings that had to be held first before the board of appeals.

“My point is the form of the remedy is not important (direct civil action versus agency appeal). If a plaintiff succeeds in correcting the improper action of government officials, actions that were made in denial of their duty under the law, and the government officials then tried to block the plaintiff from enforcing the law, fees should be awarded to the plaintiff, especially when the law in question is a law of great importance to the community and to the entire state.

“The successful plaintiffs in the *SuperFerry*, *Honolulu Rail*, and *Kawaihau Church* cases carried the ball for the public interest, proving that government officials had knowingly avoided the law and then blocked the plaintiff, but they eventually lost before a court. Why should the Missler case be any different simply because, by law, they were forced to bring their challenge through the agency appeal process that ultimately ended up with judicial review?”

— Patricia Tummons

Vitousek from page 1

There are four criteria for determining the presence of a colony, she noted: circling flight patterns, ground calling, visual observation of a seabird landing, and activity observed in a burrow. In 2015, “all were confirmed,” she said.

Confirmation came after seven years of searching that began in 2008 as the Army was looking for the presence of the Hawaiian petrel, ‘ua‘u (*Pterodroma sandwichensis*). “There was not much evidence for the Hawaiian petrel,” Galase said, “but we did discover calls from the band-rumped petrel.”

“Then we started to use night-vision surveys. There were 449 visual observations. We saw birds circling and saw a bird land. We saw a carcass where it landed next to a collapsed lava tube. The next day we heard ground-calling in the area and suspected it was from chicks. We couldn’t pinpoint it because the terrain is vast and lava tubes are intricate. So we needed to employ dog searches.”

The searchers employed Makalani, a Springer spaniel, to help out. “Makalani found feathers and would point when he thought an area might have a petrel in it. We found seven potential areas of burrows and put up cameras.”

On September 19, one burrow was confirmed. Two days later, another hit.

Makalani was brought back to explore the same area on September 29, but by then, there were no more birds in the burrow.

This year, she was expecting birds to arrive in May and June. Sure enough, “we caught them arriving.” And, she told *Environment Hawai’i*, “we have continued to capture activity into July.”

In light of the evidence of predation, Galase was asked whether any predator control had been undertaken in the area of the burrows.

“While the area is remote and rugged, we do some predator control for rats and mice—snap traps and Good Nature repeater traps,” she replied in an email. “This is just around the areas where we have known or suspected burrows. The area is not fenced, so a full-scale trapping is not really ideal yet.”

For the present, she continued, “we’ll do small grids of trapping to keep the numbers of predators down around the burrows, and after consultation with the [U.S. Fish and Wildlife Service], we will determine what further steps should be taken.”

While the area where the burrows were found is within the boundary of PTA, band-

PHOTO © ROBIN W. BAIRD / CASCADEIA RESEARCH



Four criteria for determining the presence of a colony: circling flight patterns, ground calling, visual observation of a seabird landing, and activity observed in a burrow.

rumped petrels have been seen flying south past the PTA border, into the adjoining state Mauna Loa Forest Reserve. “Currently, the state is starting to explore what activity is happening there,” she said.

“We don’t have an estimate of how many *O. castro* are using the area,” she noted, “and because they are so cryptic, it will be interesting to try to figure that out.”



Progress in Search For Biocontrol of Albizia

Albizia (*Falcata moluccana*) is the scourge of Hawai'i's forests and a threat to power lines and roofs across the islands. With no natural enemies in Hawai'i, it is larger and more robust here than in anywhere else on Earth, including its native range.

That may be about to change. Kenneth Puliafico and Tracy Johnson, researchers with the U.S. Department of Agriculture's Institute of Pacific Islands Forestry, have been searching for biocontrol agents. As Puliafico reported, they identified the source of the albizia introduced in Hawai'i in 1917, tracing it back to Java and Northern Borneo.

As it turns out, those islands are way outside the species' native range.

“What happened is, Joseph Rock must've gone to Borneo and Java in 1917 and brought back seeds and plant samples from there,” Puliafico said in a phone interview. (Rock, a self-taught botanist, was charged by the territorial government of

Hawai'i with locating species of trees that could reforest denuded slopes and restore watershed functions.)

Albizia has been grown in plantations on the Indonesian islands for the last 150 years or so, with the wood being used for light construction — “disposable boxes, pallets, everything from matches, chopsticks, and shoes,” Puliafico said. At present, he added, it's “used for plywood and a little bit of paper pulp.”

“The native range of our albizia is much further to the east, the other side of the famous Wallace Line. It's more associated with New Guinea island and some of the smaller islands off there,” he said.

Although it's still a major commercial tree in the western Indonesian islands, “in its native range, it's nearly impossible to grow commercially because of natural predators. They can put in plantations, but after 10 years, the trees are just hammered by everything.”

In 2015 and 2016, Puliafico traveled to Indonesia and Papua New Guinea on the hunt for organisms that could halt albizia in its tracks. He was able to identify several candidate species, including a rust fungus that, Puliafico said, “turns albizia into pretzels.”

“This is a disease, in the genus *Uromycladium*, that has been used by biocontrol practitioners in South Africa,” he said. “They used a related species to control invasive acacia plants from Australia. Extensive testing has gone into that previously. We're looking at a related species that's supposed to be specific to our albizia.”

“Once it got into plantation areas, it destroyed the crop of albizia,” he said. His

colleagues in Indonesia have begun testing the fungus for host specificity to see if the rust could affect the two Hawai'i species most closely related to albizia — koa and koaia.

Other biocontrol candidates include a shoot-tip mining moth, which attacks young trees and slows their growth; a stem-mining weevil that feeds on the woody stems of older trees; leaf-feeding beetles; and a gall-forming mite that causes leaflets to curl up and no longer be able to photosynthesize.

Future steps include identifying the potential biocontrol agents and ranking them by the degree of specialization, exploring their life history in their native range, and, finally, testing them for host specificity -- how likely, or unlikely, are they to attack non-target species in Hawai'i.

How soon might an albizia biocontrol agent be released in Hawai'i? Puliafico was asked.

“If everything continues to go as well as it has now, we're looking at a three-year window” for the first biocontrol agent to be completely tested, he replied, with additional time before obtaining all official permissions needed to release it into the environment. “Of course, if the five species we choose turn out not to have host specificity or we lose funding, that could postpone things.”



Galls forming on a fresh albizia seed pod.



A gall turns the growing tip of a two-year-old albizia into a pretzel.

PHOTOS: KENNETH P. PULIAFICO, PHD



Fishing Gear Continues To Harm False Killer Whales

Robin Baird of Cascadia Research Collective, who literally wrote the book on whales and dolphins in the central Pacific region, summarized his ongoing research into interactions between false killer whales and fishing gear.

False killer whales (*Pseudorca crassidens*) in the region belong to one of three populations: open ocean (pelagic); Main Hawaiian Island (insular); and Northwestern Hawaiian Islands. Of the three, the MHI is the only one that has been listed as endangered (in 2012), with a population estimated at about 175; Baird's earlier surveys of the MHI population were instrumental in the decision to list.

Baird has continued to document harm to the animals in the insular population caused by interaction with fishing lines. Three of the individuals documented in 2016 showed new injuries, when compared with photos of the same individuals taken earlier. "So injuries are still occurring today," Baird said, despite the regulations on longline fishing vessels that were intended to end or minimize such harm.

All the observed injuries to individuals whose population affiliation was known were seen among the insular population. The proportion of individuals with dorsal fin injuries in that group was 9.1 percent (16 of 175 individuals). In addition, two false killer whales whose population affiliation was not known were seen with dorsal fin injuries from interactions with fishing lines.

Of the 11 individuals with line injuries where sex was known, ten were females. Baird speculated on reasons for this: "Females may depredate more due to their energy needs," he said, while "males may be more likely to break gear due to their larger size."

One of the potential consequences of this disproportional harm to females, he said, is "the female bias in general will reduce the population's potential for recovery."

Injuries are generally manifested in two areas: mouths and dorsal fins. When a false killer whale pulls against a line, the line can cut into its dorsal fin, leaving it disfigured. The lines also cut their mouths.

Dorsal fin scarring has in the past been used to estimate the extent of fishing gear interaction among the MHI false killer whales. However, Baird said, "Mouthline

PHOTO: © ANNIE M. GORGOVE/CASCADIA RESEARCH



A female false killer whale with dorsal fin injury.

injuries should be a much better indication of interaction rates than dorsal fin injuries."

A hooked animal will almost always have mouthline injuries, but, Baird continued, "only those that struggle a lot might end up with a secondary dorsal fin injury."

In reviewing photographs of 73 animals where at least 50 percent of the mouthline was visible, Baird and his colleagues found 17 of them, or 23.3 percent, had injuries consistent with fisheries interactions. And the more visible the mouth, the greater the chance that the animal would show signs of an injury.

"Of animals with mouthline injuries, we could see an average (median) of 75 percent of the mouthline," Baird told *Environment Hawai'i*. Photos of animals not showing mouthline injuries revealed on average just 53 percent of the mouthline.

"So the 23.3 percent with mouthline injuries should be an underestimate of the proportion of the population that have survived hookings in the mouth," he said.

The false killer whale surveys Baird has undertaken suggest the rate of interactions between the whales and fishing vessels is probably higher than what is indicated by reports from observers on longline vessels targeting tunas. Baird was asked what might account for this.

"The (significantly) higher rate of dorsal fin injury in the Main Hawaiian Islands population of false killer whales, compared to that among the pelagic population, suggest that fishery interactions are occurring more often for MHI FKWs (from whatever fisheries) than for pelagic FKWs (interacting only with the longline fishery)," he replied. "It is also possible that longline interactions are more likely to be fatal (and thus no injured animals to document) than are the interactions with lighter-weight gear used in many of the nearshore fisheries."

Baird mentioned that the observed rate

of interaction between fishing vessels and the pelagic false killer whales is higher than what the population is able to sustain (a level called potential biological removal), which suggests this is also the case with the Main Hawaiian Islands population. With observers assigned to only about 20 percent of the longline vessels at any given time, he continued, "it wouldn't surprise me

if captains of vessels with observers on board are changing their behavior in a way to minimize interactions with MHI FKWs (for example, fishing outside of the area where the pelagic and MHI populations overlap) or with false killer whales in general inside the exclusive economic zone." By fishing outside the EEZ, incidental takes of false killer whales don't count towards the trigger that would result in curbing longline fishing in a large swath of the ocean south of the Main Hawaiian Islands.

Asked whether the non-regulated fisheries might be harming the false killer whales, Baird said that that is likely the case. "Given what we know about the movements of the Main Hawaiian Islands false killer whales from our tagging work (i.e., that they rarely go offshore far enough to interact with the longline fishery), I think the vast majority of fisheries-related injuries are from local fisheries, which could include short-line as well as trolling, ika shibi, and other fisheries. From our analysis of overlap between MHI FKWs and fisheries catch data, I think the majority of those interactions are happening with a small subset of fishermen who fish in the high-density areas (e.g., off Kohala, north of Maui, north of Moloka'i)."

In an email to *Environment Hawai'i*, Baird outlined steps that could be taken to reduce the harm to false killer whales: "Any long-term solution is going to require working with fishermen to figure out ways to reduce interactions, and when interactions do occur, to minimize the chances of injury. Switching to circle hooks, when possible, would be one potential way of minimizing injury. But we are at a stage right now where we need more information."

Ultimately, he said, "electronic video monitoring is needed in the longline fishery to really get at the issue of bycatch (and handling techniques for bycaught animals) when no observers are on board."



Progress in Research Into Rapid 'Ōhi'a Death

Across Hawai'i island, the fungi that are killing 'Ōhi'a trees continue their spread. And as if to underscore the significance of this phenomenon, the first six presenters at the meeting reported on their recent research into the disease.

First was Lisa Keith, the plant pathologist with the USDA's Pacific Basin Agricultural Research Agricultural Center in Hilo. Until a few years ago, the focus of Keith's work was on diseases of crops. As one of the few plant pathologists on the island, however, she was drafted into service when it became clear that a new disease was sweeping through 'Ōhi'a stands in Puna.

Keith and colleagues identified the fungus in late 2014 as *Ceratocystis fimbriata*, a species that has a wide variety of strains, none of which had been known before now to affect trees in Hawai'i.

Since then, she has determined that there are actually two different *Ceratocystis* species at work, neither of which has been identified before. "The idea two years ago was to define the symptoms, how the tree responds to the fungus," she said. But then she and her co-workers found, "it's not one pathogen. We're actually dealing with two, both *Ceratocystis*," called for the time being Species A and Species B.

The discovery came about as they were examining seedlings that had been infected in the lab with the fungus and trying to determine how fast it moved in the tree. "We started seeing significant differences with the degree of discoloration and the amount of spores produced," she said. Dark streaks appear in the sapwood of infected trees, with the two species producing distinctive patterns of discoloration.

"From there, we tried to see it in the field. In trees that died because of *Ceratocystis fimbriata*, you come upon a dead canopy in either case, but discolorations differ. There's more diffuse coloration with type B, a type more typical of infestations elsewhere."

Ceratocystis fimbriata has existed in Hawai'i for close to 100 years, she noted. "It's broadly distributed around the world, and it does affect a lot of crops, including sycamore and eucalyptus.

"We wanted to determine if this is something that's been here and is now attacking 'Ōhi'a. But now we know these are actually two new species of *Ceratocystis*. We were hoping to say right away where they're from, how they're getting here, but that's still a big question mark," she said. "Nothing that was here earlier caused ROD," or rapid 'Ōhi'a death.

Examining the phylogeny of the two fungi revealed that Species A "is a Latin American clade," she said, with origins thought to be near the Caribbean, while Species B has origins in Asia.

Although the outward effect of both species is the same — causing the death of the infected tree — internally, Keith said, they are markedly different. A new "lab in a suitcase" — developed by Carter Atkinson of the U.S. Geological Survey in Volcano — has allowed crews with the Big Island Invasive Species Committee to determine exactly which species has infected a dead tree by removing a spoonful of sawdust from a drill hole instead of having to fell the tree to see whether patterns of discoloration match those caused by Species A or B. That, said Keith, "was a major advance."

Blaine Luiz, who works with Keith at the USDA, has been looking closely into how Species A affects 'Ōhi'a. This species, he said, is thought to be more virulent than Species B. To understand it better, he took three different samples of Species A and infected four different varieties of 'Ōhi'a. Two of the varieties had high mortality, while the other two were not as severely affected.

"With further testing, we can get a better understanding if resistance and tolerance exists in nature," he said.

Marc Hughes, also at the USDA center in Hilo, has been trying to figure out how the fungus spreads. Unlike several other *Ceratocystis* species, it doesn't spread through root-to-root contact. Instead suspicion is turning

to insects as the means of transmission. The fungus gives off a "very fruity smell," he said, that is attractive to insects. But it will still take a lot of work "to determine if vectors spread it tree to tree," he added.

There's also a chance that the disease is spread by frass, the dust and excrement of boring insects. In the lab, he said, "frass is able to kill seedlings" if there is a wound in the tree.

Human activity may also be responsible for spreading the fungus, through cutting of firewood, which releases sawdust that can be carried in the wind to another tree, or by using sawdust from infected trees as mulch.

"Sawdust can serve as an inoculum," Hughes said. "However, wounds are necessary for colonization."

As the research continues in the lab, work in the field is ongoing as well to document the reach of the disease. Flint Hughes has been engaged in this study since before the pathogen was identified.

In recent years, Hughes and his team have developed a network of 43 plots in the districts of South Hilo, Puna, and Ka'u, where the presence of the disease has been confirmed. In each 0.1-hectare plot, they measure every 'Ōhi'a tree and track the progress of the disease in each plot over time.

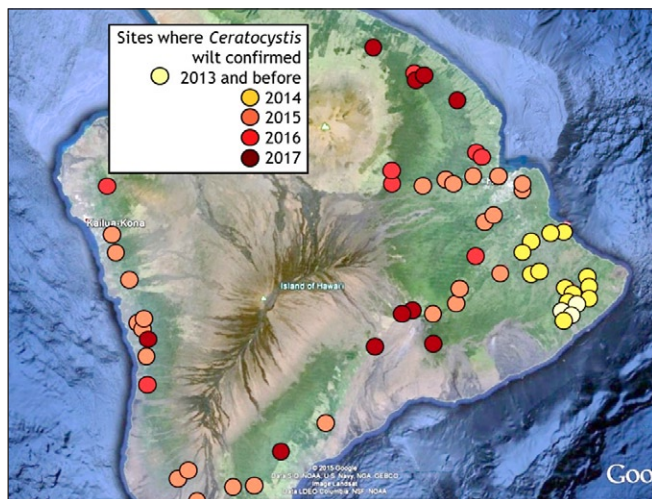
To date, the average annual loss to ROD is about 9 percent in each plot. "We're seeing much lower mortality rates where younger trees predominate," he said. "There's about 300 percent greater mortality in plots where trees are older and larger.

"That seems to be saying there are big differences in how susceptible stands are when the disease is present. Maybe it's because smaller trees are less likely to be wounded, or maybe they have smaller mass and are less attractive to beetles. There's lots to be figured out down the line."

The disease also affects regeneration of 'Ōhi'a. Hughes: "In the majority of plots, we see no seedlings. We're not likely to see 'Ōhi'a recruitment at this time. In 17 of the plots, we see some seedlings, ... [but] they are not abundant across any of the plots."

In some stands, mortality of 'Ōhi'a has exceeded 90 percent, he continued. "If we were to lose all 'Ōhi'a in all plots measured, on average, what we would see is a decrease in about 80 percent of biomass." The size of forests would be reduced, and the proportion of alien to native species would increase to 50/50, he added.

— Patricia Tummons



BOARD TALK

Landscaper May Finally Pay State Its Nearly Half-a-Million Dollar Debt

An ill-timed auction. An effort to give a Waimanalo animal shelter time to relocate after its lease expired. Alleged verbal instructions from state land agents to the new tenant to not pay rent.

These are just some of the actions over the past decade or so that have left the state Department of Land and Natural Resources with unpaid rent, fees, and interest totaling \$466,825, and about another \$200,000 in the hole for foregone rent and property improvement costs. It's also reportedly caused Landscape Hawai'i, Inc. (LHI) — the winning bidder for the 20-acre lot once occupied by the shelter — to incur hundreds of thousands of dollars in financial losses.

With any luck, the debt to the state, at least, will be paid. At the July 14 meeting of the Board of Land and Natural Resources, both for the department and LHI agreed to try to finalize within 60 days a payment plan for the amount owed. The board also directed LHI to pay one year's rent in 30 days. Should either of those deadlines not be met, the company's lease will be terminated.

Botched

"Mr. Tsuji shook his head in disapproval," report the minutes of the Land Board's July 13, 2012, meeting. Russell Tsuji, the DLNR's Land Division administrator, had apparently just learned that his division had auctioned off the agricultural lot in Waimanalo in 2004 while Candy Lake, CEO of the non-profit Sylvester Foundation, was still on the property, along with all of the shelter's dogs, cats, horses, and other rescued animals.

Lake's lease for the lot was set to expire in August 2004. Four months earlier, Peter Young, DLNR administrator at the time, signed a notice of sale and public auction for the property for intensive agricultural purposes. DLNR staff led prospective bidders on tours of the lot that summer. The department held the auction on June 30.

With strong interest in the property, LHI's winning bid of \$36,500 came in vastly higher than the minimum bid price of \$4,764 a year. What might have seemed to be a windfall for the state, however, turned out to be just the opposite when Lake refused to leave, a situation that garnered

significant local news coverage.

In July 2004, LHI paid its first semi-annual rent installment and was supposed to have been able to take possession of the property that September. Instead, Lake and her many animals were allowed to remain.

"Staff was ordered to allow her to remain from the governor's office," Tsuji explained to the Land Board last month.

Lake, who had found ways to relocate some of the animals, was eventually evicted on March 3, 2005, by "about 30 DLNR personnel, police, and others," according to an LHI chronology. But, by all accounts, the property was left a complete mess.

"There were large amounts of trash, construction material, stockpiles of debris, tires, barbed wire, corrugated metal, a Matson container that was too rusty to be moved and created a hazard, broken bottles from drinking, missing windows, screens and damage to walls caused by vandalism, condoms, needles, and syringes from drug activity on the subject property," a 2012 account by LHI's attorney Wray Kondo states.

What's more, LHI representatives had believed that the company would be able to use three livable structures that they had seen during the pre-auction tour (even though the bid package had called for only one), and that electricity would be available. It was not.

While the DLNR had auctioned the property "as-is," the Land Division agreed to clean up several things for LHI. According to a staff report to the Land Board, the division paid more than \$150,000 to clean one building to be used as a dwelling, install fencing, tow abandoned vehicles, demolish one structure, and remove vegetation and debris.

LHI eventually signed a 30-year lease for the property on March 23, 2006, and paid another \$18,250 in rent.

Haggling

Despite the Land Division's efforts, LHI felt the state needed to do more. The company claimed that the division had fenced the property in such a way that it cut off access to four usable acres.

It wrote the division repeatedly over the

years, asking that the division re-install an electric meter box that it believed the division stole and that it reduce the lease rent by 20 percent until all issues were resolved.

Once a lease won through a public auction is signed, however, the Land Division cannot just change the rental terms. Even so, in an attempt to resolve one of LHI's complaints, "on June 1, 2009, a former staffer at the Land Division [Charlene Unoki] informed the Fiscal Office to change the commencement of billing date to April 1, 2008, instead of April 1, 2006, which was the commencement date of the lease. In effect, the staffer was providing a rent-free period of two years," the Land Division report states.

LHI was still not satisfied and continued to withhold rent. While company representatives have repeatedly claimed that Unoki verbally told them to not pay any rent until all of the outstanding issues were resolved, the DLNR made it clear in 2012 that it felt it had done enough. By this time, Unoki had retired and the lease file had been taken over by another land agent, Barry Cheung.

On July 13, 2012, the Land Division recommended that the Land Board deny LHI's request for a rent reduction and consider canceling the lease. At that time, LHI owed \$127,750 in back rent.

The board ultimately deferred taking any action, because it was unsure of what legally binding assurances, if any, the division may have given LHI. However, Kondo continued to discuss the matter with DLNR director at the time, William Aila.

In an August 6, 2012, letter, Kondo pointed out that DLNR records suggest that utilities were included as a feature of the lease, adding, "Without a meter box and electricity, an effective business operation cannot proceed." He stated that LHI had spent \$317,000 making the property usable and \$10,000-\$15,000 in attorney's fees. He asked that the DLNR pay LHI's attorney's fees, consider the company's lost opportunities caused by the lack of electricity, waive all rent until the department paid to bring electricity to the property, and pay for and install plumbing for the dwelling.

In his December 28 response, Aila rejected Kondo's proposal, pointing out that the property was auctioned in an "as is, where is" condition. What's more, in adjusting the lease commencement date from 2006 to 2008, the department had effectively given LHI two years of free rent (a total value of \$73,000). Aila did, however, offer to pay \$5,850 for the installation of an electric meter box to settle the matter.

"The things that they demanded or felt

was needed to make things right we just can't do. Waiver of rent ... the state can't waive rent," Tsuji told the Land Board last month.

Five Years Later ...

The Land Board did not revisit the matter until last month, at its July 14 meeting. LHI on its own had electric service restored to the property. But as it had still not paid any additional rent, the Land Division recommended canceling the lease.

"They've been there 11 years and they paid one year of rent," DLNR director and Land Board chair Suzanne Case said.

Rather than terminating the lease, LHI's current attorney, Ben Matsubara, offered a new proposal: allow the \$150,000 LHI spent — and the \$125,000 it plans to spend — to restore the property's structures to a semblance of what they were in 2004 to be credited against its arrearage.

"Maybe if we would waive some of the interest that would be helpful," he added.

He also tried to assure the Land Board that LHI had not simply been ignoring the DLNR's rent default letters for the past five years. Since he began representing LHI in 2015, "I answered 14 times," he said, adding that in his responses he asked the division for an opportunity to discuss matters further.

Board member Keone Downing, a business owner himself, seemed baffled as to why LHI chose to keep the property despite its poor shape.

"Why, at that time, didn't they go to the state and say, 'I can't accept this. This isn't what I signed up for'? As a businessman, I wanna be out of the contract. It would go out to bid again and maybe I could get a lower price," he said.

"I'd be really interested to see why you keep hanging on ... and yet at the same time saying, 'You didn't do this, you didn't do that,'" he said.

"That's a good question, one I ask to myself. ... I've been told [by DLNR] 'Don't worry. We'll get it fixed.' I was maybe naive to believe," LHI president Kyle Ushijima replied. He added that the property was well-suited for his plant nursery needs in that it was level, with terraces.

"I didn't realize I could terminate the lease at that time. I didn't investigate it or even think about it. That's my fault," he said.

"What I don't understand, frankly, is you've been in possession of the property for 11 years and you've paid no rent," Case said.

LHI's Cindy Comer again pointed to DLNR staff. "We met with [former DLNR

director] Peter Young in 2007. He told us do not pay the rent until this is resolved. And then a month and a half later, Charlene Unoki met with us. She knew the file and ... said 'Do not pay the rent until this is resolved,'" she said. Comer then recounted all of the work LHI had to do to make the trashed property workable and livable.

"I can understand working those things out the first few years of the lease. I don't understand for the next nine years," Case replied.

"We were told not to pay. We were told 'till 2012 not to pay," Comer said.

"And it's five years later," Case replied.

"Just to amplify [Case's] point, there was a Land Board meeting to get you to pay the rent," board member Chris Yuen said. To Comer, he added, "Your offer in 2012 was to waive five and a half years rent."

"— and that was declined," Case said.

To Land Board member Stanley Roehrig, whether or not LHI actually suffered financially as a result of the botched lease process was key. "For me to get a feel of what's fair, it's very helpful if I look at your tax returns and see whether you're making money or you didn't. If you're taking a beating ... that would be something that I would consider, that we should take into account. On the other hand, if you're making good business notwithstanding these peripheral problems, then it shows another light on what's fair. I certainly agree with the chair and Chris, you got a lot of free rent," he said.

As to LHI's reliance on past directions from DLNR staff regarding rent, Roehrig said, "If somebody tells you they're going to take care of you, no worry, no worry, and after awhile they don't take care of you, after awhile you scratch your head and wonder if it's true. ... Charlene is gone and Peter is gone. You gotta pay up."

A Decision

In the end, Yuen made a motion to give LHI 30 days to pay this year's rent and 60 days to finalize a payment plan for the back rent (plus interest), provided that the Land Division give them a proposed plan within 15 days. Also, LHI's continuation under the lease with a payment plan would be conditioned on the settlement of the company's claims against the state, he said.

"My motion is not that you get into a negotiation of how much rent is due," he said. "In my motion, it's a take it or leave it. If the department does not agree [on a payment plan], I say that's the end of the story."

"You gotta take your chances on the one

year's rent. You might just suck eggs on that," Roehrig told LHI and Matsubara.

Before the vote on Yuen's motion, Case indicated that she would be opposing it and that she would prefer to cancel the lease.

"This is a situation that has gone on so long, there's no equity here, in a fairness sense. You've got to do your part of the bargain in any business transaction," she said.

On this, Yuen seemed to agree. "I don't see a lot of equity. There have been a lot of great excuses for the lessee to not pay the rent." However, he continued, "we have a tenant. If we can get the rent paid ... we want to get it paid."

With that, the board (except Case) voted to approve Yuen's motion.



State Owns Historic Maui Trail, But Recommends Against Its Use

On July 14, the Land Board approved a request by the DLNR's Division of Forestry and Wildlife to terminate a May 2012 memorandum of agreement with Haleakala Ranch Company that allowed the public, with a guide, to access twice a year what was believed to be the historic Haleakala Bridle Trail through the ranch. The six-foot-wide trail extends from Makawao to Haleakala crater. Whether it was public or not was a matter of dispute at the time DOFAW and the ranch entered into the MOA.

In April 2014, the 2nd Circuit Court ruled that the state indeed owned the trail, in a case initiated by Public Access Trails Hawai'i (PATH). The ranch agreed not to appeal the verdict and a final order was filed in July 2016.

With the ownership issue settled, the ranch asked DOFAW last August to end the MOA, which the department seemed glad to do. In its report to the Land Board, DOFAW indicated that managing the reservation system and guided hikes required a significant amount of time and placed "a substantial burden of expense on an already stretched Na Ala Hele program."

In an October 27, 2015, statement, Scott Fretz of DOFAW's Maui office explained that because the trail was unmarked and cut through private lands, it was impossible to stay on the trail and avoid trespassing without a guide. Hikers also were at personal risk given the ongoing cattle operations on

the surrounding lands.

"It is furthermore not constructed and maintained to Na Ala Hele trail standards and there are no parking areas or other amenities. For these reasons, the department does not recommend that the trail be used," he wrote.

In its report last month to the Land Board, DOFAW noted that it was still pursuing an agreement with PATH "or other appropriate entities" on the terms of public use of the trail "that will better accommodate the public." It added that it had reached out to PATH, the ranch, and the Maui Chapter of the Sierra Club to discuss the issue.



Board Approves MOU for Lehua Project

The pieces needed to rid Lehua Island of invasive rats are falling into place. Last month, the U.S. Fish and Wildlife Service (FWS) and the state Department of Land and Natural Resources (DLNR) were expected to publish their final environmental assessments of their Lehua Island Ecosystem Restoration Program to be conducted this year. And at its July 14 meeting, the state Board of Land and Natural Resources approved a memorandum of understanding (MOU) and implementation agreement between the many parties involved: the DLNR, FWS, U.S. Coast Guard, Island Conservation, National Tropical Botanical Garden, and the owners of Ni'ihau, which is less than a mile south of Lehua and will be used as a staging area.

The MOU describes each of the parties' roles and sets forth the terms under which they will interact.

The U.S. Department of Agriculture was considered, but is not included as a party. According to DLNR Division of Forestry and Wildlife administrator David Smith, the USDA wants its own separate agreement. Still, the MOU does identify actions to be undertaken by the USDA: 1) develop and implement monitoring protocols, and 2) purchase bait, on a reimbursable basis, if applicable.

Lehua is federally owned, but is also a state seabird sanctuary managed by DOFAW. According to the FWS draft environmental assessment for the project, "Lehua is home to the largest breeding colonies of brown boobies (*Sula leucogaster*) and second-largest for red-footed boobies (*S. Sula*) in the Hawaiian Islands, the fifth-largest Hawaiian breeding ground for wedge-tailed shearwaters (*Puffinus pacificus*), an important large colony of

red-tailed tropicbirds (*Phaethon rubricauda*) and is home to the westernmost colony of Hawaiian black noddies (*Anous minutus*). Three federally listed species are suspected of nesting on Lehua: Newell's shearwaters (*Puffinus newelli*), band-rumped storm petrels (*Oceanodroma castro*), and Hawaiian petrels (*Pterodroma sandwichensis*)."

To restore the island's plant and bird populations, rabbits were eradicated in 2006 and the agency tried but failed to eradicate the rats in 2009.

After evaluating the possible reasons for the failure, the parties and agencies involved in the 2009 eradication agreed to give it another shot. The effort will involve aerially dropping anticoagulant bait onto the island. Diphacinone, which was used last time, would again be used, as well as brodifacoum, if necessary. (For more on this, read our April 2017 cover and sidebars.)

The owners of Ni'ihau, who had been concerned that the last bait drop had caused a major fish kill on their island, are now on board, DOFAW's Smith told the Land Board.

"They're offering to let us operate off the island," he said, adding, "the last time [the parties involved] didn't cooperate with Ni'ihau and they were pissed off."

"Could we say for the record it upset them?" Land Board chair Suzanne Case asked.

"The Ni'ihau people were upset we did not properly get their consent," Smith clarified. "It's kind of a breakthrough to have them working on this," he said.

While Ni'ihau's residents seem to have

been won over, some resistance to the aerial broadcast of pesticides remains, with blog posts and web articles warning of the potential dangers the aerial broadcast of pesticides poses to non-target species (including humans).

Given the controversial nature of the project, Land Board member Sam Gon wished DOFAW the "best of luck."

"Having to jump through flaming hoops, you look un-singed," he said.



Fence Project to Protect Kaua'i Seabirds

To help mitigate for the incidental take of rare seabirds that are attracted to and harmed by nighttime lights on Kaua'i, the state Division of Forestry and Wildlife wants to protect and enhance their habitat by building a two-hectare, predator-proof enclosure on the rim of Kalalau Valley, on the border of Koke'e and Napali Coast state parks.

The fencing project is part of a larger mitigation strategy in DOFAW's Kaua'i Seabird Habitat Conservation Plan, which covers actions by a number of non-federal entities (such as the state Department of Transportation) that may cause harm to Kaua'i's seabirds. (The Kaua'i Island Utility Cooperative, with federal grant assistance, is developing a separate habitat conservation plan to mitigate for bird collisions with power lines.)

In addition to building the fence, the HCP calls for the removal of predators,



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monitoring for seabirds, and installation of equipment to make the enclosure a "seabird attraction site."

"That sounds like a seabird dating site," Land Board member Chris Yuen said at the board's July 14 meeting, where DOFAW requested approval to put the two-year project out to bid.

DOFAW's David Smith explained that it kind of is. "It refers to birds figuring out there's other birds [there]," he said, explaining that birds flying overhead will investigate bird calls from the ground.

Land Board member Sam Gon noted that the project site will be a difficult place to build a fence.

"Very challenging," Smith agreed.

DOFAW is expected to select the winning bidder by the end of this month. Work will not likely begin until next spring or summer, according to a staff report.

The board's approval of the project could not come soon enough for some. In June, Hui Ho'omalua i Ka'Aina, Conservation Council for Hawai'i and the Center for Biological Diversity filed a notice of intent to sue the DOT for failing to stop lights at airports and harbors on Kaua'i, Maui, and Lanai from injuring Newell's shearwaters, Hawaiian petrels, and band-rumped storm petrels, all of which are covered under the HCP.

A recent study led by the Kaua'i Endangered Seabird Recovery Project and published online in the scientific journal *Condor* found a 94 percent decline in the shearwater population and a 78 percent decline in the Hawaiian petrel population between 1993 and 2013.

"Kaua'i's endangered seabirds are under threat from a whole suite of issues, including introduced predators such as feral cats, powerline collisions, light attraction and invasive plants – as well as threats at sea which could include overfishing, by-catch and the effects of climate change," stated lead author Andre Raine in a DLNR press release on the study.



Savio Gets Time To Clear Out Properly

Cowboy hat in hand, Savio Realty vice president Dana Kenny pleaded with the Land Board last month for two or three more weeks to clear its property out of the old Uncle Billy's hotel, which the DLNR abruptly ordered to close in June after a county inspection deemed it unsafe.

Savio had a permit from the board to keep the hotel operating while the DLNR and Hawai'i County worked out a plan for the greater Banyan Drive area owned by the state. Before that could happen, however, state and county inspections found numerous health and safety concerns at the hotel, known as the Pagoda Hilo Bay Hotel after Savio took it over last year.

At the Land Board's July 14 meeting, DLNR Land Division staff had recommended canceling Savio's permit and issuing a new one to Tower Development, which operates the adjacent Grand Naniloa Hotel and wants to build a fence around the dilapidated Pagoda property to shield it from view and to control trespassing.

Kenny, however, asked if the board could wait a little longer before canceling Savio's permit so the company could exit properly.

"It's been 17 business days to go from being fully operational to having a parking lot sale," he said. "There's not a manual on how to do this."

He continued that Savio had been told by DLNR that the hotel would have to close on July 14 and then it would be given time to remove property (beds, furniture, etc.). Based on that timeline, Kenny said that Savio has paid for advertising for two sales.

"It's next to impossible to do the sale by

this weekend," he told the board. "We're selling beds. They're being inspected for bed bugs. They're being bagged. We're trying to do this in a real fashion. We're not dragging people through the hotel and [telling them] 'pick what you want.'"

"Most of our rooms had full kitchen. We're not talking about a bed, two night stands, and two lamps. We're talking about microwaves, pots, pans . . .," he said.

He said many furnishings will be going to non-profits: Catholic Charities, Habitat for Humanity, ARC. If Savio isn't given enough time to distribute everything properly, a lot will end up at the landfill, he said.

He added that there are also hazardous wastes that need to be properly dealt with.

"Our agreement with you is an agreement we consider to be an honorable one. We want to walk out of that property and hand you folks the keys and have you folks say, 'Wow, you did a good job.' . . . We want to feel good about who we are. We're members of the community. We're going to run into each other again," Kenny said.

"At the end, I want us to be able to shake hands and say, 'It wasn't the best experience, but it wasn't a bad experience,'" he said.

Tower president Ed Bushor seemed amenable to waiting a few weeks. "I don't care either way. I'm doing this for the community," he said with regard to the fence. "I build churches. If we're giving this stuff to the church, I'm the first guy to say it's a good idea," he said.

Land Board member Chris Yuen made a motion to give Savio three more weeks to complete its work and to give Tower a permit on August 4 to begin fencing.

After the vote, Land Board chair Suzanne Case offered her sympathies, as did Yuen.

"Getting to the point where we had to close it is the last point we wanted to be at with this property. I'm very sorry we put your company in this position," he told Kenny.

— Teresa Dawson