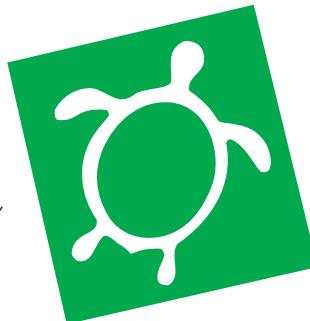


Environment



Hawai'i
a monthly newsletter

As the Crow Flies

Is the third time the charm? From recent reports, it would appear so. The first two tries at reintroducing the 'alala, or Hawaiian crow, into the wild were, sadly, unsuccessful. Predation by 'io, the Hawaiian hawk, and disease sank the two previous efforts.

But this time, the 11 captive-reared birds released into the Pu'u Maka'ala Natural Area Reserve a year ago appear to be adjusting to their new environs well. The Department of Land and Natural Resources even reported that all seem to have survived just fine the deluge that hit eastern Hawai'i island last month.

Our cover article looks at the preparations that made this possible.

Also in this issue: The mysterious case of the disappearing affordable homes in Hawai'i County, more from the Conservation Conference, an update on the Kahala Hilton's use of a public beach, plans for Ma'la'akana, and good news for bigeye tuna.

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Science Committee Again Finds Bigeye Aren't Being Overfished

A Year After Pu'u Maka'ala Release, All 11 'Alala Are Alive and Thriving



PHOTO: SAN DIEGO ZOO GLOBAL

A pair of endangered Hawaiian crows, or 'alala, at Pu'u Maka'ala on Hawai'i island in 2017.

This time, they were ready.

When the state released five male, captive-reared endangered Hawaiian crows ('alala) into the Pu'u Maka'ala Natural Area Reserve on December 14, 2016, managers found out the hard way that some of them weren't ready to fend off attacks from native Hawaiian hawks ('io) or otherwise survive on their own.

In 2002, the species had disappeared from the wild and survived only at captive rearing facilities in Keauhou, Hawai'i and Olinda, Maui, run by the San Diego Zoo Global's (SDZG) Hawai'i Endangered Bird Conservation Program.

Despite extensive preparation, within two weeks of their celebrated and long-awaited release, three of the released birds were dead. Two were killed by 'io, while another simply failed to thrive. Staff with the 'Alala Project — a partnership that includes the state Division of Forestry and Wildlife, the U.S. Fish and Wildlife Service and SDZG — recaptured the remaining two and went back to the drawing board.

At the annual Hawai'i Conservation Conference held in Waikiki this past July, project members detailed how they strengthened preparations for the next cohort and proudly proclaimed that all 11 birds (four females and seven males) released in September and October 2017 were still alive and well nearly a year later. What's more, the birds have been seen banding together to fend off 'io attacks, foraging broadly, and perhaps even pairing up, they said.

Boot Camp

"We went back to the basics," said Alison Greggor, a post-doctoral research associate with SDZG's Hawai'i Endangered Bird Conservation Program of her team's approach following the recapture of the two survivors of the 2016 release. The team re-evaluated what the captive-raised 'alala needed to know before entering the wild. "Captive environments lack foraging challenges, exposure to predators, natural social groups. We went through and tried to address each one of these," she said.

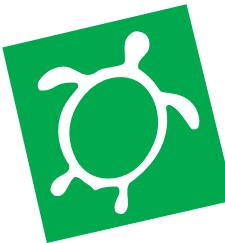
'Alala have large brains for their body size and a long juvenile development period. So compared to other species, 'alala have a lot they need to learn because they don't have as much ingrained behavior, she said.

"A juvenile needs to see a predator while hearing a danger call of an adult," she said. Her team experimented with a variety of proxies to see which ones the 'alala found the most convincing. The team employed plastic 'io or stuffed ones to "fly" over the aviary, while putting a dead corvid under their feet. Ultimately, a combination of different techniques was used, although she said the birds responded most strongly to a live hawk borrowed from the Panaewa Zoo.

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Environment

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Hawai'i

September 2018

NEW AND NOTEWORTHY

If Bones Could Nest... Environmental assessments are often written with less care and attention than environmental impact statements. The August 8 Environmental Notice includes a couple of EAs that provide ample evidence.

Consider the draft EA prepared for an after-the-fact permit for a seawall fronting two lots in the Mokuleia area. In discussing possible impediments to the permit, the DEA states: "According to the [Office of Conservation and Coastal Lands] this area is sensitive to the



Ocean swells crash against a wooden seawall on Mark Button's property in Waialua, O'ahu.

PHOTO: DRAFT ENVIRONMENTAL ASSESSMENT
BY GUNMAKER WORKS, LLC.

Environment Hawai'i

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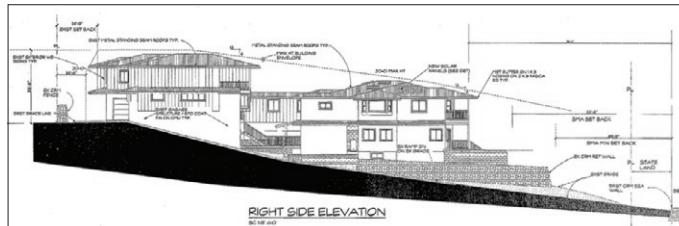
Directors

Mary Evanson Valerie Monson

ifi kupuna. However without positive signs of nesting no action has been required to this point." Iwi kupuna are, of course, the bones of Hawaiians, who before European contact were often buried in coastal sands.

The document is rife with similar howlers, of both content and style. Take this, for example: "Removal of the alterations to the existing wall is also not a viable option. The simple fact of the matter is that this issue is in fact an issue and the wall's poor construction has proven itself time and time again to be insufficient in the defense of the property against the ocean tides and swells."

'My Beautiful House': Another EA — this one a final EA — for coastal property on O'ahu shows the drawbacks of the landowner preparing his own document. Charles Tsu Yew Wong, owner of property along Lilipina Drive in Kaneohe, is seeking permits for a five bedroom, eight-and-a-half bath house with two three-car garages, a seawall extension, and other improvements. According to Wong, the city had erroneously issued him a permit for the house and now he must seek after-the-fact approvals.



EA FOR CHARLES WONG HOUSE

Quote of the Month

"The simple fact of the matter is that this issue is in fact an issue . . ."

— environmental assessment
by Gundaker Works, LLC

Wong's DEA runs to 438 pages and includes such extraneous information as notices of violation, building permits, architectural drawings, and window schedules. Multiple photos are also included, although it is not always clear what they are intended to illustrate.

Wong appends to his DEA comments from various agencies and, notably, neighbors. In one case, a neighbor noted that at one point, the house plan shows a floor area of 10,818 square feet, but plans for the building permit show an area of 8,917 square feet. In reply, Wong dismisses this as "not relevant." "For purposes of the EA, the proposed new dwelling are [sic] conceptual, not actual."

The Ko'olaupoko Hawaiian Civic Club, in its comments, urged the Honolulu Department of Planning and Permitting to refuse to issue any permit for Wong's house. "[T]his property owner has violated building regulations for a number of years and caused runoff into Kaneohe Bay," it noted. Wong's reply: "I am sorry to hear that you do not like my beautiful house."

Last year, the DPP staff urged Wong to seek professional help. "[W]e highly recommend you seek a professional planning or environmental agent to complete the documents necessary for the DEA," it told Wong in March 2017.

Wong said he was unable to do so, but he was able to "retain the services of a professional planner, off the record." Fair to say no professional would want to be on the record in association with the hot mess of this EA.

Correction: In our August article, "Tenant Property Tax Bills Go Unpaid," we erroneously stated that Kampachi Farms, LLC owned "the giant off-shore cages where kampachi is raised to market size." According to Kampachi Worldwide Holdings, LP co-founder Neil Sims, Kampachi Farms no longer operates the fish farm, having transferred ownership of the lease and permits for it to another company in 2009.

Hawai'i County Spurned Developer's Offer To Donate Land for 80 Affordable Units

Newsflash. Hawai'i County has too much affordable housing.

That, anyway, was the position that appears to have been staked out by the county's Office of Housing and Community Development (OHCD) during the final months of the administration of Mayor Billy Kenoi in December 2016.

Susan Akiyama, director of the OHCD, did not want to accept land from a Waikoloa developer who had proposed offering it to the county as a way to satisfy county-imposed affordable housing requirements.

As noted in an undated, anonymous memo to the files found in OHCD records, "According to Susan, county is not interested in accepting the land because we would be competing with our own Kamakoa Nui project," referring to a large affordable housing complex undertaken by the county on the opposite side of Waikoloa village that is planned, eventually, to include 1,200 units of workforce housing. In addition, the memo notes, "there is no final FUDS clearance." FUDS stands for "formerly used defense sites." Although the land under discussion, part of a training range dating back to World War II, had already been swept by Army Corps of Engineers personnel for the presence of unexploded ordnance, another sweep was required before the Department of Housing and Urban Development could agree to underwrite construction of affordable housing on the site.

None of the nonprofit organizations that might otherwise be likely candidates to develop low-income housing was interested, either. The area was too distant from their services, it was too expensive to develop, or they were occupied with other projects, the memo noted.

The developer that needed to satisfy affordable-housing requirements was Waikoloa Highlands, Inc., which owned 731 acres of land just mauka of the village of Waikoloa where it has proposed developing 398 single-family house lots. Under conditions of a 2008 Land Use Commission redistricting action that placed the land into the Rural district, and also under terms of a rezoning ordinance passed by the County Council, the owner had to come up with a means of ensuring that some fraction of the housing that would eventually be developed on its land would be within the reach of families whose incomes would otherwise disqualify them.

As to the particulars of how the county's affordable housing requirements would be met by this developer, the LUC left that to the county, and the county, in turn, in a series of several rezoning ordinances, left it up to OHCD to see that the developer complied with Chapter 11 of the county code, which addresses affordable housing needs.

As generally understood, housing developers — whether developing completed houses or, as in this case, subdividing vacant lots — need to provide affordable units equal to 20 percent of the number of houses or lots in the total development.

But what the code actually says is that the developers need to earn "housing credits" that add up to 20 percent of the number of units or lots proposed — which in the case of Waikoloa Highlands comes to 80 credits. And there are several different ways of earning those credits.

Waikoloa Highlands, through its consultant Sidney Fuke, a former Hawai'i County Planning Department director, went with the option that allows developers to donate to the county or a nonprofit organization, such as Habitat for Humanity, for example, land on which the county or nonprofit will, in turn, build for-sale units "affordable for qualified households earning no more than 80 percent of the median" household income for the area or for-rent units affordable to households earning no more than 60 percent of the median. Under this option, "credits are earned upon the conveyance of the land: 1.0 credit per unit."

In the deal eventually worked out, Waikoloa Highlands carved out off an 11.7-acre piece of its land, which ultimately led the OHCD to release the developer from the need to do anything further to comply with Chapter 11.

But in the Housing Office files that *Environment Hawai'i* was allowed to review, there is nothing that would indicate the agency did any calculations of the kind that would lead staff to conclude that the deal was worth 80 affordable housing credits.

In fact, there is no legal requirement at all that the land be used for affordable housing. Nothing in the deed passed from Waikoloa Highlands to Plumeria at Waikoloa restricts use of the parcel. Nothing in the deed conveying the land to the current owner, Pua Melia, LLC, restricts its use.

If Pua Melia develops the 11.7-acre parcel

as it has proposed in preliminary submittals to the Office of Housing, the county will see its affordable-housing stock increase not by 80 units, or even half that. So far, Pua Melia has drawn up plans for several duplex and four-plex buildings with a total of 32 units. The owner of Pua Melia, Danny Julkowski, has not indicated in filings with the OHCD whether those units be sold or rented, nor has he stated what level of household income will be targeted.

So, instead of 80 affordable housing credits, the county has settled for at most 32. At worst, it gets nothing.

In the meantime, current Mayor Harry Kim is asking the state for more than \$600 million to help the county recover from the effects of the recent lava eruption in the district of Puna. Among other things, his request includes \$5 million for construction of 100 units of "transitional housing" and \$10 million for 100 housing units in various areas of Puna. Over and above all this are tens of millions to pay for supporting infrastructure, including sewers, wells, water lines, and roads.

Outstanding Issues

A review of all the Housing Office files made available raises more questions than it answers. *Environment Hawai'i* sought to raise these questions with current OHCD administrator, Neil Gyotaku. So far, he has not responded to our outreach.

In the "affordable housing agreement" signed by Mayor Kenoi on December 1, 2016, the Housing Office specified that the transfer was to be not to the county or to a nonprofit, but to Plumeria at Waikoloa, an LLC formed just weeks earlier. Why? Paul Sulla, the only person whose name appears on the firm's business records, declined to provide any details. No one now at the Housing Office could answer this question either.

When the "affordable housing" parcel was subdivided some months later, the original 731-acre parcel was still burdened by a \$1.5 million mortgage. The anonymous memo identifying "challenging issues" noted that the office only "later discovered that the parcel had [redacted] encumbered against the bulk parcel that was not released during the subdivision." No one at either the Housing Office or at the Planning Department, which processed the subdivision request in the spring of 2017, checked to see if there was any lien on the property. As *Environment Hawai'i* in November 2016, there was an outstanding mortgage for \$1.5 million held by 77 Holdings of Utah. That mortgage was not released until after Plumeria at Waikoloa had arranged the resale of the affordable housing parcel to the

Continued on next page

Hurricane Forces LUC to Cancel Hearing on Waikoloa Highlands

Saved by the storm! Thanks to Hurricane Lane, the state Land Use Commission was spared the need to make a critical decision on the stalled-out plans to develop a 398-lot residential subdivision on land just upslope of Waikoloa Village.

On August 22, the LUC had been scheduled to meet in Kona. On the agenda: an order for the developer to show cause as to why the subject land, about 730 acres, should not be placed back into the state Agricultural District. Ten years ago, the same body had upzoned the parcel from Ag to the Rural District, subject to the developer, which at the time was Waikoloa Mauka, LLC, complying with a number of conditions inside a ten-year time frame.

The deadline for compliance expired in June. A couple of weeks prior to that, the LUC had voted in support of the motion to require the successor landowner, Waikoloa Highlands, Inc., to give them good cause as to why the land should not be reverted to Ag.

The scheduled hearing on the show-cause order coincided, however, with the approach of Hurricane Lane, a Category 5 cyclone forecast to move up the Kona Coast on the same day, forcing the LUC to cancel the meeting.

Despite the cancellation, it appeared likely that the commissioners would give Waikoloa Highlands more time to prepare its defense. In July, the company requested a continuance. Neither the Hawai'i County Planning Department nor the state Office of Planning — the two other parties that participated in the

LUC's 2006-2008 deliberations — objected to the request. Given that litigation over the nearby 'Aina Le'a development has made the commission exquisitely sensitive to the need to be scrupulous in respecting due process rights, odds were good that a continuance would have been granted.

Still, on the outside chance that the show-cause hearing would go forward, Steve Lim, the attorney recently retained to represent Waikoloa Highlands, submitted to the LUC a statement of its position on the show-cause order.

First, Lim claimed that the previous principal of Waikoloa Mauka, Stepan Martirosian, had defrauded Vitaly Grigoriants, the Armenian banker who had put up the capital for the land's purchase. Martirosian, who was, Lim wrote, "solely responsible for overseeing all aspects of the project," had committed "gross mismanagement and fraud."

"Armed with new management," Lim continued, "WHI is competent and committed to developing the project through completion" and has already "substantially commenced" its development.

Aside from a few stakes in the ground that carve out the boundary of just under 15 acres from the original 731 acres, there have been no visible on-the-ground changes to the land. The activities that Lim cites as contributing to substantial commencement consist almost entirely of documents drafted more than a decade ago, during the pendency of the LUC deliberations on the original docket, and a frenzy of activity that began in late 2016.

current owner, Pua Melia, for \$1.5 million. Did Plumeria at Waikoloa act as an agent for Waikoloa Highlands in arranging the resale to Pua Melia? That is certainly suggested by the evidence.

The affordable housing agreement between Waikoloa Highlands and the Office of Housing specified that it was to "run with the land and be binding upon and inure to the benefit of the parties hereto, and their respective successors and assigns." To ensure that, the agreement was to be filed with the state Bureau of Conveyances. At the time of this writing, more than 18 months after the agreement was signed, it still has not been recorded.

In the deed transferring the affordable housing parcel to Plumeria at Waikoloa, there

Exactly what counts as "completion" in Lim's view might also come as a surprise to some members of the commission.

The LUC approval, Lim notes, was for a development consisting of 398 vacant lots with a minimum one-acre lot size. The commission's order approving the redistricting defined "full buildout" as "completion of the backbone infrastructure to allow for the sale of individual lots" and required that this milestone be completed by June 2018.

Lim goes on to argue that despite the mention of "backbone infrastructure" in the LUC decision, all that is really required, in fact, is that the developer obtain a bond guaranteeing that the improvements will be made.

"For developments like the [Waikoloa Highlands] project, once tentative subdivision is obtained, the lots can be registered with the state of Hawai'i Department of Commerce and Consumer Affairs," Lim writes. The DCCA can then issue a "preliminary order of registration," which allows the developer to enter into contracts for sale of the lots (providing, however, for the "right of rescission in the event final subdivision approval is not obtained") or non-binding reservation agreements.

Here's Lim's description of how this will work after the DCCA's "preliminary order of registration": "From this point, final subdivision can be obtained in either of two ways: (1) the developer can complete all requirement improvements; or (2) the developer can post a completion bond In the latter option, which will be applicable to this project, the developer will first prepare construction drawings and cost estimates for the subdivision and submit those drawings to the respective county agencies for processing. Once the county approves the construction drawings and cost estimates, the developer will then obtain a completion bond..."

After the developer provides the bond, Lim continues, the county "will then issue final subdivision approval and the developer can then process its application to the DCCA to obtain a Final Order of Registration," Lim argues. With that in hand, "the developer can then proceed to close upon all of the contracts that were entered into under the Preliminary Order of Registration. Therefore, under this process, the sale of project lots can close prior to the actual start or completion of all necessary infrastructure and related improvements."

In other words, Lim is arguing, the developer will be able to satisfy the condition that "backbone infrastructure" be provided merely by posting a bond and without ever turning the first spade of earth. Whether the county or the LUC commissioners agree won't be known until the show-cause hearing is rescheduled.

— **Patricia Tummons**

— **P.T.**

'Alala from page 1

In addition to finding the most effective version of a predator, the team needed to pair that audible with danger cues. The team collected a variety of vocalizations from the captive flock, including distress calls the birds make when they think they're injured, she said.

With the visuals and the alarm calls combined, the team essentially created a vivid theater production for the 'alala.

"We want to make sure we're actually creating fear," she said.

While the predator play proceeded, the team documented the kinds and amount of fear behaviors the 'alala exhibited, whether it was making alarm calls or pace flying in the aviary. "Per minute, we were getting 100 fear behaviors in cohorts. We even had some birds come up and mob the 'io," she said, adding that those birds included the ones released in 2016.



Managers track the released birds' weight using a spring scale/feeder.

With regard to foraging, she noted that adults of species of the crow family are known to be wary of novel food types and, therefore, may need to be exposed to potential food sources before that wariness takes hold. "Before they are released, they have to prove they are competent in foraging from these several types [of food]," she said.

Pre-release, the team also documented the birds' social networks, which ones interacted best and which ones were aggressive toward one another. Using that information, the team was able to ensure they released a socially intact cohort. "This allowed us to feel more confident that when we opened those doors they weren't going to scatter," she said.

"Training can be effective, but you need to evaluate whether all individuals are interacting with the training," she said, noting that more than 30 percent of animal reintroductions report difficulties related to animal behavior, yet only five percent of all reintroduction papers between 1990 and 2005 mentioned behavior.

"I'm happy we do have 11 birds all flying and thriving," she said.

She explained that training for the birds

released in 2016 included some of the same elements in the current program, but was less rigorous and lacked the same level of evaluation. "The biggest change was making it a strategic plan moving forward," she said.

Greggor was asked about how the 'alala might respond to predator training using an animal absent from its evolutionary background, such as a small mammal. Feral cats, rats, and mongooses are found throughout the reserve and pose a real threat to the 'alala and/or its eggs, if or when the birds start breeding in the wild. Rats and cats are also hosts of the parasite *Toxoplasma gondii*, which has infected and killed 'alala in the past. The state has conducted extensive predator trapping in the release area — removing 200 rats, 105 mongooses, and 13 cats since 2016 — but the invasive mammals persist.

Greggor responded that she wasn't aware of any cognitive biases the birds might have to such training. "We're working on it. ...

What are the limits of this training? It's still being figured out," she said.

Looking Good

Joshua Pang-Ching, research coordinator for the Hawai'i Endangered Bird Conservation Program, detailed how the birds have done, post-training.

Before they were released, the birds were transferred to a custom-built aviary within the reserve where they could practice flying and build their muscles. They were also banded (orange for the males, white for the females) and fitted with tracking harnesses.

"Now that the birds are out, the biggest portion of the work is tracking, making sure they're healthy," he said, adding that managers follow and observe the birds at least once a day, taking note of their overall health, location, movements, behavior, and social interactions. A spring scale/feeder set out in the forest also allows the team to monitor the birds' weight.

Pang-Ching reported that the birds have improved their overall flight competency, maneuvering with greater confidence. They've been tracked doing 700-meter jaunts and exploring new foraging habitat, he said, adding that his team is hoping to see the birds start to establish territories and select breeding locations.

"The furthest flight that we know of was 2,200 meters away from the aviary. They're not moving too far, but they are moving pretty far for us to keep track of 'em," he said.

On two occasions, managers have seen multiple 'alala chasing and scuffling with 'io, with feathers flying and alarm calls ringing through the trees. "How many other interactions are going on? ... I'd like to say [the

predator training] was a success. The birds are surviving where there's two 'io almost every day," he said.

While the birds have often been seen eating the wild foods they're supposed to, pecking through 'ohia flowers, looking for insects in bark and leaf litter, pulling out worms from dead logs, and "just having a great time," Pang-Ching said, they still receive supplemental food.

Managers provide papaya, melons, food pellets, peas, and carrots to help the birds overcome any diet obstacles, he said, adding that peas and carrots are the birds' least favorite. The food is set out before light and any leftovers are removed after dark. However, Pang-Ching said his team is going to try to eventually wean the birds off supplemental food.

Another promising development: managers believe a male and a female seen hanging out together may be a potential mating pair. "Next year is going to be pretty exciting, coming to the breeding season, seeing what those two do," he said.

Before then, he said the team plans to release another group of birds. A site elsewhere in the NAR has been chosen and a new pre-release aviary is being built.

He stressed that re-establishing a thriving population of 'alala in the wild will be a long process, reminding the audience that the endangered Hawaiian goose, or nene, is a good example of what to expect. In 1960, there were an estimated 30 nene left in Hawai'i. But with captive breeding, predator control, and habitat protection, "[t]oday, more than 2,800 nene live across all of the Hawaiian Islands," states a webpage for Island Conservation, a company that specializes in removing invasive species from islands to aid protected species. The U.S. Fish and Wildlife Service has proposed that nene be downlisted from endangered to threatened. "It took a long time to get the [nene] population back," Pang-Ching said.

For now, he's enjoying the success made by the 'Alala Project so far. He recalled how he used to be jealous of veteran U.S. Geological Survey wildlife biologist Paul Banko, who spent years working to save the 'alala and was able to see and hear the birds in Hawaiian forests before they went extinct in the wild. Now, Pang-Ching said, "I'm jealous of myself. I get to see it and talk about it."

"Their calls have become part of the beautiful [dawn] chorus. ... Probably the sound is my favorite thing," he said.

(For more background, read, "NARS Commission Grants Permit For 'Alala Release at Pu'u Maka'ala," from our May 2016 issue. Visit [@alalaproject](#) on Instagram to track developments.) — **Teresa Dawson**

Spread of Rapid 'Ohi'a Death in Puna May Be Hindering 'Amakihi Population

In 2001, *Environment Hawai'i* reported on research by U.S. Geological Survey entomologist Dennis LaPointe and colleague Carter Atkinson suggesting that climate change-induced temperature increases will likely shrink the habitat ranges of native forest birds, as warming allows disease-carrying mosquitoes to reach those high elevations that once served as a refuge from deadly avian malaria.

However, researchers with the agency had also found something promising: 'amakihi (*Chlorodrepanis virens*) in lowland forests in Puna, on the east side of Hawai'i island, were actually thriving where malaria was widespread.

“Things were looking good for 'amakihi. As we continued to look at that project, looked at genetics, ... we found that this lowland

population was genetically distinct and somehow evolved a tolerance to malaria. So this was a good thing for Hawaiian 'amakihi. It really stressed the significance of these lowland 'ohi'a forests. Unfortunately, good news in the conservation community doesn't last very long,” LaPointe said at the annual Hawai'i Conservation Conference held in Waikiki July 24-26.

Enter rapid 'ohi'a death, or ROD, a disease caused by *Ceratocystis* fungi that infest wounded 'ohi'a trees (*Metrosideros polymorpha*) and eventually starve them of water. Surveys in 2010 estimated that the



A Hawai'i 'amakihi.

disease spanned some 2,500 acres on Hawai'i island. By 2014, about 15,000 acres had been heavily affected. This year, one of the two fungi species responsible for the disease on Hawai'i was found in 'ohi'a on Kaua'i.

To see whether this disease, which has been decimating one of the keystone species of native Hawaiian forests, is having a cascade effect, LaPointe and other scientists revisited in May and June of 2016 transects in Puna last surveyed in 2004 and took a census of the bird community there. In addition to the original 268 stations from the study, they added 45 more transects in the lower Puna subdivision of Leilani Estates, which was hit hard and early by ROD, he said.

They also estimated the percent mortality in 'ohi'a compared to observations made by the U.S. Forest Service in 2014 and used National Oceanic and Atmospheric Administration data and aerial photographs to assess changes in land cover.

The first obvious change was a slight uptick in bird species diversity. In addition to 'amakihi, they found introduced Japanese bush warblers, Japanese white eyes, yellow-fronted canaries, and saffron finches. What also became obvious was that the 'amakihi population had decreased more than any other bird species, he said.

While the relative abundance of all species had decreased across the board, the estimated densities of 'amakihi and Japanese white eyes had dropped the most, with the former decreasing by 70 percent and the latter by 33 percent, he said.

But was the decrease in bird (especially 'amakihi) densities due to ROD-induced

'ohi'a loss? LaPointe said there were definitely fewer birds where the 'ohi'a stands were 90 to 100 percent dead. Because 'amakihi, in particular, rely heavily on seasonal nectar, ROD could be a driving factor in their population decline, he said. ('Amakihi is a species of Hawaiian honeycreeper.)

At most stations, 'amakihi detections decreased, and at some, such as those in Nanawale, detections plummeted, he said, noting that at Leilani Estates, about a mile away, and adjacent roadways, more than half the 'ohi'a were dead.

Since the 2016 survey, volcanic flows from Kilauea have completely changed the landscape of lower Puna. “It's kind of as if the volcanic eruption is making ROD a moot point,” he said, adding that 'amakihi may be moving out of the area into the northern tracts of Leilani Estates, where, “hopefully for now it serves as a refuge.”



Rust Causes 'Ohi'a Dieback In O'ahu's Ko'olau Range

At the conference, several speakers discussed the ongoing efforts to monitor and prevent the spread of rapid 'ohi'a death, which has had a quantifiable and devastating effect on 'amakihi. But *Ceratocystis huliohia* and *Ceratocystis lukuohia* aren't the only infective threats to the trees.

Will Weaver, natural resource manager for the Ko'olau Mountain Watershed Partnership on O'ahu, discussed how *Puccinia psidii*, a rust first detected at an O'ahu plant nursery in 2005, caused a massive dieback of 'ohi'a in 2016. Coincidentally, that's the same year the state Board of Agriculture — at long last — authorized the Department of Agriculture to hold public hearings on rules to curtail domestic imports of the rust's potential plant hosts.

Weaver said his organization observed an alarming amount of defoliated 'ohi'a of the glaberrima variety at Poamoho and Kipapa in the latter part of the year. Both areas are on the leeward side of the Ko'olau range. The tremuloides variety was also affected, he added. (There are eight varieties of the species.) Samples of the plants, however, tested negative for ROD.

His team then conducted an aerial survey in February 2017, which revealed that from Waimanu to Helemano, tens of thousands of 'ohi'a were defoliated, all around the 700-meter elevation gradient.

Months later, plant pathologist Janice Uchida from the University of Hawai'i's

Continued on next page



PHOTO: J.B. FRIDAY

The remains of trees infected with rapid 'ohi'a death in a lowland forest in Puna, Hawai'i.

College of Tropical Agriculture and Human Resources confirmed that the dieback was due to 'ohi'a rust, although genetic testing to determine if it's a new strain has not been completed. A secondary fungus, *Neofusicoccum parvum*, was also occurring on the island at the same time, but it was not thought to be the primary cause of the dieback, Weaver said.

While the rust has been around for more than a decade, little impact has been seen on 'ohi'a up until now, he said. To determine what factors contributed to the outbreak, he evaluated 2016 rainfall data for Poamoho and noticed a "very interesting trend." During the month of August, the area received almost 15 inches of rain over and above the average rainfall, he said.

"Potentially there was the perfect kind of scene for the rust to go crazy," he said.

With climate change possibly leading to more summer storms, there may be future rust outbreaks, Weaver suggested.

He noted that about half of the affected trees that weren't fully defoliated are showing some regrowth, which is encouraging. Many of the other trees, however, simply turned black, which is troubling since 'ohi'a is a common host for endangered native tree snails, he said.

For Further Reading

'Amakihi and Rapid 'Ohia Death

"As Temperatures Rise, So Do Mosquitoes — And That's Bad News for Hawai'i's Birds," January 2011;

"Lowland 'Amakihi Gain Ground In Battle Against Mosquito-Borne Disease," August 2013;

"'Ohia Disease on Big Island Poses Threat to Native Forests Statewide," and "Quarantine Rule for 'Ohia Fungus Not Likely to Happen Anytime Soon," June 2015.

'Ohia Rust

"NEW & NOTEWORTHY: Vacancies; 'Ohia Rust Rule; and Hope for the Wiliwili," October 2007;

"'Ohia Rust Threat Is as Large as Ever, But Ban on Imports Is Allowed to Lapse," September 2008;

"Board of Agriculture Approves Draft Rule To Block Import of 'Ohia Rust Carriers," April 2015.

All are available for free at our website, www.environment-hawaii.org.



Lungworm Incidence is High In Rats Tested from East Hawai'i

This year, rat lungworm disease has infected four people in Hawai'i, including a toddler on O'ahu, a visiting adolescent from New York, and two adult men, one from Maui, the other from West Hawai'i. Last year, there were 18 confirmed cases.

The disease, caused when larvae of the nematode *Angiostrongylus cantonensis* are eaten and eventually make their way to the brain, results in a type of meningitis that can involve severe and chronic pain, difficulty moving, nausea, fever, and even death. The parasites are expelled by infected rats, picked up from the soil by slugs and snails, which then contaminate whatever they come across, including leafy greens meant for human consumption.

But how widespread is the parasite? In June, University of Hawai'i scientists revealed that several species of slugs and snails from Kaua'i, Maui, O'ahu, and Hawai'i tested positive for rat lungworm.

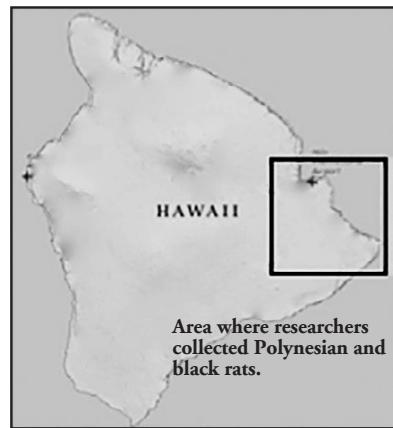
With regard to infection rates among rats, which are the definitive hosts of the parasite, a team of University of Hawai'i at Hilo researchers and a USDA biologist published the article, "High prevalence of *Angiostrongylus cantonensis* (rat lungworm) on eastern Hawai'i Island: A closer look at life cycle traits and patterns of infection in wild rats (*Rattus spp.*)," in the journal PLoS ONE last December. At the conservation conference, co-author Chris Niebuhr, the biologist with the USDA's Animal and Plant Health Inspection Service, discussed the findings and reported something new: the nematodes have now been detected in coqui frogs.

The researchers took a closer look at the life cycle traits and patterns of infection of wild rats in East Hawai'i, considered to be the epicenter of the disease. From the 545 wild rats collected from in and around Hilo, as well as Leilani Estates, they detected 3,148 adult worms.

They found that 73 percent of the rats had adult worms in their lungs and 94 percent had some stage of the parasite in their tissues.

Some types of rats had greater infection rates than others. Specifically, more than 90 percent of Polynesian rats (*Rattus exulans*) had adult worms, compared to only 50 percent of black rats (*Rattus rattus*) collected from the same locations. But, the black rats had more of the parasite's larvae in them.

"We suspect it might be a difference in susceptibilities. We want to look closer," Niebuhr said. Body mass was also a factor in infection levels. The larger a rat is, the older it is, and the



bigger/older black rats had fewer adult worms, while the smaller black rats had the same high levels as those of Polynesian rats, he said.

"Over time, *Rattus rattus* seems to be acquiring some sort of immunity," which could have management implications, he said.

Even so, "[t]he exceptionally high prevalence of *A. cantonensis* infection in *Rattus spp.* in east Hawai'i Island is cause for concern and indicates the potential for human infection with this emerging zoonosis is greater than previously thought," the article concludes.

What is not well understood is whether infection rates fluctuate seasonally and what role parasite hosts other than snails, slugs, and rats play, Niebuhr said, adding that those issues will be tackled in future studies.

He said that recent testing has already shown that Asian semi-slugs collected in East Hawai'i are 96 percent positive for the parasite. The semi-slugs have been shown to carry especially high concentrations of the parasite and have been blamed for the increase in disease cases in recent years.

"These are very high numbers," Niebuhr said of the semi-slug infection rates. "We're looking to [test] three more times to see if the high levels are maintained. ... Since there's super high numbers, if you're going to investigate potential alternative hosts, this is the place: mongooses, myna birds, coqui frogs ...," he continued.

He noted that 53 percent of golden tree frogs in New Caledonia were found to carry infective larvae. In Hawai'i, coqui frog concentrations are as high as 55,000 per hectare in East Hawai'i. They also eat semi-slugs and are a prey item of rats, he said.

He then announced that 11 coqui have been analyzed recently and all have tested positive for the rat lungworm parasite in multiple tissue types, including the stomach, brain, liver, heart, and lungs. Even so, he said it's still unknown what role reservoir hosts such as coqui are playing in disease transmission. "I do have some ideas. ... You feed an uninfected rat a coqui, check its stool. I certainly think this is something to pursue further," he said.

— T.D.

BOARD TALK

Hawai'i Sierra Club Takes Aim At Kahala Hotel's Beach Uses

How much money has the Kahala Hotel & Resort made off state lands covered by a permit that restricts its usage to recreation and maintenance? Similar to resort hotels throughout the state — in Waikiki, Ka'anapali, Wailea and elsewhere — the Kahala has for years pre-set lounge chairs and umbrellas for guests to use and cabanas for them to rent. That, alone, has raised the ire of some members of the public, who feel the beach is effectively being privatized. But according to a June 23 letter from the Sierra Club, Hawai'i Chapter to Department of Land and Natural Resources director Suzanne Case, the Kahala hotel has been getting away with far more unauthorized commercial uses.

Weddings, part of a restaurant and bar, storage of a canoe used to take paying customers out for a paddle. Some of these uses occur on land covered by the permit, for which Kahala pays the Department of Land and Natural Resources \$1,244 a month; others are on state land outside the permit area, for which they pay the state nothing at all, the group alleges.

"During daylight hours, more than half of TMK (1)3-5-023:041 is occupied by chairs, tables, cabanas, pre-set beach chairs, and a wedding gazebo (on wheels) that make more than half of the parcel inaccessible to members of the public and is being exclusively used to generate profits by Resorttrust Hawaii, LLC. On king tide days, which will only occur more frequently with sea level rise, there is almost no room for members of the public," the group wrote.

The letter included several photographs taken this past summer illustrating the claims. It also argued that the structures the resort had placed on state lands — pavers

under the cabanas, the cabanas themselves, a storage cabinet — had apparently not been authorized by either the Board of Land and Natural Resources or the City and County of Honolulu, which would likely have required a special management area use permit and a shoreline setback variance.

The group stated that commercial use of public beachfront property was not appropriate. However, should the Land Board decide that the hotel should be allowed to continue, or even expand, its commercial uses, the board should charge \$200,000 a month and require the hotel to install an easily identifiable, five-foot wide public walking path and provide 10 public parking stalls that would be available from 5 a.m. to 11 p.m.

"Resorttrust Hawaii LLC is owned by a multi-billion dollar multinational corporation. This corporation pays only \$1,244 per month for the ability to use this state land. It makes far more than that in a single day (in fact, in a single hour)," the letter stated. Citing the hotel's website, the group pointed out that the cabanas cost \$165 to rent for the day and a beachside wedding package costs \$7,100. What's more, it pointed out that the snorkel concession at Hanauma Bay pays the city more than \$150,000 a month, the shuttle concession pays about \$3,000 a month, the food concession pays more than \$30,000 a month, and the gift shop concession pays more than \$20,000 a month.

As *Environment Hawai'i* reported in its July 2017 issue, the last time the DLNR tried to reassess the permit rent to reflect the hotel's commercial usage of the area, the hotel backed off, deciding instead to remove its equipment and activities off state land. Restricting its commercial activities to private

lands would "make it unnecessary to get into elaborate and costly valuation discussions," as the hotel's attorney Ivan Lui-Kwan put it in a September 5, 2012, letter to DLNR Land Division administrator Russell Tsuji.

That decision, however, has apparently been reversed, according to the photos in the Sierra Club's letter.

Should the Land Board decide that commercial uses are not appropriate for the permit area, the group recommended several conditions or amendments that would explicitly identify prohibited uses, including surf schools and weddings.

Fireworks

On August 13, attorney and Sierra Club member David Kimo Frankel raised the Kahala hotel permit issue during the Land Board's discussion of a right-of-entry permit request by Hawai'i Explosives, a contractor for the hotel, for a beachside fireworks show.

He first argued that the hotel's year-to-year revocable permit had expired on July 1 without having been renewed since then by the Land Board. "I would like the Land Division to grasp that. There are a number of RPs that are not compliant with the law," he said.

DLNR director and Land Board chair Case reminded Frankel that the board was being asked to approve a right-of-entry permit to a company that sets up fireworks shows.

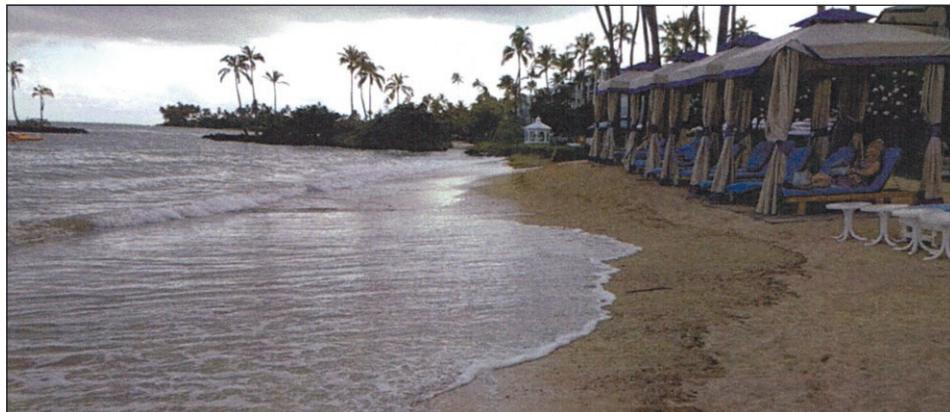
"The applicant is really the hotel, not the subcontractor," Frankel said. He argued that the Sierra Club's June letter detailing the hotel's alleged violations contradicts a claim in the Land Division's report to the board that the applicant was not in default of permit terms.

Frankel told the board, "This multinational corporation has engaged in repeated violations of the law and violated even a letter that you wrote to them telling them they couldn't have weddings on state land. ... I'm asking you not to accommodate their desire for a fireworks show because they have not accommodated the state's desire to comply with the law."

Case assured the board members that the Land Division was working on the matter with the Sierra Club and the hotel.

With regard to Frankel's argument that the hotel's permit for the shoreline area had expired, Tsuji said both he and the Department of the Attorney General disagreed. Tsuji seemed to argue that as long as the permit is renewed as a part of the annual group renewal of the division's RPs, it shouldn't matter if it doesn't happen the exact same time of year, every year.

Board member Stanley Roehrig wasn't so **Continued on next page**



The beach fronting the Kahala Hotel & Resort during a king tide day in 2017.



The Seaside Grill's seating spilled onto the beach.

sure. He said he wanted to know, if, under state land use law, "has this expired? Not what our custom and practice is. I would like to have the AG put it in writing whether or not this is an expired RP."

The board ultimately approved the permit with the understanding that the hotel's uses of the state parcel would be brought to the board at some point.

Hotel general manager Gerald Glennon told *Environment Hawai'i* the objectionable restaurant seating and shade structures have been removed and that there have been no weddings or pre-setting of chairs within the permit area for some time. He conceded that the cabanas may not be in compliance, depending on whether or not the Land Board decides their rental is a recreational use. "We tried to be as compliant as possible. I'm looking forward to the ruling of the board. We want a definition of recreation. That's where we're having a difference of opinion," he said. Should the board allow the cabanas to stay, he said the hotel would be more than happy to discuss paying fair market rent for them.

(For more background on this, see, "Kahala Hotel Beach Weddings Not Sanctioned by DLNR Permit," from our July 2017 issue.)



Board Seeks Ways to Stop Copter Flights Over Salt Ponds

At the Land Board's August 13 meeting, Kaua'i mayor Bernard Carvahlo testified in support of a proposal to grant the county a right-of-entry permit to install boulders and

a gate at Port Allen to block vehicles from driving onto the beach there and disturbing the nearby salt beds at Hanapepe, where native Hawaiians have produced sea salt for generations.

"In recent years, Salt Pond has experienced frequent trespassers who impact the culturally significant salt making practice. According to pa'akai (sea salt) practitioners and observers of the area, the ponds are exposed to the dust and pollutants created by the vehicles, which traverse the perimeter of the area," a state Department of Transportation (DOT) report to the Land Board states.

While the county's proposal wasn't on its own controversial — in fact, board members praised it — it did lead to a heated discussion about how tour helicopters have become a nuisance in communities throughout the state.

After hearing the DOT's report on the county's request, Kaua'i Land Board member Tommy Oi argued that vehicle traffic isn't the only activity kicking up dust there. "What about the helicopters that fly over the area?" he asked.

On DOT lands adjacent to the salt ponds, Smoky Mountain Helicopters (doing business as Maverick Helicopters) holds a lease for 9,100 square feet from which it launches helicopter tours. Last year, Maverick appeared to some to have done an end run around the Land Board's efforts to ensure that commercial tour operations at Port Allen did not infringe upon the salt-making families that work the ponds. And according to a member of one of those families, the company has been a terrible neighbor.

"They fly directly over us, they hang out

over us so people can see what we're doing and then they leave," said Ku'ulei Santos, who successfully helped thwart previous attempts by helicopter tour companies in February 2016 and again in September 2017 to expand or set up shop next to them.

At the February 2016 Land Board meeting, in response to opposition expressed by Santos and others, the DOT withdrew its request that Smoky Mountain be allowed to expand its operating area. Then at the board's September 2017 meeting, Oi said that he, as well as the county Planning Department, opposed a DOT request to allow Smoky Mountain's lease to be transferred to AlexAir, Inc., a Maverick-related company. After reviewing public testimony against the transfer, the DOT's Ross Smith again withdrew the item with a promise to bring it back later. In allowing the withdrawal, the board told Smith to have the DOT reach out to the salt pond users and report on the outcome when the item returned. Also, the board wanted to see diagrams of flight plans that direct the helicopters away from the salt ponds.

None of those requests were met. Instead, Maverick simply bought all of Smoky Mountain's stock, thereby taking over the lease (which has about a decade left on it) without having to get Land Board approval.

At the board's meeting last month, Smith tried to shrug off Oi's suggestion that the helicopters are also sending dust to the salt ponds.

"Once they are off the ground we cannot control them," Smith said, suggesting that only the Federal Aviation Administration (FAA) has that power.

This did not sit well with board member Keone Downing. "You're saying it's somebody else's problem. . . . If you see them doing it enough, it can be your problem because you can stop them from flying," he said.

Smith replied that there are diagrams showing where helicopters should be going and his agency could ask the FAA for approval to terminate the lease because they're flying outside those paths, but the DOT could not simply take away the company's ability to fly.

"I don't buy that," said Land Board member Stanley Roehrig.

Smith said pursuing that would result in long litigation.

"That's okay," Roehrig said.

"A lot of things take a long time," Downing added.

Roehrig advised Ross to have his department's attorney write a memo describing the ways by which the Land Board might stop helicopters from straying from their recommended flight paths.

Continued on next page

City Council Signals Its Support For Housing Expansion in La'ie

On August 15, the Honolulu City Council brought the long-delayed revision to the Ko'olau Loa Sustainable Communities Plan closer to final adoption and a major landowner in La'ie closer to being allowed to build hundreds of new homes.

The council voted 6-3 that day to approve amendments proposed by council member Ikaika Anderson to a bill he introduced last year. That original bill, Bill 1, deleted all language in the plan update, inserted by the city's Department of Planning and Permitting, allowing for urban development in Malaekahana, an undeveloped, rural expanse situated between La'ie town and Kahuku.

But last November, at the council's planning committee meeting in Hau'ula, Hawai'i Reserves, Inc. (HRI), the land management arm of the Church of Jesus Christ of Latter-day Saints, unveiled a new development proposal that was a far cry from the Envision La'ie plan included in the plan revision proposed more than five years ago by the city's Department of Planning and Permitting.

"There's lots of ways to skin a cat. ... If we have any leverage, we're gonna use it," Roehrig said. He added that injunctions have been used to prevent helicopters from flying over certain places. "I've seen the cases. They've blocked them because they're a nuisance," he said.

Board chair Suzanne Case said if the helicopters are, indeed, taking off and flying over the salt ponds, that could be a problem.

Santos testified that the company is constantly practicing taking off and landing and it's disturbing the ponds.

To this, Case replied, "I have to say this. We have a problem in Hawai'i with the FAA not being responsive to community concerns about helicopter flight paths, so we're going to have to tackle that somehow. We have it in Puna. We have it on O'ahu. I'm sure we have it a lot of places."

"You guys did try. I appreciate it," Santos said.

In the end, the Land Board unanimously approved the permit to the county, but included a condition that the DOT provide the board with a report on the types of injunctive relief available to prevent helicopters from flying over historic sites.

According to HRI's Eric Beaver, the church was no longer planning to build what amounted to a new city, including more than 800 homes, on land it owns at Malaekahana. Instead, it proposed only 300 new units, most of which would be sold at market rates, and all of which would be built in La'ie, he said. Brigham Young University-Hawai'i president John Tanner added that the school had capped enrollment at 3,200, down from the 5,000 figure in the DPP's plan.

The new plan would require the council to expand the current urban growth boundary by some 50 acres on the Malaekahana side of La'ie, and in February, Anderson proposed amendments to Bill 1 that would do just that. In addition to approving a new growth boundary, the committee increased density limits to allow four more units/acre in rural residential areas and 10 more units/acre in low-density apartment areas, and increased height limits in rural areas from three stories to four stories. Anderson's amendments also allowed for 100 more units than HRI asked for in November, al-

though they also specifically called for 200 of those units to be workforce housing located on the church-affiliated BYUH campus. (In November, Beaver said it was possible that fewer than 100 of the new units would be affordable, as defined by the city.)

With the DPP's support, the committee unanimously approved the amendments at a special meeting on July 9, after determining that the amendments were "an appropriate effort to strike a reasonable balance for all sides," a report of the meeting states.

When the bill came to the full council last month for second reading, many of the same points that had been raised by testifiers on both sides were made again: Those in favor cited how desperately the families of La'ie wanted additional housing and argued that traffic won't increase since the development would serve those who already work and/or live in the area.

"I have rented in Kahuku, La'ie and Hau'ula for 18 years now and have moved from place to place because people have sold the rental unit I was living in to a vacation home owner from the mainland, replaced me with their family members who needed a place to live, owners moved to the mainland because it's too expensive to live in Hawai'i, and even though I am a single, professional woman, I have had to

Continued on next page

Before the vote, Roehrig told Smith, "When you bring your report, tell your attorney to see if the state can get a mandatory injunction of going over the salt ponds. ... If that's feasible, we should have the state AGs go after them. We can't be powerless."

Salt pond users have been fighting for decades to curtail helicopter flights in the area. In 1999, Wilma Holi, a native Hawaiian activist and member of one of the families that uses the ponds, successfully sued the DOT's Airports Division over its environmental assessment for Inter-Island Helicopters' Port Allen operations. The DOT had prepared

the EA as part of its effort to obtain an after-the-fact special management area use permit from the county Planning Commission, but failed to include any discussion of alternative sites for the helicopter operations.

One Maverick employee — who said his family also has a salt bed at Hanapepe — disputed Santos' claims. "We don't ever fly over the beds, a far as I know. ... We would never come directly over the salt ponds," he told *Environment Hawai'i*, adding, "We met with everybody we needed to [and] planned our flight path accordingly and it was approved."

— T.D.



Salt ponds at Hanapepe, Kaua'i.

PHOTO: KANESA SERAPHIN

live with other people just to make ends meet. I am now 10 years from retiring and not only is the cost of buying a home in this area where I live and work beyond my budget but also the number of houses for sale is limited," wrote Leann Lambert in testimony to the council.

Those against argued that more development would ruin the rural character of the region, rob farmers and ranchers of valuable agricultural lands, and worsen traffic on a deteriorating and already congested highway.

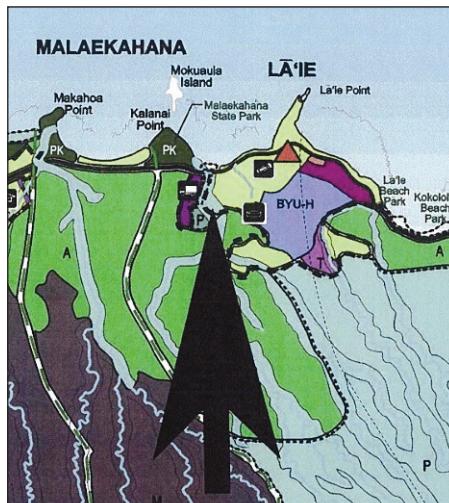
Tevita Ka'ili, an associate professor of cultural anthropology at BYUH, also raised concerns about potential effects the 200 houses in North La'ie could have on "three significant Hawaiian cultural sites" at Kahawainui Stream, Pa'eo Pond, and Wai'apuka pool. All are home to mo'o, or legendary Hawaiian water guardians, he testified.

Another testifier, Joe Wilson, noted that the two parcels in North La'ie where Anderson proposed allowing 200 homes spanned more than 661 acres, not 50. While HRI's Beaver assured the council that development would only occur in La'ie, DPP director Kathy Sokugawa suggested that the committee could include such a restriction in the text of the plan, in addition to adopting an amended growth boundary map.

In the end, the amended bill passed, with the three no votes coming from Trevor Ozawa, Brandon Elefante, and Ernie Martin, who represents the Ko'olau Loa region. Ozawa, for one, expressed concern that HRI had not provided enough specifics on how much the affordable homes would cost.



Supporters and opponents of expanded urban growth in the Malaeahana area often wear colored shirts to indicate which side they're on (blue, for; green, against). At the city council's planning committee meeting in July on Bill 1, interested members of the public overflowed into the halls at Honolulu Hale, where they followed the proceedings on 'Olelo's livestream.



The arrow points to where City Council member Ikaika Anderson proposes expanding the growth boundary in La'ie.

As Anderson pointed out in some of his proposed amendments, the median price of a single family home sold on O'ahu's windward coast during the first quarter of 2018 was \$812,000, and the median condo price was \$251,900. What's more, under the city's affordable housing ordinance, as few as 10 of the 200 homes HRI envisions for North La'ie would need to meet the city's definition of affordable.

Martin had proposed his own amendments to Bill 1 in February, calling for some sort of official preservation of Malaeahana. Neither the committee nor the council entertained them.

With the council's approval last month, Bill 1 now goes back to the planning committee. If it passes, it will be sent to the full council for a third and final reading.

At the planning committee meeting

For Further Reading

"Bill for Ko'olau Loa Plan Awaits Hearing on Proposed Amendments," April 2018;

"Panel Defers Ko'olau Loa Plan Vote To Discuss Easements for Malaeahana," January 2018;

"Committee Tables Malaeahana Development, City Council Chair Awaits a New General Plan," April 2015;

"Debate Over La'ie Expansion Continues As Community Plan Nears Council Vote," November 2013;

"Commission Approves Ko'olau Loa Plan Despite Questions Over Housing Figures," May 2013.

in July, land conservation activist Larry McElheny testified that he believed the amendments to Bill 1 were a done deal, calling the council's public meetings on it a charade.

"I have no illusions that anything I say here today in opposition to this outrageous proposal will change anyone's vote. I suspect that HRI has determined that they have the votes they need in order to proceed with their selfish and unreasonable plans — otherwise this hearing probably wouldn't be taking place," he said.

The Ko'olau Loa Sustainable Communities Plan has not been revised since 1999.

— T.D.



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Science Committee Again Finds Bigeye Aren't Being Overfished

At its meeting last month in Busan, Korea, the Scientific Committee of the Western and Central Pacific Fisheries Commission determined for the second year in a row that the region's bigeye tuna stock is neither overfished nor subject to overfishing — good news for an organization that has been struggling to rein in overfishing of the highly prized fish for the last decade.

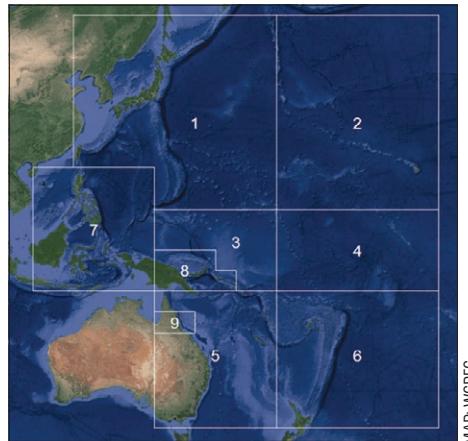
The commission's member countries were estimated to have caught 126,929 metric tons of bigeye in the region last year, a 17 percent decrease from 2016 and a 19 percent decrease from the 2012-2016 average, a committee report states.

The drop comes from all sectors. Longliners caught eight percent less than they did in 2016. For purse seiners, it was 12 percent less. Pole and line catches decreased by 65 percent and catch by other gear declined by 48 percent.

Given these numbers, the committee found — with greater certainty than it did last year — that there was an extremely low chance (six percent) that overfishing was occurring. Last year was the first time the committee used new growth models in its bigeye stock assessment and there was considerable uncertainty among some member countries surrounding its use.

Despite the generally rosy report this year, the committee found that in the tropical regions south of Hawai'i, depletion of bigeye was higher, with the catch being composed of an especially large proportion of juvenile bigeye.

It recommended that when the commission meets in Honolulu in December that members consider measures to reduce juvenile take "with the goal to increase bigeye fishery yields and reduce any further impacts



The Scientific Committee of the Western and Central Pacific Fisheries Commission found that catch of bigeye tuna, especially juveniles, was high in the tropical regions (3, 4, 7, and 8).

on the spawning biomass for this stock in the tropical regions," the report stated. Any such measure would most likely target purse seiners, since they are responsible for most of the juvenile haul.

What's more, even though the stock is not in an overfished state or being overfished, the committee recommended against the commission increasing allowable catch above the 2012-2015 average, given the high uncertainty surrounding bigeye recruitment in the long term.

"Under the scenario assuming long-term average recruitment continues into the future there was a high risk (18-32 percent) of breaching the LRP [limit reference points] and a zero probability of achieving the objective of [Conservation Management Measure] 2017-01, while under the scenario which assumes higher more recent recruitment continues into the future, there was a low risk (0-5 percent) of breaching

the LRP and a 100 percent probability of achieving the objective of CMM 2017-01," the report states.

Although not unexpected, that recommendation is not likely to sit well with Hawai'i longliners, who in recent years have consistently reached the catch limits set by the commission for the United States. The fishery has been able to extend its fishing year by purchasing quota from American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands for hundreds of thousands of dollars.

This year, despite being shut out of a large swath of its fishing grounds around the Main Hawaiian islands in July due to excessive false killer whale hookings, the Hawai'i deep-set longline fleet had already caught 82 percent of its 3,554 metric ton annual limit by August 22.

—T.D.

For Further Reading

Environment Hawai'i has written extensively on WCPFC's efforts to prop up the bigeye tuna stock.

Below is a brief list of our most recent articles, available at www.environment-hawaii.org:

"Council Shies Away From Expansion Of Territorial Bigeye Quota Transfers," April 2018;

"Council Seeks to Nearly Double Annual Bigeye Tuna Quota," November 2017;

"New Stock Assessment Models Suggest Bigeye Tuna May No Longer Be Overfished," October 2017;

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