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Environment Hawai'i
a monthly newsletter

Vandals in the House

The enormous toll invasive species impose on our lives daily can't be counted only in dollars. Little fire ants make it more difficult for farmers to find willing workers. Rat lungworm disease costs people their health and harms sales of fresh produce. Coqui frogs have turned Hilo's quiet nights into nothing more than a memory.

Go into the forest and weep at the thousands of acres taken over by alibizia and guava. Be properly terrified at the prospect of losing hundreds of thousands of acres of 'ohi'a – and all of the native plants and animals that associate with them. Fear for the loss of iconic palm landscapes to the coconut rhinoceros beetle.

Hawai'i is known for its welcoming spirit, but when it comes to insects, fungi, plants, and other animals that pose serious threats to the natural environment and public health, it's past time to pull in the welcome mat.

Stopping future invaders at the border won't be cheap, except when you look at the cost of dealing with them once they become established here. The time is at hand to fully fund Hawai'i's biosecurity plan.

IN THIS ISSUE

Advances in Biocontrol Are Praised At Hilo Meeting on Invasive Species

One of the oldest arguments against biological control concerns the introduction of the mongoose to Hawai'i.

True: mongooses were introduced to Hawai'i in the 1880s by sugar growers who believed they would knock back the problem of rats in cane fields. But since the mongoose is active during the day, while the rat is nocturnal, the two rarely crossed paths.

The mongoose is now well established on most islands in Hawai'i, where it has done much more damage to beneficial animals, including native birds, than to the islands' still robust rat population.

But the misguided effort hardly qualifies as an example of biocontrol gone wrong. As the Hawai'i Invasive Species Council points out on its website, "the introduction of this species by private individuals in the sugarcane industry was not part of any scientific biological control process.

"Biological control, or biocontrol, is a robust scientific field in which research is done to identify a predator or pest of a given invasive species from its home range, followed by extensive research to determine whether the predator or pest, if introduced to Hawai'i as a biocontrol agent, would impact *only* the invasive species in question. Mongoose did not undergo this evaluation prior to entry and should not be considered an example of biocontrol."

At a two-day conference last month on invasive pests in Hawai'i, sponsored by the Cooperative Extension Service of the University of Hawai'i's College of Tropical Agriculture and Human Resources (CTAHR), just how rigorous today's biocontrol efforts have become nearly a century and a half after the mongoose experiment began was apparent in numerous presentations.

And also, just how successful.

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Addressing Fears Of Non-Target Attacks

Mark G. Wright is a professor at CTAHR's Department of Plant and

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PHOTO: USFWS

The native koa bug was preyed upon by insects introduced in the 1960s to control an unwanted stinkbug.

Environment Hawai'i

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NEW AND NOTEWORTHY

Puccinia Rule: On August 27, the state Board of Agriculture (BOA) unanimously approved a rule intended to reduce imports of plants that could carry a fungus, *Puccinia psidii*, that poses a danger to 'ohi'a trees. As *Environment Hawai'i* reported more than four years ago, the rule would be the first to protect a native tree.

As welcome as the rule is, the long delay in its approval is puzzling. The puccinia rust was first observed in Hawai'i in April 2005. Shortly afterward, the BOA approved a three-year emergency rule banning importation of plants in the Myrtle family.

After the emergency rule expired in 2008, the BOA followed up … seven years later, and even then, only after the 2014 Legislature urged it to "expeditiously adopt a permanent rule restricting plants in the Myrtaceae family." A broad range of plants are in that family, including guava, mountain apple, and eucalyptus, as well as 'ohi'a.

The public information officer for the Department of Agriculture was asked why the processing of the rule has taken so long. No response had been provided by press time.

For more on the history of the *Puccinia psidii* rule, see the cover stories in the September 2011 and April 2015 editions of *Environment Hawai'i.*

Lost 'Alala: Late last month, as the 'Alala Project prepared to release another cohort of the endangered birds into the Pu'u Maka'ala Natural Area Reserve, it also revealed some recent setbacks: Mele, a male for the 2017 cohort, had been found dead with wounds suggesting he was attacked by an 'io (Hawaiian hawk), and a female released at the same time, 'Awa, "has not been able to be located for the past month after her transmitter stopped emitting a signal," an Instagram post states. The project also noted that another 2017 cohort male, Kalokomaika'i, had to be treated at the Keauhou Bird Conservation Center for minor injuries.

"While these recent events can be challenging, the potential for loss in reintroductions is a reality and the reasons for loss are often part of the ecosystem as well," the group stated.

Give Aloha, Again: It's September, and that means that it's Give Aloha month at all Foodland stores in the state. Customers may choose to donate to *Environment Hawai'i* and other charities at checkout, and Foodland will augment those donations in proportion to the given charity's fraction of all donations to all charities made during the month.

The registration number for *Environment Hawai'i* is **77036**. But no worries if you forget: there's a list of charities at every checkout stand that customers can refer to.

Our November 8 Event: Jeffrey Polovina will be the special guest speaker at *Environment Hawai'i's* annual dinner, to be held this year on November 8 at the 'Imiloa Astronomy Center in Hilo.

For much of the 38 years that Polovina was with the National Oceanic and Atmospheric Administration, he was senior scientist and chief of the Ecosystem and Oceanography Division at NOAA's Pacific Island Fisheries Science Center in Honolulu. He began his work in Hawai'i by studying the trophic systems in the islands' coral reef ecosystems. Out of that work came ECOPATH, an ecosystem model that is still in wide use today.

He and his colleagues also studied the physical-biological linkages in marine ecosystems, looking closely at the ways in which regime shifts, such as the Pacific Decadal Oscillation and El Niño events, affect ecosystems.

Polovina's current research uses climate and ecosystem models and data to identify potential fishing and climate impacts on marine ecosystems, with particular focus on the central North Pacific pelagic ecosystem.

Cost is $75 per person, which includes a $40 donation to *Environment Hawai'i.* For reservations, call 808 934-0115.

Quote of the Month

"Throw a penny anywhere in Hilo and you'll hit six little fire ants."

— Cas Vanderwoude, Hawai'i Ant Lab

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BOARD TALK

Erosion, Sea Level Rise Threaten Sand Island Wastewater Plant Outfall

The Sand Island Wastewater Treatment Plant collects sewage from more than 400,000 residents and visitors in Honolulu and discharges 66 million gallons of effluent a day into the sea via a long, wide underground outfall.

The 84-inch-wide outfall extends a mile offshore from a concrete-encased stop gate, which is a kind of valve that can control the effluent flow if necessary.

The problem: That gate, constructed in the 1970s more than 150 feet inland of the shoreline, is now at the water's edge due to coastal erosion and sea level rise. And it's already showing signs of wave damage.

So on August 23, despite its longstanding policy against shoreline hardening, the state Board of Land and Natural Resources approved a Conservation District Use Permit and a non-exclusive easement for a 550-foot-long rock revetment the city plans to build to protect the treatment plant's outfall and stop gate from further damage.

PHOTO: SSFM

In the foreground is the stop gate for the Sand Island Wastewater Treatment Plant. Originally built 150 feet from the shoreline, it is now in danger of being inundated by waves.

Over the past several decades, the shoreline fronting the outfall and stop gate has shrunk, and erosion threatens to "expose and compromise the outfall pipeline," according to a 2017 environmental assessment (EA) for the project. Between 2012 and 2017 alone, the shoreline eroded 20 feet, it stated.

A degraded revetment built in the mid-1970s offers minimal protection.

"Extreme wave and storm events can cause rapid erosion and damage to the shoreline. During such an event, the damage can occur over a short time span, possibly overnight. Climate change factors, including sea level rise, are likely to increase the near-shore wave exposure of the outfall," the EA states.

Because the outfall is the only one serving the Honolulu area, "[f]ailure of or damage to the outfall could have catastrophic health, environmental, and economic consequences," it states.

The new revetment is estimated to cost more than $12 million, but it could cost even more if the revetment doesn't function as designed, which is what the Department of Land and Natural Resources' Office of Conservation and Coastal Lands (OCCL) suspects might happen.

In designing the revetment, the city's consultant for the project used the U.S. Army Corps of Engineers' sea level rise calculator to provide sea level rise projections through 2067. The final calculation was based on an estimate of a sea level rise of 1.5 feet over the 50-year intended design life of the structure, an August 23 OCCL report states.

"However, more recent sea level rise projections reveal that the project area is in a high-exposure area and that the entirety of the project area would very likely be inundated with just 0.5 feet of sea level rise," the report continues.

The OCCL is referring to projections contained in the state's Sea Level Rise Vulnerability and Adaptation Report, which was released after the EA for the revetment was completed. An online, interactive Sea Level Rise Viewer hosted by the University of Hawai'i allows users to see how the report's various projections affect coastal areas across the state.

In the case of the proposed Sand Island revetment, the breakwater section is intended to prevent flanking — when the land or sand at the ends of a coastal structure erodes — from the south. The OCCL suggests that the revetment should have been designed to protect flanking along its entirety. In its report, the OCCL points out that the Sea Level Rise Viewer places the area to the north end of the revetment also in the sea level rise exposure area.

"The applicant states that the northern end of the revetment would not be located at the shoreline and would be embedded into a higher elevation feature, but the Hawai'i Sea Level Rise Viewer reveals that flanking around the northern tip of the wall is possible [and] that the entirety of the project area would very likely be inundated with just 1.1 feet of sea level rise, and even 0.5 feet of sea level rise in the area is projected to inundate almost all of the project area," the report states.

Given that, the OCCL asked the city to report to it any flank erosion and to consult with the Department of Land and Natural Resources' Division of State Parks on potential remediation if significant flank erosion occurs. The outfall crosses the state Sand Island Recreation Area before it enters the sea.

At the Land Board's August 23 meeting, OCCL administrator Sam Lemmo explained that the project was exempt from the department's prohibition on shoreline armoring because it is necessary to protect critical public infrastructure. "Having the outfall fail would be something on the order of a catastrophe for Honolulu," he said.

What's more, there's really no recreational beach to protect, since the whole area is filled land, he added.

"At the end of the day, we're comfortable with approving, under the circumstances," he said.

Normally, the DLNR's Land Division would request separately that the Land Board approve an easement for the revetment. However, in an effort to streamline the approval process, that request came from the OCCL this time.

Lemmo also noted that his division, starting with this project, is now incorporating vulnerability maps from the Sea Level Rise Viewer in his office's reports to the Land Board.

Continued on next page

"You can see it will be impacted by sea level. It's impacted as we speak," Lemmo said of the Sand Island shoreline.

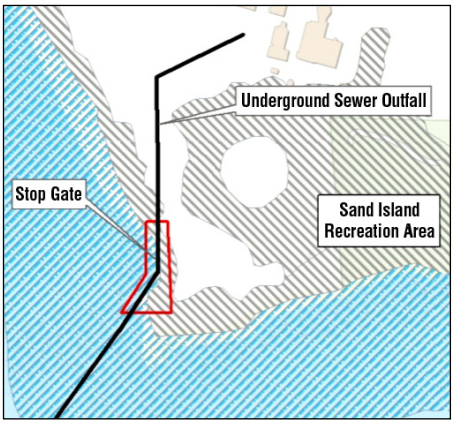

PHOTO: SSFM

The revetment project area is outlined in red.

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Auwahi Wind Farm Gets to Kill More Bats

On August 23, the Land Board voted to accept a supplemental environmental impact statement for the Auwahi wind farm on Maui and approve a new Habitat Conservation Plan for the take of an additional 119 endangered Hawaiian hoary bats over the course of its incidental take license, which expires in 2037.

The company's original plan allowed the facility to take only 21 bats. As of June 30, it had taken 46.

Last month, *Environment Hawai'i* reported that the state Endangered Species Recovery Committee had approved the plan after the company made several amendments to address the committee members' concerns about proposed bat take minimization and mitigation measures.

To minimize the number of bats killed by the wind turbines, located on Ulupalakua Ranch, the company last year began curtailing night operations until wind speeds reached at least 6.9 meters per second. This practice, known as low wind speed curtailment (LWSC), has been proven to significantly reduce bat take. Other wind farms throughout the state use LWSC, but none have raised their cut-in speeds (the speed at which turbine blades start spinning) as high as Auwahi has.

The Kawailoa wind farm on O'ahu, which has also had a higher than expected level of bat take and is also in the process of amending its HCP, has chosen to minimize bat take through the use of acoustic deterrents aimed at driving bats away from the spinning blades.

Rather than adopt the same practice, Auwahi has chosen to wait and see the results of Kawailoa's use of the deterrents. The O'ahu wind farm is the first in the country to use them commercially.

"We are very excited about deterrents. It's part of our adaptive management … We're interested in the effects to other wildlife," Auwahi's Marie VanZandt told the board.

Because the Auwahi site is extremely windy, the company would need to determine whether acoustic deterrents are suitable. "We want to understand how microphone propagation changes in different conditions," she said.

Land Board member Chris Yuen asked about ultraviolet light deterrents, which have been tested on Hawai'i island.

VanZandt said UV deterrents are still being tested by the Department of Energy, but there is nothing commercially available.

Yuen said he'd like to see the take of bats minimized as much as possible. He noted that the Land Board had included a condition in the plan for the proposed Na Pua Makani wind farm on O'ahu requiring the use of deterrents if and when they are determined to be effective and feasible.

VanZandt explained that the environmental conditions at each wind farm site differ, as do the strategies they can use for take minimization. "Some have a lower wind profile, some have a higher one. … Some can't implement higher cut-in speeds. Na Pua Makani did not commit to using low wind speed curtailment as high as we proposed," she said.

She pointed out that on the U.S. mainland, the Fish and Wildlife Service, which must also approve bat take levels by wind farms, has decided that facilities that use a cut-in speed of 6.9 meters/second don't even need to secure an incidental take permit because the bat take is likely to be very low.

Should LWSC prove ineffective, the company has committed to using deterrents, she said.

Yuen asked how it would determine if curtailment is ineffective.

VanZandt explained that Auwahi's five years of data on bat activity at the site when LWSC was not being used provides a baseline.

Yuen said that he was concerned about deeming LWSC effective if it merely reduced take below the historical baseline. "Are you saying the curtailment would be considered effective if it reduced take to below five a year? … If we had a deterrent technology that might reduce it to, say, one, and it was commercially available and cost effective [the] HCP does not require you to use that technology," he said.

He then asked if she had any objection to the board including in its approval a condition on deterrents similar to the one imposed on Na Pua Makani.

She said she doesn't believe Auwahi would have any objection. She added that the way the plan is structured, the wind farm has an incentive to keep take as low as possible. Once the level of take hits certain thresholds, the company has to expend resources to mitigate the increased take.

"What's been your experience so far with 6.9" meters per second as the cut-in speed? board chair Suzanne Case asked.

VanZandt said the wind farm had an average of three observed bat deaths before using the higher cut-in speed. Last year, it only had one. Because take levels are so low, it's difficult to determine if the LWSC scheme is effective or not, but it shows promise, she said.

Even so, Yuen recommended that the Land Board approve the plan with the following amendment: If the Department of Land and Natural Resources' Division of Forestry and Wildlife determines that a commercially available deterrent would be effective in reducing bat take at the site at a reasonable cost, the agency will require Auwahi to implement that deterrent. If Auwahi disagrees with DOFAW's assessment, Yuen said, DOFAW's recommendation would then be brought to the Endangered Species Recovery Committee, and then the Land Board, for approval.

In addition to Kawailoa's use of ultrasonic deterrents, Yuen noted that in Texas, they're being put on 250 turbines. "This may be something that's coming. … It's starting to work and may be the way to go in the future," he said.

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Cruise Ship Fee Hikes Go To Public Hearings

On June 14, the Land Board voted to increase mooring fees for the state's

Continued to page 5

small boat harbors. The vote was not unanimous and was made after the board rejected a contested case hearing request from members of the public.

Increases in cruise ship passenger fees were initially included in the rules package approved that day, but at the request of the Department of Land and Natural Resources' Division of Boating and Ocean Recreation, that section was removed to allow the agency to work with stakeholders and make revisions, according to an August 23 report to the Land Board.

Last month, DOBOR requested that the board approve taking the amendments to rules on cruise ship fees out to public hearings. "We have been told by [the attorney general's office], we cannot charge a ship a different fee based on its flag," division administrator Ed Underwood told the board.

Under the current rules, DOBOR has charged foreign vessels $1.00 per passenger for each leg of an inter-island trip (specifically to the Kailua-Kona or Lahaina small boat harbors), compared to only 30 cents per passenger for domestic vessels. That works out to 60 cents for passengers on domestic vessels versus $2.00 for those on foreign-flagged vessels that stop at those two harbors on inter-island cruises.

The proposed rules would charge foreign and domestic vessels the same, but higher rates: $3 per passenger at Lahaina, and $2 per passenger at Kailua-Kona and all other small boat harbors.

In written testimony to the board, Charles Toguchi, the Hawai'i representative for the Cruise Lines International Association-Alaska, stated that the proposed rules would significantly increase the passenger fees for Norwegian Cruise Line's Pride of America, which is the only large domestic cruise line in Hawai'i.

"[T]he proposed per passenger per day fee increases 400 percent ($.60 to $3.00) in Lahaina and 233 percent ($.60 to $2.00) in Kailua-Kona. For 'foreign flagged' cruise lines, the proposed passenger per day fee increases 50 percent in Lahaina and there are no proposed increases in Kailua-Kona," he wrote.

While the association did not object to the proposed fee amounts, it did want more lead time to work those fee increases into its passenger charges. Toguchi asked the board to delay implementation of the fees, should they eventually be adopted, for 18 months.

"Cruise packages that have already been sold for the next two years do not include proposed fee increases. The immediate implementation of the fee increase proposal will mean a passenger fee deficit of approximately $700,000 at Lahaina and Kona during the next two years, which will have to be paid for by the cruise lines," Toguchi wrote.

DOBOR's Underwood countered that his division is already operating at a $300,000/year loss with regard to the services (primarily traffic control) that it provides to the cruise lines at those harbors.

Some board members weren't very sympathetic to Toguchi's arguments.

"If we ever implement an increase, unless we find a way to tell them two years in advance, this is going to come up. … It's not unusual for a business to sell something to someone and have incidental costs go up," Chris Yuen said.

"That they have to absorb," board member Sam Gon added.

Board chair Suzanne Case also pointed out that the cruise ship industry is anticipating increased visitors to Hawai'i, which means that DOBOR will be operating at an even greater deficit while the industry takes in more money.

"At the same time you're bringing in more tourists, you're making more money off those tourists, and we're losing money off those tourists. … Your revenues are going up and our expenses are going up," she told Toguchi.

When Toguchi suggested that the division would immediately make up for its losses once the rules are implemented, Case countered, "We're required by law to charge not more than what we're spending for those services. … We're always going to be at or below. So even if we make more money, we're either still losing money or just breaking even."

"Only before a brief period," Toguchi replied.

Board member Stanley Roehrig was sympathetic to Toguchi's arguments.

"This is going to affect all of the tourists who come from all over the world. If we don't do this right and we try to jam it, we're going to have ten times the problems [the board had with the mooring fee increases]," he said.

He agreed with Case that DOBOR shouldn't be eating some of the costs of serving the cruise lines, but recommended that some experts be employed to help craft a solution.

"Maybe next year, nobody is going to come to Hilo," he said. Even though the fees only really affect the Lahaina and Kailua-Kona small boat harbors, Roehrig said the fee increases affect the industry as a whole, filtering down to other harbors, tour companies, stores, etc.

Case said the problem with consenting to a delay or to a phase-in of the fee increases is the legal requirement that foreign and domestic vessels be charged the same rate. "I'm not sure there is a way to phase it in and still charge the same rate," she said.

Gon reminded Toguchi that the board was only being asked to allow the proposed rule amendments to go out to public hearings. "The details on how we implement this thing are in the future," he said.

Yuen added that it could theoretically take about 18 months to hold public hearings, bring the rules back to the board for approval, and to get the governor's signature.

"Rulemakings have taken a lot longer than that," he said, adding, "If we delay this 18 months and it saves Norwegian $300,000, it costs our boating division $300,000. There's no way around it."

"It seems to me, Norwegian Cruise Lines has been the beneficiary of the lower rate. … They've had quite a benefit from that for all these years and we're talking about following the law. There's no dispute from anybody the difference in rates violates the commerce clause [of the U.S. Constitution]," he said.

To address concerns expressed by Roehrig, Yuen moved to approve DOBOR's request on the condition that the attorney general's office provide the board with an opinion, not necessarily formal, prior to adoption of the rules, as to whether the commerce clause requires equal fares to be charged to different carriers.

The board unanimously approved the motion.

Before the vote, Yuen repeated his belief that it will likely take a while, "maybe the entire 18 months." He added that if the majority of the board wants to delay the implementation of the rules after they've gone to public hearings, "all the board has to do is move to defer action for six months and then you've added six months." ***— Teresa Dawson***

Court Rules Largely Against Plaintiff In Lawsuit Over Kahala Resort Permit

For the last two years, David Kimo Frankel has tried to get the Department of Land and Natural Resources and its board to stamp out what he saw as illegal commercial use of a state beachfront parcel rented since the 1960s by the owners of what is now the Kahala Hotel & Resort.

The resort had for years held weddings, operated a portion of a restaurant and rented out cabanas, loungers, and surfboards on the parcel. This despite the fact that the state allowed the parcel to be created as a public beach and permits for years limited its use to maintenance and landscaping.

On November 9, 2018, the Land Board approved a new permit to the current owner, ResortTrust Hawai'i, LLC, allowing it to continue to rent clamshell loungers and cabanas and store other beach-related equipment on the parcel on the condition that the City and County of Honolulu also agrees to the uses.

Frankel had requested a contested case hearing on the permit before the board voted, but was denied. Seeking to invalidate the permit, he sued the board and ResortTrust in 1st Circuit Court on December 6.

On August 20, the court issued orders denying Frankel's motion for partial summary judgment and granting in part and denying in part summary judgment motions by the state and ResortTrust.

Frankel had argued that the board improperly approved the permit without rules setting clear standards for decision-making (Count 1), that the permit was void because the board approved it before ResortTrust obtained a Special Management Area permit from the city (Count 2), that the permit required an environmental assessment or impact statement (Count 3), and that the board breached its public trust duties (Count 4).

After a hearing on July 17 on motions filed by the parties for summary judgment, Judge Jeffrey Crabtree issued a minute order on July 31 detailing his inclinations.

He granted ResortTrust's motion to dismiss Frankel's Count 1. In his minute order, Crabtree stated that "there is no statute requiring rule-making," and that the Land Board arguably needs more flexibility in its decision-making ability "to make fruitful use of the lands, partly since there are vast differences in state land parcels, and it would be difficult at best to adopt formal rules … which addressed all such parcels in a consistent, fair, and predictable way."

"If the Legislature wanted to require rule-making for short-term temporary occupancy of the myriad parcels of state land, it could easily have done so. It did not," he wrote.

With regard to Count 2, Crabtree denied ResortTrust's motion to dismiss, but also declined to require ResortTrust to obtain an SMA permit from the city before receiving approval of its Land Board permit.

"The court is not aware of any required sequential process between the city and BLNR that would force Plaintiff to first apply to the city for relief under the circumstances of this case. BLNR has obligations under 205A [the state Coastal Zone Management Act] which overlap with and are independent from the city's obligations and decision-making," Crabtree wrote.

He also found that Frankel's Counts 3 and 4 were moot.

Count 3 was moot because of a June decision by the Intermediate Court of Appeals in a water permit case regarding the diversion of stream water in East Maui *(Carmichael v. BLNR)*. That court found that the state's law regarding environmental assessments and impact statements does not apply to revocable permits issued under Hawai'i Revised Statutes 171-55.

Count 4 was moot, Crabtree stated, because "the court already ruled there is no recognition under Hawai'i law that the public trust doctrine applies to this urban parcel."

Enforcement

Crabtree noted in his order that "a substantial amount of his time and analysis was spent separating out and disregarding what is not at issue in this motion."

One of the issues not covered by any of the counts in the complaint is the Department of Land and Natural Resources and the Land Board's decision to not bring any enforcement action against ResortTrust for its years of unauthorized commercial use on the parcel. For example, in July 2016, Land Board chair and DLNR director Suzanne Case sent a letter to ResortTrust's attorney informing him that the company's permit for the parcel did not allow commercial activities and directing the hotel to cease hosting weddings there. Even so, the resort continued to do so for some time.

In an April 19 motion for partial summary judgment, Frankel asked the court to order the Land Board to initiate enforcement actions against ResortTrust or justify to the court why it did not pursue an enforcement action.

In testimony submitted to the state Legislature earlier this year in opposition to the reappointment of Case as DLNR director, Frankel raised her handling of the Kahala permit as an example of "unequal application of the law."

"When Hawaiians occupied public land on Mauna Kea, Suzanne Case mobilized DLNR's resources to threaten them with jail and arrest them. In contrast, when the owners of the Kahala hotel used public land for commercial purposes DLNR has testified were illegal, Ms. Case took no enforcement action. The hotel operated a restaurant on public land, built and rented tall cabanas on public land, conducted weddings on public land, and generated hundreds of thousands of dollars from public land — all without authorization. Although brought to Ms. Case's attention, DLNR has refused to make any effort to recover the illegal profits generated on the public lands makai of the Kahala hotel. Why are Hawaiians subject to prosecution while a large corporation is allowed to illegally profit from public land with impunity?" he asked.

Frankel also pointed out that despite a January 2016 order from a 1st Circuit judge invalidating revocable permits allowing Alexander & Baldwin to divert East Maui stream water, the company was allowed to continue its diversions without permits until the Land Board voted in December of that same year to grant them. "DLNR took no enforcement action against A&B. There appears to be a double standard," he said.

Frankel formerly worked as an attorney for the Native Hawaiian Legal Corporation, which represents parties in the Maui case.

In its response to Frankel's April motion, ResortTrust's attorneys called his requests regarding enforcement "preposterous." "Plaintiff appears to be using this courtroom to vindicate his individual value preferences, and those of his clients, while at the same time arguing these same positions to the Legislature," they wrote. ***—T.D.***

Invasives from page 1

Environmental Protection Sciences. His presentation, coming at the close of the conference, looked at the long history of biocontrol, going back 125 years in Hawai'i.

While acknowledging "unfortunate errors" in the selection of some biocontrol agents as well as some well publicized instances of the biocontrol agents hopping onto non-target species, "zero non-target attacks have been recorded in the field since 1975," Wright told the 75 or so academics, land managers, and other interested parties in attendance.

In any event, "just because something attacks a non-target doesn't mean there's an impact," Wright said. One of the best-known recent examples of this occurred when the endemic, jewel-like koa bug and its eggs were attacked by two parasitoid wasps that had been introduced in the 1960s as biocontrol agents to suppress the southern green stink bug, an agricultural pest.

Citing a study by Tracy Johnson, an entomologist now working for the U.S. Forest Service in Volcano, and colleagues, Wright said that predation on koa bug eggs by one of the wasps *(Trissolcus basalis* Wollaston) amounted to at most 26 percent of all eggs preyed upon. That was overshadowed by far by predation by other animals (ants and spiders), which accounted for 87 percent of predation.

Predation on adult koa bugs by the other wasp, *Trichopoda pilipes*, was near zero at 21 of the 24 sites Johnson and his colleagues surveyed, although at three sites, with a higher density of koa bugs, predation was as high as 70 percent among adult female bugs, 100 percent among males, and 50 percent among fifth instars. "Effects of intentionally introduced parasitoids were relatively minor," Johnson and his colleagues found.

In any case, Johnson and his colleagues wrote, "Studies of purposely introduced biological control agents should not overshadow studies of other natural enemies; the invasion of koa bug habitats by alien keystone predators such as ants poses perhaps the greatest risk to the long-term stability of koa bug populations. Continuing habitat degradation could compound the negative effects of enemy attack."

Still, Johnson told *Environment Hawai'i,* "I would not characterize the impacts of the parasitoids on koa bugs as negligibe. … [There are] a number of reasons why *Trichopoda's* impacts are concerning, even though on average they measured low."

Wright noted that today's strict reviews of prospective biocontrol agents, much tougher than they were half a century ago, and the successes of several introductions – notably the parasitoid wasps that attacked the wiliwili gall wasp – have swayed even some of the more outspoken opponents of biocontrol.

"Classical biocontrol can contribute to conservation efforts," he concluded, adding that it now enjoyed "substantial support from previous biocontrol opponents."

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Moving Toward Biosecurity

While biocontrol can be effective, it's the costly pound of cure when compared with the ounce of prevention that quarantine and other biosecurity measures can provide.

In 2017, the Hawai'i Invasive Species Council, made up of designees of five cabinet-level department heads (Agriculture; Health; Land and Natural Resources; Business, Economic Development, and Tourism; and Transportation) and the University of Hawai'i, adopted a 10-year biosecurity plan that calls for 147 specific actions to be taken over the next decade. Seventy-five of those (51 percent) deal with preventing potential pest species from being shipped here (pre-border) or intercepting them on arrival (border). And most of those tasks fall under the jurisdiction of the state Department of Agriculture (DOA).

Randy Bartlett, interagency coordinator for HISC, outlined progress made toward the plans goals. As of last January, he said, 50 percent of them had been initiated, completed, or were ongoing in perpetuity.

Completed actions include restoration of the vector control program in the Department of Health; a relaunch of the Department of Agriculture's detector-dog program; and development of technology needed for the first phase of an electronic manifest program for incoming cargo shipments. Work still in progress involves beefing up the restricted-plant list of the DOA; developing emergency response plans for rapid 'ohi'a death; addressing vessel biofouling; and finding biocontrols for miconia, Himalayan ginger, and albizia.

Altogether, Bartlett said, the state spends about $57 million a year – four tenths of a percent of its operational budget – on current biosecurity measures. If full implementation of the biosecurity plan were to occur, it would take $38.7 million a year more, and still just amount to seven-tenths of a percent of the total operational budget.

At the close of his presentation, Bartlett was asked whether all the money in the state's "cargo inspection fund" was being used for inspection.

"I don't think so," Bartlett replied.

That fund – technically, the Pest Inspection, Quarantine, and Eradication (PIQE) Fund – is the recipient of a fee of 75 cents for every thousand pounds of freight brought into the state.

Under Hawai'i Revised Statutes section 145A-4.5(b), which establishes the fund, moneys are to be used by the DOA for "the operation of biosecurity and pest inspection, quarantine, eradication, and monitoring programs," among other things.

The state auditor reported last October that as of the close of fiscal year 2018, the fund balance stood at around $8.3 million. According to a DOA report to the Legislature last December, the department collected about $6.1 million in fees and spent around half that on personnel costs in the Plant Quarantine branch. About $3 million was spent on "other current expenses."

Those other expenses did not, apparently, include travel to Hilo. No one from Plant Quarantine or any other division of the department attended the conference.

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Status Updates

Many presentations at the conference provided updates on the status of invasive species already present in the islands.

Just two vertebrate species were addressed – the rose-ringed parakeets of Kaua'i and the mitred conures on Maui. No four-legged animals – mouflon, deer, or feral pigs, goats, sheep, cattle, and cats – merited mention.

Conures, Parakeets

As for the mitred conures, Adam Radford of the Maui Invasive Species Committee (MISC) said, "We're close to getting rid of them on Maui. There used to be about 200 birds, but now we're down to about 15 individuals."

The fact that all of Hawai'i's invasive species committees are on a firearms stand-down, Radford said, meant that it was not possible for his team to use firearms to kill off the remaining birds. Efforts to capture the cliff-dwelling birds using mist nets, lures, audio playbacks, and feeding stations, or by rapelling down cliffs – have been unsuccessful, he said.

In the meantime, some of MISC's partners, including the Department of Land

Continued on next page

and Natural Resources and The Nature Conservancy, were helping to track down the last few conures. (The ISCs and other agencies affiliated with the Research Corporation of the University of Hawai'i have not been allowed to use firearms since late 2016, pending a review by the deputy attorney general assigned to RCUH.)

The rose-ringed parakeets on Kaua'i pose a different set of challenges. The bird is found in Hawai'i on the islands of Kaua'i and Oahu, with a nascent population on the Big Island, said Sean Siers of the U.S Department of Agriculture's Animal and Plant Health Inspection Service, reporting on the work of Page Klug, who works out of APHIS's North Dakota wildlife research center.

On both Kaua'i and O'ahu, the birds have become a major pest of agricultural crops, but on Kaua'i, they have become a threat to public health as well, with thousands of the parakeets congregating in urban areas.

"The bread-and-butter" tool to control the birds will be firearms, Siers said. "Shooting is the only way successful eradication has occurred," he said, citing the experience of an island in the Seychelles.

"We're looking at protocols for a shooting campaign" on Kaua'i, Siers said. Perhaps airguns could be used in populated areas, and shotguns employed elsewhere, but "you can't blast every parakeet out of every tree. Most habitat is in urban areas. There's also the fear that if you just start blasting them in urban areas, they'll move mauka."

Other options could include toxicants, although no registered toxicants are available, Siers added. Falconry or other predators might also be used to control the population – although, Siers noted, this is an "unlikely" option.

Jane Anderson of Texas A&M University has been engaged to do further work on ways of controlling the rose-ringed parakeet, Siers said.

Little Fire Ant

"Throw a penny anywhere in Hilo and you'll hit 6 little fire ants."

That statement, from Cas Vanderwoude – who probably knows more about the species *Wasmannia auropunctata* than any other living soul – may have been exaggerating, but not by much, as any Hilo resident can attest.

Vanderwoude, director of the Hawai'i Ant Lab, described the ant as a "three-dimensional invader." No commercial control products address it, and practically no research has been done on ants in trees, where the LFA can live. And it's those "canopy ants," he said, that are responsible for most of the sting incidents: "Arboreal ants that fall out of trees do most of the damage."

The LFA is resilient. "They have an extraordinary ability to recover from our best efforts to kill them," Vanderwoude said. "Whatever I do has a maximum impact on ants for about eight weeks."

The species "defies efforts to control it by conventional means for three main reasons," Vanderwoude wrote in his abstract of the presentation. These are: "an abundance of queens (more than 50 pre square meter), a remarkable ability to recover from a catastrophic event in a short time frame, and a tree-dwelling component out of reach of conventional application equipment."

"Hawai'i is basically screwed," he said. "All of Hawai'i below 3,000 feet elevation is ideal habitat" and the ant has not begun to fill out its possible range.

A survey of literature about the ant that Vanderwoude undertook showed that as recently as twenty years ago, the LFA was practically an unknown species: "Only one paper, in 1997, talked about the little fire ant as potentially invasive."

Vanderwoude found just 341 papers on the little fire ant, fewer than 40 of which were relevant – and just 11 of those talked about control or impacts.

By comparison, there were 2,975 papers on *Solenopsis invicta,* the red imported fire ant.

The little fire ant was first detected on the Big Island in 1999. Since then, it's spread all over the island and now has been found on Maui, O'ahu, and Kaua'i, where efforts to limit the spread of the ant continue to be made.

Key hub ports in the Pacific – in Hawai'i, Guam, Tahiti, and Fiji – are now all infested, Vanderwoude said, "and this will most likely lead to the continued spread of this species."

Vanderwoude's lab has developed baits that can be applied aerially and other means of addressing the problems associated with LFA infestation. The lab's outreach arm works with large landowners, farmers, and others to help in developing management strategies.

Rat Lungworm

Little fire ants are, as the name suggests, pretty small – about a millimeter and a half in length. Line up a hundred of them, end to end (pretty easy to do in Hilo), and the line will be around six inches long.

By contrast, the rat lungworm, *Angiostrongylus cantonensis,* is microscopic. Yet once in humans, it can cause devastating health effects, even death.

As Sue Jarvi of the Daniel K. Inouye College of Pharmacy at the University of Hawai'i-Hilo explained, humans are an accidental host, along with dogs, horses, and other animals. The rat lungworm's life cycle ideally involves snails or slugs, which are intermediate hosts, to rats.

Rat lungworm has been known to be in Hawai'i for decades, but human infections were relatively rare until recently. Many have linked its spread to the arrival of the Asian semi-slug, which carries many times more rat lungworm larvae in its tissue than other snails and slugs. The semi-slug was not found on Hawai'i island until 2004, but it has spread widely since then, particularly

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A mitred conure.

Conservation Conference Highlights: Tracking Invasive Plants and Animals

In addition to last month's invasive species conference in Hilo, the Hawai'i Conservation Conference, held in July in Waikiki, also hosted speakers and featured posters reporting some of the latest developments in invasive species monitoring and control. The following are just a few examples:

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Mongooses on Kaua'i A False Alarm?

At the Hawai'i Conservation Conference six years ago, Theresa Menard of The Nature Conservancy of Hawai'i shared modeling results showing how difficult it would be to eradicate mongooses from Kaua'i if a population were to become established. The weasel-like creatures are established on all of the main Hawaiian islands except Kaua'i and Lana'i.

Mongooses are an invasive species that eat the eggs and hatchlings of ground nesting birds and sea turtles, as well as birds, including the endangered Hawaiian crow ('alala), petrels ('ua'u) and Hawaiian goose (nene), according to a state Department of Land and Natural Resources website.

At the time of Menard's report, the recent capture of two mongooses, coupled with dozens of sightings, led her and colleagues from the Kaua'i Invasive Species Committee (KISC) and the National Tropical Botanical Garden to estimate that there were about 54 mongooses on Kaua'i.

DEPARTMENT OF LAND AND NATURAL RESOURCES

Mongoose *(Herpestes javanicus).*

Modeling suggested that managers could eradicate mongooses from the island in three to 15 years if they culled nearly 30 mongooses a year. And that was IF no more of the animals made their way to the island.

But since 2012, after setting more than

Continued on next page

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in the Puna district.

In East Hawai'i island, 94 percent of rats tested were found to be infected with rat lungworm, while 70 percent of the semi-slugs were infected. Even a tiny piece of an infected snail can contain hundreds of larvae.

Larvae can live outside of snails or slugs and can be transmitted to humans in a variety of ways. Eating unwashed produce or snails can lead to infection, but also drinking water from catchment systems where larvae-carrying mollusks have fallen in. According to Jarvi's research, live and infective larvae emerge from drowned slugs or snails within three or four days, and they can survive on their own in the water for at least three weeks.

Since most of the larvae sink, answering the question of what filters are effective in trapping the larvae is important for Puna residents on catchment. Just one of the five commercially available sediment filters proved effective in intercepting all larvae: the Matrikx Accucarb, which uses a carbon block filter. An ongoing study in Jarvi's lab suggests that ultraviolet light systems, employed by many Puna households, may not immediately kill all larvae.

Another daunting problem in the treatment of rat lungworm infection has been diagnosis. Up to now, a definitive diagnosis involves a spinal tap. Jarvi and her colleagues are now working to develop a blood-based diagnosis, which would make diagnosis much simpler.

Rapid 'Ohi'a Death

Researchers and foresters are learning ever more about the ways in which two *Ceratocystis* fungi – *C. lukohia* and *C. huliohia* – work once they infect 'ohi'a trees.

Mark Hughes of the University of Hawai'i's College of Tropical Agriculture and Human Resources described the different mechanisms. The former, which is more quickly fatal to infected trees, is a wilt disease, with the fungus migrating through the tree's vascular system even before symptoms – dying crown, dead leaves – become visible.

In the case of *C. huliohia*, the disease causes cankers, which eventually spread and join up with other cankers.

Robert Peck of the Hawai'i Cooperative Studies Unit at the University of Hawai'i-Hilo, discussed the role ambrosia beetles play in spreading both diseases. Frass from the beetles, caused when they clear out the tunnels they bore in the trees, can carry the spores of *Ceratocystis*. Those spores, he noted, are sticky and while not able to become windborne on their own, they can attach to frass. Peck and his colleagues found viable fungus in frass from the very tops of some trees.

Some of the frass that was collected in environmental samplers showed "fungal structures," he noted, but none were viable in the lab. Peck was asked whether the long residence time in the samplers – up to several weeks – might have caused the spores to dry out and die. Peck acknowledged that possibility, and said more frequent monitoring of the samplers might be needed.

J.B. Friday, extension forester with the University of Hawai'i-Hilo, noted that research is being done to identify 'ohi'a that might be resistant. Also, in very limited circumstances, where a single tree is highly valued, treatment with a fungicide might keep a tree healthy.

But in the meantime, more than a million 'ohi'a trees have died as a result of rapid 'ohi'a death, and more than 170,000 acres of native forests have been affected on Hawai'i island alone, he noted. "Island-wide eradication is out of the question," he said.

Yet much can be done to halt its spread, he said. Quarantine of untreated 'ohi'a products from Hawai'i island, washing of trucks and tools, cleaning of boots and gear – all will help in stopping the spread of ROD.

Equally important, if not more so, is the need to reduce wounding of 'ohi'a trees. "You need a wound for infection to occur," he said. To underscore this point, he displayed a map showing ROD-infected trees in the Kahuku area of Hawai'i Volcanoes National Park. "Kahuku has 60 (ROD-) positive trees," Friday said. "All are below the fenceline" that surrounds the ungulate-free area.

A similar map showed the park's Ola'a tract, near Volcano Village. Again, in the ungulate-free fenced area, no infected trees are found.

"Fencing, removing the ungulates, protects the forests," he said. "We need to protect what's healthy rather than restore what's lost," he concluded. "We don't want to go the dry-forest way." ***—Patricia Tummons***

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1,000 tracking tunnels across the island, KISC has found no evidence that the invasive pest has become established. The tunnels, baited with fish paste and fitted with ink pads to record footprints, detected cats, rats, mice, and insects, but no mongooses, according to a poster at the conference.

"[T]he bait attracted a variety of wildlife, sufficient to conclude that if mongooses were present on Kauai, track evidence would have been detected in the assessment," the poster by KISC stated.

That's not to say there aren't any mongooses on the island. "The premise underlying [the study] assumes one mongoose or a few widely dispersed individuals pose little to no risk of establishing a population," it stated.

Even so, the organization said it is prepared with sufficient resources and crew this year should credible sightings reach its "response threshold" of three sightings within a two-week period and within an area with a 0.5km radius.

"[T]his assessment was just one part of an overall management strategy to ensure Kaua'i remains mongoose-free. It is essential that this mongoose population status assessment, and any management response, is followed by a strengthening of biosecurity procedures to minimize the risk of transporting mongooses to Kaua'i from elsewhere in Hawai'i," the poster stated.

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Artificial Intelligence Can Spot Invasives

Police forces across the country are using facial recognition technology to identify criminals. While the practice has generated some controversy, leading some cities to go so far as banning it, researchers in Hawai'i are experimenting with a similar technique to identify, track and eradicate invasive species faster than ever before.

At the conference, several speakers and posters discussed how drones have helped manage and/or monitor everything from feral ungulates to mitred conures to soil crusts. For example, James Parker of the Big Island Invasive Species Committee said that taking photos and video of forested areas with a drone that records GPS coordinates — as opposed to conducting on-the-ground surveys — has allowed his organization to focus invasive species eradication efforts in vast areas and likely saves his staff more than 2,000 hours a year.

University of Hawai'i at Hilo associate professor of geography Ryan Perroy has taken things a step further, using drone images to train computers to identify invasive species or plant diseases such as rapid 'ohi'a death (ROD).

He recently used a drone to survey ROD-infected trees on Kaua'i and ended up with thousands and thousands of photos. To manually go through those photos and identify the infected plants takes a lot of time and humans aren't always reliable. "People get hungry and they have to go to the bathroom. Maybe they're falling in love and [their mind is elsewhere]," he said.

So he's tried to get computers to help.

During his conference presentation, Perroy showed a photo from Hawai'i island of miconia, an invasive plant that has become widespread on the island and has devastated forests in Tahiti. Some of the plant's large, distinctive purple and green leaves were easy to see; others were obscured by foliage.

Perroy has employed an algorithm called Convolutional Neural Networks to help identify targets much faster than any human. CNNs are "really good at detecting features … whether it's peoples' faces or bananas," he said. And he's had pretty good success using them to find miconia.

But first he had to train the computer. Aided by one of his children, bribed with chocolate, they went through all of the raw aerial photos and drew boxes around each individual miconia leaf they could find. "Hundreds and hundreds of photos and thousands and thousands of boxes to train the computer," he said.

He added that the time needed to train the computer depends on how unique the species is. "Coconut trees are pretty easy," he said.

Once the computer has a good idea of what its target is, it can apply that knowledge to new photos.

With regard to photos taken from the Pahoa area, the computer has been able to see some miconia leaves, Perroy said. "It's not finding every single one and there have been a few cases of misclassification. But it's doing pretty well," even picking up leaves in deep shadow, he said.

"If you're bleary eyed, you might miss that one. The computer doesn't get tired," he added.

He's now training computers to identify different stages of ROD. Until now, managers have just been looking at the trees that the disease has turned red, which are pretty easy to spot.

"Our current CV [computer vision] classifier can process ~200 images per hour, reducing the processing bottleneck and freeing analysts to examine a much smaller number of curated images. Although overall accuracies of the CV classifier still fall below those of human analysts, the system continues to improve and provides an increasingly powerful supplement to existing image processing workflows," his abstract states.

Another presenter on remote imaging, Timo Sullivan, seemed to agree that future invasive species management efforts should focus on computer learning.

"We're running out of eyeballs," he said.

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Dog Trials Show Promise

Hawai'i resource managers already know how valuable detector dogs can be in preventing the import or spread of invasive species or in aiding eradication efforts. They've been used to screen imports, to ferret out rats, and track down feral ungulates. They've also been looked at as a possible tool in the fight against predatory snails and little fire ants.

At this year's conference, researchers reported on studies that suggest dogs may be useful in the battle against the spread of rapid 'ohi'a death, and to prevent bird carcasses in taro fields from contaminating other birds with avian botulism.

Initially, the extent of ROD was measured by identifying aerially or on the ground the 'ohi'a trees that have already started to die and have turned red as a result of their infection. But what if infections could be detected before the trees show the effects? Perhaps they could be saved or treated in some way to prevent further spread of the disease.

According to research led by Kealoha Kinney of the USDA Forest Service, 'ohi'a trees in the early stages of a ROD infection smell different from those in later stages. His team of researchers from the U.S. Geological Survey, USDA Agricultural Research Service, and Florida International University, has been able to train dogs to detect those scent differences.

They used what's known as Controlled Odor Mimic Permeation Systems "to safely permeate volatiles from materials containing [*Ceratosystis*] *lukuohia* and *C. huliohia* to canine training aide materials without exposing it to pathogenic fungal spores," their abstract states.

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They reported that during greenhouse trials conducted in October of last year, one of the trained dogs correctly alerted to non-symptomatic, ROD-infected trees. And at Kalopa State Park in Honoka'a on Hawai'i island, the dog detected both symptomatic and pre-symptomatic 'ohi'a.

After putting them through more than 200 training runs, Julian Mendel of Florida International University said he has high confidence his dogs could be deployed to detect ROD. However, since following dogs around in dense forest may be difficult, he suggested the dogs could be carried around in backpacks.

Prior to working with dogs to detect ROD, Laurel helped train them to detect the fatal laurel wilt disease, which is also caused by a fungus, before symptoms appear.

One of those team members, Michelle Reynolds of the USGS, has also been researching how dogs might improve detection rates of bird carcasses in taro fields to help prevent avian botulism, a paralytic type of food poisoning.

The birds die after ingesting prey containing a neurotoxin produced by the bacteria *Clostridium botulinum*. Once they die, their carcasses continue the bacteria's spread if left in the environment.

Reynolds compared an avian botulism outbreak to a wildfire. Flies are vectors and maggots concentrate the toxin, she said.

"It is the most common cause of death in wild birds worldwide," she said, noting that ducks are the most vulnerable because they filter feed. "Ducks don't need to eat the maggot. They could eat a beetle or other insect that ate the maggot," she said.

"The problem is going to be a bigger problem with climate change," she added.

Early detection and removal of those carcasses can help prevent more birds from dying, but finding them in dense vegetation is challenging, her abstract states.

Last year, she, Kyoto Johnson of County Canine, LLC, Kim Uyehara of the U.S. Fish and Wildlife Service, and the USGS's Steve Hess tested the abilities of four trained and experienced detector dogs at the taro fields within the Hanalei National Wildlife Refuge on Kaua'i.

What they found was that humans alone found carcasses the dog teams missed and vice versa. The dogs were a little faster than the humans alone, and found slightly more carcasses, 27 compared to 20.

"The bottom line is dogs improved detection probability, but humans are good at finding ones the dogs couldn't find," she said. ***— T.D.***

Is Total Payout of $11 Million Enough For Condemned Land at Ma'alaea Harbor?

On June 27, 2013, the state of Hawai'i deposited $4.165 million with the 2nd Circuit Court. The action was the first step toward condemning about an acre of land adjoining Maui's Ma'alaea harbor that the state had been leasing since September 1994 from Don Williams. At the time, 11 years remained under terms of the lease.

In October 2013, Williams withdrew the deposit and paid off the mortgage on the property. From that time forward, the state ceased its rent payments to Williams of nearly $1,000 a day over the last 17 years. Lease rent alone from the commencement of the lease until condemnation came to roughly $7 million.

At the moment, the method by which the value of the land at condemnation was calculated is pending before the Intermediate Court of Appeals.

Should the amount the state paid to Williams in 2013 be upheld, the total amount of money the state will have shelled out to Williams since 1994 comes to more than $11 million, or eight times his initial investment of $1.35 million. Should it not be upheld, Williams' return on investment could be much, much higher.

According to Maui County, the assessed value of the 1.1-acre property comes to just under $2.1 million. The county, incidentally, still lists the Williams Opportunity Trust as landowner, with the state as lessee.

Disputed Valuation

In October 2018, Judge Rhoda L.L. Loo of the 2nd Circuit issued a judgment based on stipulated facts, thereby allowing for an immediate appeal by Williams of the method by which the state arrived at the land's value used in the condemnation proceedings.

In court filings in 2017, the state admitted it had erred in setting the estimated condemnation value at $4.165 million. The appraised value in June 2013 was just $3.115 million. In determining the estimated value, the state had considered the value of the remaining term of the lease with Williams. "There is no sugar-coating the fact that the state deposited the higher estimated amount of $4,165,000.00 incorrectly, proceeding on the assumption that valuation would be based on Williams' leased fee interest rather than the lesser value of the undivided fee," the state wrote in a filing with the ICA in July.

Still, in the stipulation, the state agreed to up its valuation of the unencumbered land to the amount that Williams had received in 2013. "This means that even if the [ICA] appeal were unsuccessful, Williams would not owe any excess deposit back to the state," deputy attorney general Daniel Morris wrote in the state's reply to the appeal brief.

But that $1 million excess payment – excess, in any case over what the state

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claimed was the value of the fee simple land – is not sufficient for Williams.

In the appeal of the 2nd Court judgment, Williams' attorney, Robert Thomas, lists two "points of error" in arguing that "Don Williams is being treated even worse than the usual condemnee."

The first is that the date of the original appraisal was not the same date as the condemnation action was filed. The appraisal was dated June 17, 2013, while the condemnation action was filed June 27, 2013. The fact that Judge Loo did not consider this 10-day discrepancy significant is not "harmless error," Thomas writes. When the law says that "condemned property be valued 'at the date of summons,' *it means the date of summons,"* Thomas writes (emphasis in original). "Not even a day earlier, nor a day later."

Thomas also disputes the state's claim that the land's value should not include the future income stream that would be received by Thomas if the lease were to remain in effect. The lease itself, he argues, is included in the "state of title" he said. Leases themselves are "compensable property" and "when taken, just compensation must be paid."

Morris, the deputy AG representing the state, takes exception to Thomas's insistence that the date of the appraisal must match exactly the date the condemnation action was filed. "This is common sense: even if Hallstrom's [the appraiser's] opinion of value is solely for a date nine days prior to the date of summons, his expert testimony of value on that date is surely relevant, because [Hawai'i Rules of Evidence] 401 defines relevance broadly enough to include evidence 'having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence."

As for any consideration of the value of the remaining term of the lease, Morris points to the language of the lease itself. In a clause addressing what should happen in the event of condemnation, the lease states, "this lease shall cease and terminate as of the date the Lessee is required to vacate the premises, and any rent reserved shall be apportioned and paid up to that date." Thus, Morris argues, "Williams had no contractual right to compensation for a future income stream from the lease itself because the lease (and its contractual income stream) ended when the state took possession, precisely as Williams bargained for when he drafted the lease."

With regard to Thomas's claim that the lease is "compensable property" whose taking without compensation is a constitutional violation, Morris counters: "Williams also had no constitutional right to compensation for loss of the income stream … because consequential and contract damages are not recoverable components of just compensation under Fifth Amendment law."

Thomas filed a reply to the state on August 19. He repeats his argument that a date of valuation "reasonably close" to the statutory date of summons "is inadmissible. Second, he reiterates the claim that under the Fifth Amendment, "any effects of the condemnation itself" – in this case, the termination of the lease – "be excluded."

In effect, he says, the state is arguing that the remaining lease term has no effect on the property's value. "Somehow, the present value of the unexpired lease term – which an arm's-length buyer who could not force acquisition of the property by condemnation … would undoubtedly consider as being a vital component of the property's value – has, by the state's calculus, simply disappeared: it is not part of the property's value in condemnation, nor is the state liable for breach of contract. … [W]here did the decade-plus of rental income the state was unquestionably obligated to pay under its lease go?"

—Patricia Tummons

For Further Reading

Environment Hawai'i has published numerous articles on the state's lease of the Ma'alaea land. All are available at www.environment-hawaii.org.

- "Boating Division Lease at Ma'alaea Costly to State, While Serving No Use;" "Terms of Ma'alaea Lease Tend to Favor Owner over State;" "Land Under Lease by State was Owned by Scientologists;" "The Ma'alaea Mystery: Why?" (Editorial), November 1996;
- "DOBOR Staff Admits Ma'alaea Lot a Boondoggle," Board Talk, November 1997;
- "Boating Division Tries to Buy Ma'alaea Lot," Board Talk, October 2001;
- "Whatever Happened to … the State's Lease of Land at Ma'alaea Harbor?" January 2004;
- "Whatever Happened to DOBOR's Lease of Land at Ma'alaea?" June 2010;
- "State Prevails in Preliminary Round of Ma'alaea Condemnation Proceeding," May 2017.