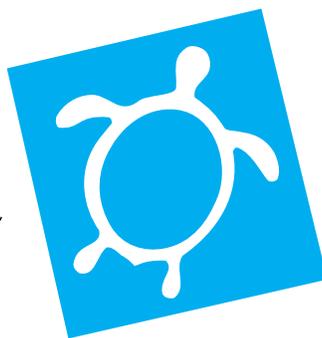


Environment



Hawai'i

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When Gordon Gekko Meets Charlie Tuna

Greed is good. That, anyway, was the mantra of the *Wall Street* anti-hero.

But it serves just as well the owners of the Hawai'i longline fishing fleet and their personal civil servant, Kitty Simonds. Not content to accept the miserly (in their eyes) quota of Western Pacific bigeye tuna allocated to them, they have won an amendment to fishing rules that appears to let them almost double their annual haul. And were that not enough, they are setting their sights on bigeye in the Eastern Pacific where stocks, though relatively healthy now, cannot take any further fishing pressure.

There's more than fish in this wrapper. Our "Board Talk" column looks at a wide range of issues tackled by the Board of Land and Natural Resources in recent weeks. And our write-up of Carla D'Antonio's recent work should give folks who want to understand the mechanisms of ecosystem invasions a lot to think about.

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Climate Change Alters Understanding of Invasions

Wespac Sets Sights on Increasing Catch Of Bigeye Tuna in Eastern Pacific Ocean

The international limit on the Hawai'i longliners' catch of valuable bigeye tuna in the waters of the Western and Central Pacific Ocean has been pretty well shredded with the recent amendment to the pelagic fishery management plan of the Western

meeting to relieve the fleet of those bonds as well.

The bigeye tuna quota for the Eastern Pacific, set by the Inter-American Tropical Tuna Commission (IATTC) is 500 tons, but it applies only to vessels longer than 24 meters

—a class that represents just about 15 percent of the Hawai'i longline fleet, according to a report prepared by council staff. Shorter vessels are not subject to any restrictions at all on their catch of bigeye from waters under IATTC jurisdiction.

Most of the bigeye tuna taken by the Hawai'i fleet comes from the Western Pacific. The Eastern Pacific region lies east of 150° West longitude, more than 500 miles east of Honolulu. Owing to distance, and also frequently rougher seas, the Eastern Pacific has not been fished as regularly as

waters to the west of the islands.

Since 2005, overall longline catches of bigeye in the Eastern Pacific have decreased. In 2012, the four main Asian fleets (China, Japan, Korea, and Chinese Taipei) used an average of only 35 percent of their allowable quotas. Hawai'i catches from the region, on the other hand, have bucked the trend, increasing from 1,000 mt in 2008, to 2,000 mt last year, the report states.

With Hawai'i catches increasing, the Eastern Pacific quota has become a "major management burden," the Wespac report states. Last November, NMFS closed the fishery because it had determined that the longer vessels had reached their 500 metric ton limit.

Wespac senior scientist Paul Dalzell suggested that the strict cap on the U.S. fleet could be eased, given the overall health of the stock.

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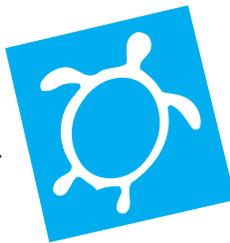
PHOTO: NOAA

Bigeye tuna at fish auction

Pacific Fishery Management Council (Wespac). That amendment allows bigeye tuna to continue to be caught and landed even after the quota of 3,763 metric tons set by the Western and Central Pacific Fishery Management Commission (WCPFC) has been reached, by attributing all bigeye caught beyond the quota to the U.S. Pacific-flagged territories of Guam, American Samoa, and Commonwealth of the Northern Mariana Islands.

With that out of the way, and with an anticipated increase in the number of active vessels in the longline fleet, the council now is turning its sights to the Eastern Pacific. Although bigeye tuna are generally in better health in those waters, and the limits on bigeye imposed on Hawai'i longliners there affect only a handful of larger vessels, Wespac staff outlined a plan at the council's March

Environment Hawai'i



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NEW AND NOTEWORTHY

TMT Decision Upheld: Judge Greg K. Nakamura of the 3rd Circuit Court has found in favor of the Board of Land and Natural Resources in a case brought by opponents of the Thirty Meter Telescope.

On April 1, the judge issued his decision upholding the Land Board's approval of a Conservation District Use Permit for construction of the TMT on a site near the summit of Mauna Kea.

Opponents had argued that their case was similar to that brought by the group Kilakila O Haleakala, which appealed the CDUP awarded by the Land Board for construction of the Advanced Technology Solar Telescope on Haleakala. Although a contested case was held for the ATST, the board did not stay the effectiveness of the permit pending the outcome of the case.

"The present case is distinguishable from *Kilakila*," Nakamura found, in that "the BLNR granted a contested case hearing essentially simultaneously with the preliminary grant of the CDUA. The continued viability of the preliminary grant of the CDUA depended upon a final grant of the application after a contested case hearing. Unless and until there was a final grant of the CDUA after a contested case hearing, construction under the CDUA was not to occur."

Hu Honua, Part I: The liens just keep coming. As we reported last month, suppliers, contractors, and other vendors who had furnished goods and services to the Hu Honua power plant being built just north of Hilo claimed they were owed more than \$50 million, according to mechanic's lien applications they filed in 3rd Circuit Court.

And the total continues to mount. Consolidated Electrical Distributors, Inc., of Delaware, has filed a lien application seeking payment of \$321,754.07, plus interest, costs, and attorneys' fees. Process Equipment, Inc., an Alabama corporation doing business as Process Barron, claims it is owed \$389,162.05, plus interest, costs, and attorneys' fees, for labor, materials, and equipment it furnished to Hu Honua. Together, the two new lien applications push the sum of the creditors' claims up towards the \$51 million mark. If interest accrues at just 5 percent annually, Hu Honua falls further into debt at a rate of \$7,000 a day.

To address the many lien applications assigned to 3rd Circuit Judges Glenn S. Hara and Greg K. Nakamura, the parties have agreed that they will all be heard by Judge Hara. A "global"

probable cause hearing has been set for August 6, 8 a.m., in Hara's Hilo courtroom.

Hu Honua, Part II: The Hu Honua plant and dozens of other biomass-fueled plants being built around the country are the subject of a report released last month by the Partnership for Policy Integrity. In the report, "Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal," Mary Booth, director of the non-profit and the report's author, states that although the biomass power industry portrays such facilities as clean and green, "we found that even the newest biomass plants are allowed to pollute more than modern coal- and gas-fired plants, and that pollution from bioenergy is increasingly unregulated."

"Biomass plants are dirty because they are markedly inefficient," Booth said in a press release. On a per-megawatt-hour basis, a biomass plant, even one outfitted with the best available control technology (BACT), "emits more nitrogen oxides, volatile organic compounds, particulate matter, and carbon monoxide than a modern coal plant of the same size."

Yet most biomass plants don't employ BACT by claiming – as Hu Honua does – to be minor sources of pollution. "Minor source prepermits are issued by the states and contain none of the protective measures required under federal air pollution permitting," Booth stated.

A copy of the full report is available on the PFIP website: <http://www.pfpi.net>.

Save the Date: On August 29, **Dr. Samuel 'Ohukani'ohi'a Gon** will be the guest speaker at *Environment Hawai'i's* annual fund-raising dinner. Gon is senior scientist and cultural advisor at The Nature Conservancy of Hawai'i, and is also highly regarded as a practitioner of Hawaiian chant and protocol. Recently he was named one of Hawai'i's living treasures.

Tickets to the event, at the 'Imiloa Astronomy Center in Hilo, are \$65. A \$20 tax-deductible donation to *Environment Hawai'i* is included in the cost. To reserve a seat, please call 808 934-0115 or email ptummons@gmail.com.

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190 Keawe Street, Suite 29
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Patricia Tummons, *Editor*
Teresa Dawson, *Staff Writer*

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Quote of the Month

*"The U.S. acts in good faith regularly
and it's not always returned."*

— **Mike Tosatto, NMFS**

EDITORIAL

It's Past Time to Pry the Wespac Wheel from Simonds' Hands

Every penny spent by the Western Pacific Fishery Management Council comes from federal coffers. Yet tracking how those funds are spent would seem to demand the combined skills of an accountant, a sleuth, and, most of all, a psychic. And even then, there's no assurance of success.

For years, members of the public have tried mightily, and vainly, to figure out how Kitty Simonds, Wespac's executive director, is able to contort the council's budget in such a way as to find money for her favorite causes, including initiatives to organize Native Hawaiians, petitions to de-list federally protected species (the green sea turtle and the Pacific humpback whale), and travel, by herself and selected council members, to exotic destinations on the flimsiest of excuses.

Nor have council members been able to pry open the lid on Simonds' secrets. The last one to make a serious effort was Laura Thielen, when Thielen headed up the state Department of Land and Natural Resources and, by virtue of that position, got a seat at the council table. The clash of two strong women in meetings was a sight to behold – but ultimately Thielen, whose years on the council were measured in the single digits, was no match for Simonds, now in her fourth decade at the council's helm.

Members of Congress have fared no better. To cite only the most recent example, an inquiry made by Reps. Henry Waxman and Gregorio Sablan sought to determine, among other things, how council funds are spent, the degree of oversight exercised by the NMFS and its parent, the National Oceanic and Atmospheric Administration, and the role the council played in the petition to de-list the green sea turtle. NOAA's response, months late, was largely an amodyne recitation of Wespac promises — broken even as the letter was mailed — to mend its ways.

NMFS and NOAA could and should give far greater scrutiny to Wespac's operations. No regional director of NMFS has yet had the courage or the stamina to launch any sustained investigation into Simonds' management of not only the council's budget but also its compliance with federal laws designed to make the operations of government agencies more transparent and their behavior more accountable. While they may begin their stint in the position with the best of intentions, one after another director has failed to stand up to the formidable force that is Kitty.



PHOTO: NMFS

Kitty Simonds

Over the Line

But will the Teflon-coated Simonds be able to escape consequences for the outrageous actions associated with a meeting in January of a subcommittee of the council's Scientific and Statistical Committee?

As we report in this issue, the first serious offense was the failure to publish a notice of the meeting in the *Federal Register*. Such public notice is required for all meetings of the council and its affiliated advisory panels, including the SSC. While the council staff usually posts meeting notices on its website, the January SSC subcommittee meeting still does not appear on the list of past meetings.

The second outrage was the destruction of an audio recording made of the unnoticed meeting. According to NMFS' response to a Freedom-of-Information-Act request made by *Environment Hawai'i*, the recording was destroyed on February 22, two days before the FOIA request was filed.

Sam Rauch, the head of NMFS, stated that NMFS was "reviewing the circumstances of this action." Michael Tosatto, administrator of NMFS' regional office in Honolulu, told *Environment Hawai'i* that his office was "looking into the circumstances of that recording/erasure."

Enough!

The very fact that Wespac staff admit that a government record was destroyed should be reason enough to bring in the Justice Department. Federal law clearly prohibits the "removal, mutilation, obliteration, or destruction of records." Furthermore, if the destruction is carried out by a custodian of public records – and for Wespac, that would almost certainly be Simonds – the penalty can be a fine of not more than \$2,000, imprisonment of up to three years, or both. In addition, the custodian "shall forfeit his office and be disqualified from holding any office under the United States."

For too long, the council and its executive director have behaved as though federal funds were their private purse, their meetings were exclusive clubs, and the reports and data on which they base their decisions to allocate public resources were privileged, top-secret

communications.

What will it take to get some sunshine into this process? We're not sure if the removal of Simonds will alone be enough, but we're certain that unless and until she goes, the outrages and insults that are the hallmark of Wespac operations will not abate.

The Old Boys' Network
Is Alive and Well

In the early 1990s, neither the Land Use Commission, nor the Board of Land and Natural Resources, nor the state Commission on Water Resource Management – arguably the most important panels in state government when it comes to natural resource management – had ever had a female board member.

That changed in the middle part of the decade, with the appointment of Sharon Himeno to the Land Board. Soon, other women were nominated and won Senate confirmation to sit on the LUC and CWRM, although, to be sure, never enough to approach a majority of a given board's membership.

But Gov. Neil Abercrombie's nominations of board members for confirmation this legislative session turn the clock back to the bad old days. The Land Board has been without a distaff member since 2009. With terms of three members expiring and a fourth seat (Kaua'i) vacant, the governor had ample opportunity to name at least one female to the panel this year. Instead, as of press time, he has appointed just two men: Stan Roehrig, to replace Rob Pacheco as the Big Island member; and Thomas Oi, to fill the Kaua'i seat. Roehrig is well connected politically, as a former state representative, former member of the University of Hawai'i Board of Regents, onetime member of the Land Use Commission, and, most recently, the lead attorney defending the Senate district of Malama Solomon, threatened in a recent redistricting dispute. Oi worked for years as a surveyor for various state departments, and before retiring he was the Department of Land and Natural Resources' land agent for the island of Kaua'i. He is now employed by Rep. Dee Morikawa, who represents West Kaua'i.

Similarly with the Land Use Commission. Of its nine members, just one, Carol Torigoe,

is a woman. Abercrombie had an opportunity to begin to redress the imbalance with three vacancies on this board. Instead, he nominated Edmund Aczon, the community relations director for the Hawai'i Regional Council of Carpenters who used to work for Sen. Daniel K. Inouye, to fill the O'ahu seat on the commission. Aaron Mahi, best known as the former conductor of the Royal Hawaiian Band, was appointed to fill an at-large seat.

At the Water Commission, the sole female is Linda Rosen, who occupies an ex officio seat by virtue of her position as administrator of the state Department of Health. The term of William Balfour is

expiring at the end of June. Chosen to replace him is Michael Buck, who retired from his position as head of the DLNR's Division of Forestry and Wildlife in 2004. Of all the nominees, Buck was the only one who drew negative testimony: John Culliney, author of *Islands in a Far Sea*, had the bad grace to mention several low points in DOFAW history that occurred on Buck's watch. These included Buck agreeing to let hunters tear down a newly erected fence at Pu'u o 'Umi Natural Area Reserve and his opposition to a plan to turn the badly abused Pu'uwa'awa'a Ranch over to a non-profit group that had funds in hand to manage it.

In short, of the 20 appointed positions on these three critical panels, just one is held by a woman – a circumstance that, in 2014, is simply unacceptable.

When asked to explain the appointments, Justin Fujioka, Abercrombie's press secretary, stated that the governor's "Boards and Commissions Department reviews all applications to match the best qualified candidates to each vacant seat or expiring term, regardless of gender."

In other words, at least in the case of the BLNR, LUC, and CWRM, no woman is good enough.

We have a word for that. Unfortunately, it's not printable.

Wespac continued from page 1

"All in all, the stock in the Eastern Pacific is in a happier place than in the Western Pacific," he said. Furthermore, the existing IATTC scheme creates a disparity between the larger and smaller vessels in the Hawai'i longline fleet, he continued.

"The larger boats may have to stop fishing if the limit is reached," he said, or they may have to shift their effort to the Western Pacific.

Quadrupling the large-vessel quota to 2,000 mt would improve the fleet's efficiency and allow Hawai'i vessels to capture the fish currently allocated to Asian fleets but uncaught by them, he said.

But there would be a downside, he added. "We get more fish – yay for us – but what if the Asian fleet comes back? [We'll have] the same old problems – overfishing and a possibly overfished condition," he said. "Any increase in catch has the potential to compromise the nice place we're in right now."

Even so, Dalzell's report to Wespac also floated the possibilities of increasing the Eastern Pacific quota to 5,000 mt for vessels greater than 24 meters, 5,000 mt for the entire U.S. fleet, and eliminating a quota altogether.

At its peak in 2008, the total catch by the Hawai'i longline fleet in the Eastern and Western Pacific was more than 5,800 mt. When asked by council member McGrew Rice whether the Hawai'i fleet could even catch 5,000 mt in the Eastern Pacific alone, Dalzell said it was not unlikely. He noted that, for the first time, more than 130 vessels are operating in the fishery and it's likely to grow to as many as 145 in the next two years.

"The Hawai'i market will always need to import more fish," even though the Hawai'i bigeye longline fishery is largest in the United States, he said. "So, we need the fish."

Mike Tosatto, director of the National

Marine Fisheries Service's Pacific Island Regional Office, voiced caution about tinkering with the Eastern Pacific quota. It could result in having the 500 mt quota apply to the entire longline fleet, not just the vessels longer than 24 meters, he said.

"We do need to look at bigeye as a Pacific-wide stock issue and ... we would want to make sure it's the right time to change the status in the [Eastern Pacific]," he said.

Dalzell's report noted that despite the fact

“The Hawai'i market will always need to import more fish.” — Paul Dalzell

that fishing in the Eastern Pacific has shrunk over the years, and that the most recent bigeye stock assessment suggests overfishing is not occurring, catch levels are currently near the maximum sustainable yield.

Wespac's Scientific and Statistical Committee underscored the same point in its report to the council. Bigeye tuna in the Eastern Pacific is a "fully utilized stock and there is no surplus available," it stated.

"Keep that in mind regarding quota sharing," SSC representative Charles Daxboeck said.

Still, the council recommended that NMFS prepare a proposal to increase the U.S. Eastern Pacific longline bigeye limit, "taking into account bigeye conservation and management objectives of the IATTC and the Magnuson-Stevens Act."



Council Challenges 'Welfare Economics' of SIDS

If international measures to protect bigeye tuna are going to be less effective because of "welfare economics," — as Wespac senior scientist Paul Dalzell called it — the United

States wants to make sure countries claiming they're shouldering a disproportionate burden of those measures can prove it.

So this fall, the council plans to convene a workshop to establish a methodology to determine the true financial burden on these countries and "get figures with some background in economics and not simply plucked out of the air," Dalzell said at Wespac's March meeting.

Such an approach could help determine

whether the conservation measures adopted by the Western and Central Pacific Fisheries Commission's last year that further restrict purse seining around fish aggregating devices (FAD) should be weaker, stronger, or left as is when the commission meets again next December.

By all accounts, the conservation and management measure (CMM) the commission passed last year to end overfishing of bigeye fell far short of what is needed. In the Western Pacific, bigeye tuna catches exceed sustainable levels by as much as 40 percent. While more developed nations saw cuts made to their longline quotas and purse seine fishing days, small island countries were exempted from certain fishing restrictions. What's more, measures to further reduce purse-seine sets on FADs, in which large numbers of juvenile bigeye tuna are unintentionally caught, were deferred at last year's WCPFC meeting out of concern that they would disproportionately harm small island developing states and territories, also known as SIDS.

The international commission regulates catches of highly migratory species of fish throughout the Western and Central Pacific Ocean. At its coming meeting, it will have to

adopt some arrangement to ensure that the existing CMM for bigeye tuna does not impose a disproportionate burden on the SIDS. Otherwise, the provision in that measure to restrict FAD fishing in the exclusive economic zones of those SIDS will not go into effect in 2015 and 2016.

Although a requirement to avoid imposing a disproportionate burden on SIDS — Article 30 2(c) — is part of the convention establishing the commission, last year was the first time it was used to justify certain CMM provisions.

When WCPFC delegates meet again in

“We’re just waiting for the U.S. to say N-O [and] block consensus.” — Kitty Simonds, Wespac

Samoa at the end of this year, Dalzell said, “[w]e’re going to be beaten over the head that CMMs . . . particularly for tropical tunas, pose a disproportionate burden on small states.”

In a report to last year’s commission, a group of small coastal states claimed that the three-month FAD closure in effect in 2013 cost them about \$60 million. Representatives from Tuvalu, one of the smallest countries in the world in both size and population, further testified that the closure cost it \$1.5 million a month, which, over three months, equalled about 12 percent of its gross domestic product. If true, the closure proposed for 2015 and 2016 would cost the country about 20 percent of its GDP.

At Wespac’s meeting, Mike Tosatto, administrator for the National Marine Fisheries Service’s Pacific Islands Regional Office, supported the idea of a workshop. It would, he said, help make sense of some of the disproportionate burden claims that have been made — and which have tended to be regarded with skepticism by the United States’ delegation.

“Until that’s settled, I don’t know what’s going to change,” he said.

Developing coastal states, including SIDS, “have successfully sought exemptions for their developing fisheries from most conservation and management measures. While this satisfies short term concerns, there is increasing recognition that these exemptions are significantly undermining the effectiveness of conservation and management measures,” states a 2012 paper by Australian researcher Quentin Hanich.

These states have effectively protected their interests with WCPFC increasing their share of the purse seine fishery between 2004-2010 “at the cost to the high seas share of the fishery,” he writes.

Wespac generally does not care that

much about the purse seine fleet. U.S. vessels that participate in that fishery are based in California, not Hawai’i. But the conservation and management measure that restricts purse seiners does directly impact the Hawai’i-based longline fleet, which is of concern to Wespac and the U.S. delegation to the commission.

Although the U.S. longline fleet will see by far the smallest quota reduction over the next three years of any major longlining nation, Wespac has railed against what it sees as a terrible injustice inflicted by the Pacific Islands Forum Fisheries Agency

(FFA), which includes more than a dozen SIDS.

In a press release following the close of the WCPFC meeting, the council called the FFA’s disproportionate burden argument a flimsy excuse for unchecked expansion of fishing by SIDS. The existence of such a burden had “yet to be convincingly demonstrated to the United States and other commission members,” it stated. Wespac chair Arnold Palacios said WCPFC negotiations seemed to be almost a game to some island nations.

“At the end of the day, when we walked out and the meeting was done, there was one country (Indonesia) who had an allocation three times what it had,” he said.

Tosatto said he hopes Wespac’s workshop brings together the right experts, including SIDS representatives, “so we can put out to them what a scientific analysis burden might look like to inform ourselves and them.”

“We need to sell the SIDS on this way of thinking. This would be a good opportunity to do that,” he said.

He added that last year, the United States delegation had ultimately agreed to reductions but “others didn’t follow through with their fair share.”

“The U.S. acts in good faith regularly and it’s not always returned,” he said.

While the upcoming workshop may help address some of those issues, Wespac executive director Kitty Simonds suggested that the U.S. delegation dig in its heels and take a less cooperative approach in the future.

If the United States gives in every time a signatory country thinks the U.S. quota should be reduced, “the Hawai’i longline fishery will become a small island developing nation,” she argued.

“We’re just waiting for the U.S. to say N-O [and] block consensus,” she said.

Palacios added that he was disappointed that some organizations blamed the United States for not doing more at the commission’s meeting last December to curb overfishing of bigeye.

“That, to me, was not truly the case,” Palacios said. “The U.S. fleets took a hit. There were signatory countries that were able to triple their quotas. Not only did we sacrifice . . . we got blamed for the whole convention not being able to come up with the significant management measures necessary.” (At the WCPFC meeting, the U.S. delegation’s ability to negotiate on bigeye quotas was compromised by the practice, initiated by an act of Congress in 2011, of allowing the bigeye catch over and above the quota to be allocated to U.S.-flagged Pacific islands via charter agreements.)

Council member McGrew Rice further lamented that when U.S. representatives at the WCPFC meeting dared to complain about its quota reductions, “a country blurted out a very prejudiced statement . . . that we are the largest, richest nation, so why are we grumbling.”

Council Selectively Endorses Informally Collected Whale Data

Does Wespac want a more scientifically rigorous stock assessment for Hawaiian false killer whales, as it claims, or does it simply want one that fishermen will like? That question arose following a discussion of estimates of false killer whale populations around the Main Hawaiian Islands.

Interactions with either the pelagic or the endangered insular stock of the mammals is one of the biggest problems the Hawai’i deep-set longline fleet faces. Under a take-reduction plan imposed by NMFS, if the fishery kills or seriously injures one or two whales in a given year, basically all federal waters south of the Main Hawaiian Islands and part of the Northwestern Hawaiian Islands will be off-limits to those vessels until certain bycatch reduction thresholds are met.

NMFS estimates there are about 1,500 pelagic and 150 insular false killer whales around the Main Hawaiian Islands. And for the past several Wespac meetings, council members and staff have criticized the science behind those estimates, focusing, in particular, on the photo identification analyses provided by Cascadia Research Collective’s Robin Baird.

Last year, council staff went so far as to gather its own group of scientists to produce

a new abundance estimate of the pelagic stock of false killer whales. Their modeling found that there were hundreds more whales than NMFS had estimated and that the population is increasing, rather than decreasing.

Earlier this year, without public notice, a subcommittee of Wespac's Scientific and Statistical Committee (SSC) met to hear a presentation by Baird and question him about his methods. The subcommittee ultimately determined that his analyses "were not suitable for deriving the best available scientific information about abundance, abundance trends or key demographic parameters for the main Hawaiian Islands insular false killer whale population. Such abundance estimates should not be used at this time for management-related decisions."

Subcommittee members included Milani Chaloupka, Pierre Kleiber, Jim Lynch, and Robert Skillman, whose model produced Wespac's recent abundance estimate of the pelagic stock.

As reported elsewhere in this issue, Baird abruptly left the meeting after what he considered to be unprofessional, adversarial questioning by Chaloupka. A copy of the subcommittee report provided to *Environment Hawai'i* makes no mention of this and simply notes areas where questions "were not sufficiently answered."

In general, the SSC report criticizes Baird's studies for what it describes as ad-hoc, opportunistic sampling methods, as well as the type of model used to estimate FKW populations.

The subcommittee recommended that NMFS' Pacific Islands Fisheries Science Center (PIFSC) obtain the full photo-identification dataset of the insular false killer whale population so it can determine whether additional modeling could improve the analysis. It also recommended that the PIFSC make it a priority to conduct its own systematic surveys of the animals in the Main Hawaiian islands "to establish a dataset suitable for estimating abundance."

"In view of the potential limitations associated with the photo-identification dataset, and the time needed to complete systematic surveys of the ... population, the subcommittee further recommends development of alternative approaches to estimating false killer whale abundance," the report states.

At Wespac's March meeting, SSC chair Charles Daxboeck reported that the full committee supported the subcommittee's recommendations.

He said that Baird probably holds about 60 or 70 percent of all data on false killer whales in Hawai'i and that NMFS has the rest.

"So he is the holder of the raw data and I

think that the data that he releases to NMFS to do [stock assessment reports] is already reworked. That's why we're asking to get access to this through other channels by asking the funders of the research-gathering to ask him to release the data if they're not military secrets and to ask NMFS for the data funded by them because it's public money," he continued.

"We're not trying to assassinate the guy. ... We're trying to help this guy out," he said, adding that others may be able to input Baird's raw data into a model more appropriate for how the data were gathered.

Baird's data includes photos he's taken during cetacean surveys as well as those from whale watching tours, Daxboeck said. "It's all mixed in together."

"[With] unstructured inputs, you get unstructured output," he said.

In the end, the council approved the SSC's recommendations and directed staff to explore alternative ways to provide robust estimates for FKW abundance.

Yet, after all the criticism of Baird for "unstructured" data collecting and the use of photos from whale watching tours, Wespac voted to recommend that the PIFSC "develop approaches to ensure information and photos from fishermen are incorporated into cetacean assessments for abundance estimates and stock structure."

"Make sure the fishermen are involved in this. We see what happens every day out there," council member McGrew Rice said.

To this, NMFS PIRO administrator Mike Tosatto noted that while Baird's method of ad hoc data collection has its values and downsides, using fishermen's photos and information — also a form of ad hoc collection — would have similar issues.

He then assured the council that any stock assessment his agency produced would be scientifically rigorous.



Enforcement Roundup

The National Oceanic and Atmospheric Administration's Office of Law Enforcement has levied a fine of \$59,616 against H-N Fishery, Inc., whose longline vessel, *Sapphire III*, was caught twice in two days inside waters of the Papahānaumokuākea Marine National Monument.

Commercial fishing of all kinds is prohibited in the monument and entry by any vessel requires at a minimum a permit from the Monument Management Board.

After being instructed by the Coast Guard to leave the monument, the vessel was found the very next day "engaged in what appeared

NMFS Okays Increase In Bigeye Tuna Quota

The National Marine Fisheries Service has given final approval to a plan to allow Hawai'i longline vessels to attribute part of their catch of bigeye tuna to Guam, Commonwealth of the Northern Mariana Islands, and American Samoa.

The proposal is now Amendment 7 to Wespac's Pelagic Fishery Ecosystem Plan. Although the draft proposal was harshly criticized during the public comment period, NMFS did not change any part of the proposal before making it final.

For details on this scheme, see the article in the April 2014 edition of *Environment Hawai'i* — **P.T.**

to be fishing activity within the Monument," a report from special agent William Pickering states.

Pickering's report was presented at Wespac's meeting in March.

The report notes that the OLE has also recommended for prosecution a case in which a Hawai'i-based longliner was caught inside a closed area. The *Princess Jasmine*, owned by Dang Fishery, Inc., is alleged to have conducted one fishing set in the Main Hawaiian Islands Closed Longline Area.

Although these most recently completed investigations involved fishing violations, most of the OLE's other cases involve interactions with protected species.

Pickering told Wespac that his office at times can field 1.5 humpback whale cases per day. The whale population has increased, "which of course is a good thing," he said. But during whale season, Maui's population swells to 5,000-plus visitors and "it's just a matter of [the whale] population vs. number of people who want to get out on the water," he said.

Finally, he noted that the U.S. attorney's office declined pursue a case where a vessel owner was allegedly shooting at dolphins in Honolulu. The only witness was a young child.

"Based on the age and articulation, it was decided that case could not move forward," said, adding that very young witnesses "don't do well."

"I'm not saying the witness was making anything up, but it was a tough case," he said.

—**Teresa Dawson**

Wespac Destroys Tape of Secret Meeting, Limits Public Access to Council Documents

The meeting held in the conference room of the Western Pacific Fishery Management Council's Honolulu office on the afternoon of January 29 must have been a doozy.

As a result of what he claimed was uncivil behavior of a participant, Robin Baird, a cetacean scientist with the Cascadia Research Collective and one of the most published experts on the subject of false killer whales in Hawai'i, resigned his seat on the council's Protected Species Advisory Committee.

When approached by *Environment Hawai'i*, several other participants in the meeting of the council's Scientific and Statistical Committee's (SSC) subcommittee on false killer whales would not discuss what transpired there. They did, however, note that council staff had made an audio recording of the proceedings.

On February 24, just a few days after learning of the existence of the recording, we filed a formal Freedom of Information Act request to obtain a copy of it.

The response came on April 4. "The Western Pacific Fishery Management Council staff has advised that an audio recording of the subcommittee meeting was erased on February 22, 2014," stated the letter signed by Samuel D. Rauch III, administrator of the National Marine Fisheries Service. "We are in the process of reviewing the circumstances of this action."

No Public Notice

The apparent destruction of a government record is not the only irregularity about the SSC subcommittee meeting. Under the governing law, the Magnuson-Stevens Fishery Conservation and Management Act, notice of meetings of the council, SSC, and all other council committees and advisory groups are presumed to be public and must be announced in the *Federal Register*.

A review of *Federal Register* notices in the weeks before the meeting turned up no such notice. This oversight was confirmed in an email from Michael Tosatto, administrator of NMFS' Pacific Islands Regional Office in Honolulu. "As the result of an unintended omission," Tosatto said, "there was no *Federal Register* notice for that subcommittee meeting. We will provide the council staff with clarifying direction regarding public notice requirements" in the Magnuson-Stevens Act.

'Aggressive, Inappropriate'

As we reported in March, Baird found his treatment at the hands of Milani Chaloupka, an environmental consultant from Queensland, Australia, so insulting that he resigned his position with the council's Protected Species Advisory Committee (PSAC) two days later. In his resignation letter, he described the behavior of Chaloupka, who sits on both the SSC and the Protected Species Advisory Committee, as "unprofessional and highly inappropriate."

"In normal work environments it is clear to me that his tone and adversarial questioning would be considered abusive behavior and would not be tolerated, and I am certainly not willing to tolerate it."

Baird expanded on his experience of the meeting in a phone interview with *Environment Hawai'i*. After he had made his presentation on his recent work in estimating false killer whale abundance through photo identification of individual animals, Baird said, committee members "started asking questions. At the outset, they were all very legitimate questions about our techniques, analytical techniques, et cetera.

"After a while, it deteriorated into what I could best describe as a very adversarial situation. It went from me being asked clarifying questions, or them questioning aspects of the science, to like being on the stand in a court case. Instead of me being asked a civil question, it turned into criticism of me for not providing more information to them, or not providing information in advance. It was bizarre."

Baird went on to say that he had been asked by council staff to present information on his analyses – "just that."

But at the meeting itself, he said, "at the beginning, an agenda was passed around. It was the first time I had seen this. . . . If you're going to have a draft agenda, if you want things to be discussed, it's a good idea to give people a head's up. And this wasn't done.

"The meeting then deteriorated into what I would characterize as extremely unprofessional, inappropriate behavior. Milani repeatedly criticized me, not my science."

"The line of questioning became so unpleasant that I packed up my stuff and walked out of the room. Life is too short for me to put myself in those kinds of situations. Any normal person who was there as a witness would consider it abusive behavior as well."

Chaloupka did not respond to *Environment Hawai'i's* questions about the incident by press time.

At Wespac's March meeting in Guam, no mention was made of Baird's departure during discussion of changes to the "council family," neither was *Environment Hawai'i's* FOIA request mentioned in executive director Kitty Simonds' review of administrative matters.



Council Staff Limits Public's Access to Documents

Five years ago this month, the U.S. Government Accountability Office issued a report containing several recommendations to improve transparency at Wespac. One of them was to have the National Oceanic and Atmospheric Administration work with the council chair to publish council records, including materials provided to council members ahead of each meeting, on Wespac's website, www.wpcouncil.org.

In the past, during the course of a meeting, staff would print out copies of most of the documents that were distributed to council members in their briefing books. These copies would be stacked in long rows on a table at the back of the room where members of the public could pick them up. A binder containing the copies would also be available for the public's perusal.

More recently, although the council still prints out some documents for the public, it has begun to post some of them to its website.

Before the council's 159th meeting held in March Guam and Saipan, several documents had been posted to the website. During the meeting, however, it became clear from discussions that much more material had been provided to council members via their online dropboxes. Only a handful of documents were available to the public.

While at the meeting in Guam, *Environment Hawai'i* staff began looking through what appeared to be the public binder. Wespac public information officer Sylvia Spalding then abruptly closed the binder and removed it, saying it was not intended for the public, but for council staff. She then put out the binder with documents for public review; it was a fraction of the size of the binder she snatched away.

Both the public binder and Wespac's website included none of the council's documents for the Protected Resources portion of the agenda and only two documents in

BOARD TALK

Land Board Defers Decision
On Unauthorized Hanalei B&B

Later this month, the Board of Land and Natural Resources is expected to decide whether Lance Laney, husband of Public Utilities Commission chair Hermina “Mina” Morita, violated Conservation District rules when he built two dwellings without a Conservation District Use Permit and used them as vacation rentals.

Although Kaua'i County records state that the property is owned by Lance and Hermina Laney, the Department of Land and Natural Resources' Office of Conservation and Coastal Lands report to the Land Board names only Lance as the landowner.

At the request of Laney's attorney, Harold Bronstein, the Land Board deferred the matter on March 28, to give Bronstein time to review the Department of Land and Natural Resources' files on the case.

The DLNR's Office of Conservation and Coastal Land had recommended that the Land Board impose a \$15,000 fine for unauthorized construction and another \$15,000 fine for unauthorized short-term vacation rentals. The OCCL also recommended that the board assess administrative costs of

\$1,000 and order the unauthorized structures to be removed.

In a letter delivered on January 3, the OCCL asked both Mr. and Mrs. Laney to immediately cease vacation renting of their “Hale Li'i” and “Hale Nui” and to seek direction from the office about the possible removal of the unpermitted structures.

Weeks later, Laney informed the OCCL that the vacation rentals were continuing and even asked that future renters who had put down a deposit be allowed to stay, the OCCL's report to the board states.

At the Land Board's March 28 meeting, Bronstein testified that the rental activity ceased two months earlier. He added that he disagreed with the OCCL's conclusions regarding the structures. He said the property is a nonconforming one that allows residential use.

“The issue [now] is the structures and how they came about,” he said.

After Hurricane Iniki, the DLNR granted the Laney's permission to rebuild their non-conforming home

that had existed before Conservation District designation in 1964. Single-family residences otherwise are not allowed in the Protective subzone, which Laney's entire lot falls within.

Although Conservation District rules allow the construction of accessory structures within the Protective subzone, the OCCL must approve a site plan first. In this case, none of the new structures received OCCL approval.

Having been hired less than a week before the board's meeting, Bronstein said, he was not prepared to argue the matter that day.

“They've been on notice for two months plus. Now you've just been retained this past week. What were they doing [in the meantime]?” at-large Land Board member David Goode asked.



One of Laney's Taro Patch hales.

PHOTO: DLNR

the Pelagic and International Fisheries section. When asked at the meeting when documents on protected species and pelagic fisheries would be made available on the council's website, Spalding said she was too busy with writing press releases.

Environment Hawai'i was able to obtain the documents provided to council members, though without the help of council staff. They included 13 documents on protected species and 14 on pelagic and international fisheries. In fact, the council was provided with many more documents on nearly all agenda items than were posted to Wespac's website, distributed on the public handout table, or available in the public briefing book.

Spalding did not respond to questions about the lack of public access to council documents by press time.

The council's ongoing refusal to post documents online has drawn the attention of members of Congress. Rep. Henry Waxman of California and Rep. Gregorio Kilili Camacho Sablan, members of Congress representing voters in California and the Commonwealth of the Northern Mariana Islands,

respectively, wrote Kathryn Sullivan, administrator of the National Oceanic and Atmospheric Administration, and NMFS administrator Rauch last December, inquiring about Wespac's slow action to implement the recommendations in the 2009 GAO report.

“[P]ublic documents such as briefing materials used by Council members to make decisions are still not available on the Council website,” they stated in a recent letter. “This is a notable deficiency, as all seven of the other regional fishery management councils have extensive documentation online. The lack of documentation is of particular concern in the case of the western Pacific, where currently a concerned citizen of the Commonwealth of the Northern Mariana Islands or Guam would have to spend over \$2,000 and travel 4,000 miles to Hawai'i to review the documents in person. The Western Pacific Council could follow the example of every other fishery management council and make its documents accessible on its website.”

A response was requested by January 7. It finally arrived on March 19, in the form of

a letter from Sullivan.

“I am pleased to report that additional transparency improvements have been initiated,” she wrote, “including archiving past meeting minutes and documents, as well as streaming live regular meetings. In fact, the Council... posted briefing materials online for the most recent meeting, which took place this March....”

Despite those assurances, the full range of documents given to council members at the 159th meeting, which was ongoing as Sullivan's letter was written, still do not appear on the council's website. As for posting past briefing materials, files posted for the 158th meeting, held last October, include a parking map, two press releases, and minutes. None of the reports or other materials distributed at the meeting have been put on the council's website. (However, in response to a Freedom of Information Act request submitted by *Environment Hawai'i*, most documents are available at the FOIA Online website: query DOC-NOAA-2014-000073.)

— P.T. and T.D.

"I can't answer that. ... I'm not sure," Bronstein replied.

OCCL administrator Sam Lemmo said his office sent its Land Board report and recommendations to the Laney's three to four weeks before the March 28 meeting.

Dan Purcell, a member of the public, testified that it would have been nice if Morita had been present to answer the Land Board's questions. (In addition to being the head of the PUC, Morita was a state representative for 15 years and a former board member of *Environment Hawai'i*.)

"I would discourage you from deferring this. ... She holds a very important public trust position in the state. ... To not be here to answer your questions I think is unfortunate," he said.

In the end, the Land Board voted to defer the matter for 45 days.

The Breach

Before the board's decision, Terry Lilley, a marine biologist from Hanalei, attempted to tie the Laney's unauthorized construction to a 1995 breach of the Hanalei River bank that occurred at or near their property. Lilley also argued that the resulting mud discharge killed about four thousand corals in the area.

"I went up the Hanalei river to find the source of the mud. I found four. One of them is in front of Lance Laney's and Mina Morita's B&B." He suggested that they had built on swamp land.

"This illegal development in the wetland is currently violating the Endangered Species and the Clean Water Act," he said.

To these claims, Land Board chair William Aila said simply, "You made the assertion and we're looking into it."

Lemmo said he was not prepared to discuss the breach.

In an interview with *The Garden Island* last October, Aecom's Bryan Dick, consulting for the DLNR, said "definitively" that the breach was not a natural event. However, at the Land Board's meeting, Carty Chang, head of the DLNR's Engineering Division, said, "We believe it was a natural event" and that rivers normally create new paths. He also said his department doesn't have any proof of any unnatural cause. (Aerial photos of the Laney's property show that all of the structures are located far from the river bank.)

Because the breach has restricted water flow, however, "it's critical we repair this," Chang said. "If it continues to widen, there will be less flow in the normal path of river and into the [U.S. Fish and Wildlife Service] refuge."

He said he expected a contractor would be able to start repairing the breach this summer.

Other Violations?

The Laney's appear to have operated their "Taro Patch Hale" vacation rentals for the past several years, charging \$130 to \$140 a night, according to a now-defunct website. The online news site *Hawai'i Reporter* noted in March that Morita did not report income from the business to the State Ethics Commission while she was a legislator. Also, a review of Kaua'i County property tax information shows that only their main 1,200-square-foot residence and a 1,400-square-foot parking area received a building permit. Finally, the Laney's have been paying property taxes at the Homestead rate, the lowest of all property classes, reserved for lands used exclusively for residential purposes. The tax rate for Vacation Rental properties is more than twice the Homestead rate.



Hoku Kai Biofuels Wins Entry Permit to Shell Site

Energy entrepreneur Charles Barker III won a reprieve of sorts last month. The Land Board unanimously granted his request for a right-of-entry onto state property along Hilo Harbor to conduct environmental studies and to begin some initial cleanup of the old Shell Oil asphalt facility. The board also gave its approval, in concept, to a 65-year lease to Hoku Kai for use of the former asphalt pipeline that runs across state and county property and into the former Shell site.

As of press time, Barker was in the thick of a U.S. District Court fight with his mainland investment partners who he alleges stole his ideas, spent nearly \$200,000 in company money without his knowledge, and failed to raise promised funds for the purchase of the Haina Mill in Hamakua for a biomass plant, among other things. Barker is seeking \$29 million in restitution.

The case was dismissed without prejudice last October, but U.S. District Judge Leslie Kobayashi had yet to rule on a motion to dismiss his amended complaint by press time.

As head of Hoku Kai Biofuels, LLC, Barker plans to eventually pump vegetable-based biofuels from cargo ships in Hilo Bay to the facility. Barker told the board at its March 28 meeting that the old asphalt pipeline needs to be inspected, cleaned, and tested, and the heating lines around it removed. His company also plans to conduct baseline soil sampling along the pipeline, and complete all actions called for in a recent Phase 1 environmental site assessment.

Barker said Hoku Kai is also seeking perpetual access to 700 or so square feet of county

land that the pipeline traverses, as well as an agreement with the state Department of Transportation to use a strip of land where the pipe crosses under Kalaniana'ole Highway.

Initially, fuels will be transferred twice a month for six hours, Barker said.

"The Shell site is unique in that it was the only opportunity to be able to own a storage tank facility [that] would take an enormous time to build ... from scratch," he said.

Conservationist Land Board member Sam Gon noted that Barker appeared to be very experienced with regard to biofuels and asked whether he had existing operations in Hawai'i. Barker said only that he has plans for a mill — presumably the Haina Mill — and that he hopes to make use of the island's biofuels. Barker did not mention his involvement with any of eight or so energy, land, and topsoil companies he has been a principal of in the past; none is currently in good standing with the Department of Commerce and Consumer Affairs.



Board Amends Agreement For 'Ewa Feedlot Development

On April 11, the Land Board once again amended the development agreement for renewable energy facilities on the former feedlot at Campbell Industrial Park. The original agreement, approved by the Land Board in November 2010, was between the state and West Wind Works (3W) and was to have terminated at the end of last year.

After accruing more than half a million dollars in unpaid fees, 3W eventually assigned its interest in the agreement to Investricity Ltd. and its subsidiary, PSP III, LLC, which agreed to pay 3W's delinquency in four installments.

Under the version of the agreement approved by the Land Board last year, if the companies met certain benchmarks (i.e., forged a power purchase agreement with Hawaiian Electric Company) and paid all fees owed to the DLNR, they would get a 25-year lease for 100 acres on which to build a 30-megawatt solar park.

On April 11, however, Investricity/PSP sought to amend the agreement to reduce the size of the facility from 30 MW to 20 MW, to increase the lease term from 25 years to 65 years, and to extend payment and performance deadlines. The companies also asked to insert a condition allowing them to terminate the agreement if the fair market value of the lot is appraised at more than \$30,000 per acre.

Maui Land Board member Jimmy Gomes asked DLNR Land Division administrator Russell Tsuji whether any other entities had expressed interest in leasing the property.

"There's been a lot of interest, but the size of the property, it's difficult to get one guy to take it all. It's not all developable," Tsuji said.

"The short answer is, no one serious," Land Board chair and DLNR director William Aila added.

Attorney William McCorrison, representing Investricity/PSP, testified that his client had already signed a draft agreement that included the new proposed terms. In the end, the Land Board unanimously approved them.



Board Approves Legacy Land Projects

This is a really choice collection this time," conservationist Land Board member Sam Gon said of the four Legacy Land projects approved on March 28. In total, the board authorized the expenditure of \$4.6 from the Legacy Conservation Fund, which collects a percentage of conveyance taxes.

The highest-ranked project was the purchase of 47 acres in Kuamo'o, Kona, site of the famous battle between Kamehameha II, a Christian, and Chief Kekuaokalani over the future of the old Hawaiian belief system.

The Trust for Public Land and the non-profit Mohala Hou Foundation requested the funds, which account for 74 percent of the property's total cost. Additional funds will come from the Hawai'i County open space fund, the Office of Hawaiian Affairs, and private sources.

"The property is site of a significant transition in Hawaiian history, the Battle of Kuamo'o, fought in December 1819 (also known as 'Kaua'ai noa' or the battle of free eating) regarding the traditional kapu system. Kekuaokalani, nephew of Kamehameha I, and his wife, Chiefess Manono, are said to be buried on the property along with many of their warriors," a DLNR Division of Forestry and Wildlife Report to the Land Board states. Burial mounds, heiau, farming and habitation sites, and portions of the Ala Kahakai National Historic Trail exist on the property.

Mohala Hou seeks to restore the old battle site, which now sits between a golf course and the Hokuli'a development, Kamana Beamer told the board. Beamer's father, Kapono, is Mohala Hou's artistic director.

The DOFAW report notes that county funding may result in the county holding an

ease over the property. A legislative amendment to the state Legacy Land law in 2012 allowed the state to also hold easements over lands purchased under the program. However, at the Land Board's meeting Legacy Land program coordinator Molly Schmidt asked that the board simply to stick to imposing deed restrictions.

Gon said he was pleased to see people taking advantage of the Legacy Land program to acquire a property of such huge cultural significance. "This [battle] is one of the most pivotal ... in our history," he said.

Hakipu'u Lo'i Kalo

Taro lands in Hakipu'u, O'ahu, long-farmed by the Fukumitsu family, are headed toward perpetual protection along with surrounding coastal lands. On March 28, the Land Board approved a Legacy Land grant of \$350,000 to the Trust for Public Land and the non-profit Ka Huli O Haloa for the purchase of 1.5 acres there.

TPL and Ka Huli O Haloa are seeking matching funds of \$687,000 from the City and County of Honolulu's Clean Water Natural Lands Program, which, like Hawai'i County, routinely requires a conservation easement for projects that receive funds.

According to a DOFAW report, Ka Huli O Haloa plans to keep the lo'i in active cultivation and partner with area schools, including the Hakipu'u Learning Center, to provide educational opportunities.

"The lo'i on the property are some of the only remaining lo'i kalo in Hakipu'u," the staff report states. "Ka Huli O Haloa will preserve the lo'i kalo ecosystem so that it may continue to provide the staple food of the traditional Hawaiian diet, support fertile habitat for native wildlife, and serve its many watershed functions."

Kalihi Valley

TPL and Kokua Kalihi Valley (KKV) Comprehensive Family Services have received approval of a \$900,000 Legacy Land grant to cover about half of the purchase price for 11.44 acres in Kalihi Valley that includes the overpass across Likelike Highway. KKV is seeking matching funds from the City and County's Clean Water and Natural Lands program.

KKV plans to rehabilitate the land, which, according to KKV clinical director Laura Devilbliss, has "fallen into a criminal element."

"Kokua Kalihi Valley wants to take back the land for the benefit of the community and forest," Devilbliss told the Land Board. KKV already organizes native forest and cultural site restoration, community farming, and public recreation activities on the state's 100-

acre there Kalihi Valley Nature Preserve, known as Ho'oulu 'Aina.

The new project, Ho'oulu Ola, will be managed similarly and will "transform the site into a safe and healthy place for Kalihi Valley residents and the broader public," a DOFAW report states. It will also connect the two parcels via the overpass.

KKV plans to work with hunters to control feral pigs and eliminate dirt biking, the report states.

"I remember the days when the other property was just starting and now it's just amazing to go there. ... You feel you're a part of Kalihi. It makes you proud to see what's happening there," Gon said of Ho'oulu 'Aina, which KKV leases from the state.

Helemano

DOFAW itself is seeking \$10 million to buy 1,613 acres of forest and recreational lands in Helemano, O'ahu, from Dole Food Company. DOFAW's acquisition of these lands would secure a critical access to the Poamoho section of the 'Ewa forest reserve.

At its March 28 meeting, the Land Board approved a grant for only \$350,000. DOFAW's Sheri Mann told the board that her division is seeking federal Forest Legacy program funds and county money to cover the balance.

"DOFAW and the public currently have limited access to these private lands via an agreement with the current owner; however, this agreement is likely to be terminated upon sale of the property to an owner other than DOFAW," a DOFAW report states.



County to Take Over Mauna Kea State Park

The Mauna Kea State Recreation Area is on track to become a county park. On March 28, the Land Board authorized its chair to negotiate and sign a memorandum of agreement with Hawai'i County to transfer management authority over portions of the area. The board also approved the concept of withdrawing the area from the state forest reserve and giving it to the county.

The DLNR's Division of State Parks has managed the handful of cabins in the area since the 1950s, but, over the years, the biggest constraint to managing the area has become the lack of water, State Parks administrator Dan Quinn told the Land Board.

"The source [nearby springs] has continued to decrease down to a point it's just a couple hundred gallons per day ... which is why we've decreased the use of the cabins and

severed lines to everything except toilets,” he said.

Maui Land Board member Jimmy Gomes noted that in 1965, the springs were producing 20,000 gallons of water a day. He asked whether the decrease was the result of the Pohakuloa Training Area taking more water.

Quinn responded that the PTA has actually ceased taking water from the source. The decrease appears to be the result of climate change, he said.

“Lake Waiau [on Mauna Kea] is almost gone,” he said.

Hawai'i County Mayor Billy Kenoi testified that the county has committed \$300,000 toward immediate upgrades of the area. He added that he plans to ask the county's Department of Water Supply to drill a well to meet water needs of the park.

“All we'd like to do is to help upgrade maintain and operate and provide a wonderful recreational area for residents and visitors alike,” Kenoi said.

He pointed out that the county has purchased the coastal lands at O'oma and Kawa to protect them in perpetuity.

“Hawai'i is committed to protecting open space. Our number one priority is parks,” he said.

Hawai'i Island board member Rob Pacheco noted that he had “gotten an earful” of arguments against the proposal from hunters who use the cabins the most and want to maintain the current situation, from people who are concerned that the county will commercialize the area, and from people worried that PTA has contaminated the area with depleted uranium.

“This is kind of an opening for them to air their issues with PTA,” he said.



Senate Approves New Members To Fill Hawai'i, Kaua'i Seats

Robert Pacheco, having served two full terms as the Land Board member representing Hawai'i Island, leaves the board next month and will be replaced by attorney and former Land Use Commission member Stanley Roehrig. The long-vacant Kaua'i seat, last officially held by architect Ron Agor, will be filled by former DLNR land agent Tommy Oi.

Conservationist member Samuel Gon and at-large member David Goode are both at the end of their terms, as well, although Goode is eligible to serve another four years.

Gov. Abercrombie had not announced his nominees for their seats by press time.

— *Teresa Dawson*

Climate Change Forces New Understanding Of Plant Invasions in Hawai'i Ecosystems

Carla D'Antonio has been in the weeds—literally—for the better part of 25 years. The professor of environmental studies at the University of California, Santa Barbara, has been investigating invasive plants in Hawai'i Volcanoes National Park since 1990, and she has come up with an innovative way at looking at their impact.

“We see pictures of landscapes where the invader is dominant,” she said at a recent seminar she gave at the Institute of Pacific Islands Forestry in Hilo. “Snapshots that suggest these landscapes will always be like this once the invader takes over. But we don't really know if the invaders will remain on the landscape without management.”

The issue is important, she went on to say, “since managers have so little money with which to manage vast landscapes dominated by invasives. They have to prioritize [and understand] which landscapes might undergo succession naturally.”

D'Antonio said this was brought home to her clearly five years ago, when she spent time in New Zealand. “I was shown sites where gorse had dominated after the forest was cleared,” she said. “Managers were claiming that without further disturbance, the gorse had been replaced by native species.”

As then-and-now photos of once-gorse-infested New Zealand hills went up on the screen behind her, gasps of disbelief could be heard in the room from those resource managers who have watched helplessly the relentless march across the slopes of Mauna Kea of

gorse, one of the most intractable invaders in the islands.

D'Antonio had their full attention.

Transformational Grasses

The challenge for resource managers, she said, was to understand the persistence of invaders in a given ecosystem. On the one hand, there's “classic succession,” in which the “invaders are part of a series of changes over time and may also facilitate other invaders,” setting off an “invasional meltdown,” D'Antonio said.

On the other, invaders can facilitate “alternative stable states,” in which the system is fixed in a persistent alternative state. This approach “describes communities that were changed but are now relatively stable,” she said. After prominent ecologists began to use this concept about 10 years ago, she added, “it's come to dominate our thinking about how native species persist on the landscape.”

How are resource managers to know which system is the appropriate one for a given landscape?

“Watch the systems over a long time period,” she said. If possible, “experimentally tweak systems and see what happens. And maybe you can predict based on an information blitz—such as the potential species pool,



Carla D'Antonio



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species traits, their interactions, and expert knowledge.”

She drew on her work at submontane woodlands in the Volcanoes National Park as a case study. “We were looking at invasive perennial grasses in seasonal dry forests that were dominated by ‘ohi‘a,” she said. These areas were invaded by drought-tolerant grasses, especially tufted beardgrass (*Schizachyrium condensatum*). Between 1988 and 1998, this represented 79 percent of groundcover in the understory of the study area, she said.

“The grass was a transformer,” she said, causing changes in the ecosystem through promotion of fire, in this case. “There was a four-fold increase in the frequency of fires, and a large increase in their size as well.”

D’Antonio and her co-workers set up 20x20-meter-square plots in which the grasses were removed to see what the system would be like without the grasses. They found that “grasses reduced the growth of native woody species by 40 percent,” she said. “They are suppressing the understory community, and also suppressed recruitment.”

However, “they also reduced the recruitment of two even more aggressive invaders: molasses grass and faya,” *Melinis minutiflora* and *Morella faya*, respectively. “These are much more potent invaders, in terms of their impact on natives. And they were recruiting heavily in the removal plots.”

In the early 1990s, the beardgrass seemed to be in a steady-state relationship with the ecosystem, she said. “We believed that the system had had a little tweak, due to goat grazing, that allowed *Schizachyrium* to become dominant, and it was able to maintain itself. We predicted that this was an unchanging alternative stable state. And in 1998, it looked identical to the way it had looked in 1988.”

“It was a good thing, in a way. The system seemed resistant” to further invasion.

D’Antonio predicted that in the absence of fire, the beardgrass would resist invasion by molasses grass and faya. There would be a slow accumulation of dead natives, and also an

accumulation of standing grass fuel – “a slow creep towards the precipice of fire.”

“Sooner or later, there would be an ignition, and fire is definitely a precipice” that can convert woodlands and shrublands to a savannah of molasses grass, she said.

‘Over the Precipice’

But the fire didn’t come. In 2012, D’Antonio found, the beardgrass had declined by more than 75 percent, with 62 percent of all the beardgrass plants dead. Live biomass, she said, had decreased by 80 percent.

In the meantime, the two invaders that beardgrass had fended off—molasses grass and faya—had increased, while ‘ohi‘a had declined by 50 percent and pukiawe, the dominant shrub in the understory, had declined by 25 percent.

“What’s driving the change in the system? There’s been no fire in the entire study period,” D’Antonio said.

The answer: “a change in precipitation.”

Annual rainfall has trended down since the late 1980s, she pointed out. “And probably what’s more important is the dry-season rainfall, from May to September.” By comparing yearly dry-season rainfall against a 30-year average, D’Antonio found that before 1998, wet summers were more common. “Since then, we’re seeing much drier summers. Plants in the ecosystems are having to undergo much longer drought stress in summer than they experienced before.”

“We noticed a couple of summers back that there was just no rain,” she said. “Then we saw that that has been typical for the last 10 to 15 years.”

Along with the decline in rainfall has been a rise in temperatures. “We’re talking about a 5 degree Fahrenheit average increase in temperature over the same time period,” she said. “So not only is it drier, but it is hotter as well. Both spring and summer are warmer, and plants are facing more stress than before.”

The changes, she noted, are consistent with data generated by Tom Giambelluca,

Hawai’i’s climate-change guru. “Over time, at high elevation stations, above 800 meters ... we see increases in temperatures,” she said, adding that her study site was at an elevation of 900 meters. “No question, these habitats are getting warmer, and also drier.”

“Native species are also showing signs of stress... The canopy has decreased in live cover quite considerably,” she said.

D’Antonio looked for other possible reasons for the decline of the invasive beardgrass, but found no evidence of changes in the soil or damage from insects or other organisms.

“So,” she said posing the question for the crowd: “looking at the framework for evaluating the persistence of the invader – is it succession or an alternative stable state?”

Unanticipated Changes

In the case of the changing landscape at the park, she said, “it’s succession: from an uninvaded to an invaded initial state. Then drought, climate change, and eventually a changed ecosystem.”

“We did not predict the strong decline of *Schizachyrium* or of the native woody species,” she noted. “When we started in 1990, climate change was not on anybody’s radar screen.”

But once the decline began, “we could predict the trajectory – invasion by other species. We’ve now done experimental work that could have helped us predict that if something knocked out *Schizachyrium*, it would go the wrong way.”

Looking back, she said, “in 1990, we should have recommended controlling the seed supply of future invaders. The park had been working to control faya until the 1980s, when they gave up. It’s too bad. Now we’re at a point where we’re over the precipice.”

Now, she said, “climate change is important to consider in looking at the persistence of invaders. Some decline, others benefit. We just don’t know the relative strengths of individual invaders to withstand climate change.”

— **Patricia Tummons**