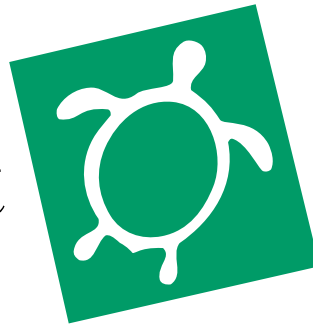


Environment



Hawai'i

a monthly newsletter

Price: \$5.00

Let Them Eat Fishcake

What? Me worry? That was the Alfredeneumanian response of the appointed federal fishery managers to the sobering report that the Hawai'i-based longline fishery is already seeing ecosystem effects from the ever-increasing catch — both here and abroad — of apex predators for the last two decades.

With market prices for bigeye remaining high, none of the members of the Western Pacific Fishery Management Council seemed bothered by ominous signs that major changes are occurring in the food web deep below the sea surface.

The council's solution? A call for more studies (of course).

Our report on the most recent Wespac meeting leads off this issue, followed by a wrap-up of environmental bills that made it into law this past legislative session. Completing the issue is Teresa Dawson's regular column on recent actions of the Board of Land and Natural Resources and Robert Cabin's response to our review of his book. (Spoiler alert: he did not like it.)

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Maui and Lana'i Fishing Rules, and More*

Fishery Council Members Are Unfazed By Reported Declines in Tuna Catches

None of the council members seemed particularly bothered by what pre-eminent marine scientist Jeffrey Polovina just told them — that there is clear evidence longline fishers in Hawaiian waters are “fishing down the food web.” The term refers to

fishery-induced reductions in an ecosystem's trophic structure.

Now, 40 percent of the catch by Hawai'i-based vessels targeting tuna is composed of unmarketable species, such as escolar (a.k.a. the laxative fish), the fanged noodle known

as snake mackerel, or the watery-muscled lancetfish (edible if you don't mind a squishy bite). About 16 years ago, those fish accounted for no more than 30 percent of the catch.

When given the chance to question Polovina after his presentation at the June meeting of the Western

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PHOTO: ALLEN SHIMADA, NOAA NMFS OST

Pacific Lancetfish (*Alepisaurus ferox*)

PLDC RIP, SPRBs, and SWACs: A Wrap-Up of the 2013 Legislature

When it comes to environmental issues addressed by the 2013 Legislature, repeal of the Public Land Development Corporation grabbed headlines. That agency, established by the Legislature just two short years ago and signed into law as Act 55 of the 2011 session, never was so loved by the public as it was by its creators (chiefly Senators Donovan Delacruz and Malama Solomon). Following last year's elections, with both incumbents and challengers hearing an earful from constituents — outraged over the PLDC's exemption from so many environmental and zoning regulations and angry over its lack of transparency — the agency was shut down.

The closure was effected by Act 38 (House Bill 1133, Senate Draft 2). So unpopular had the agency become that even its original sponsors voted to give it the axe.

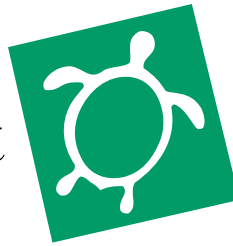
The bill's preamble is probably about as close to an apology as the Legislature has ever come: The exemptions granted to the PLDC, it says, “coupled with the manner in which Act 55 was passed, have led to distrust and uncertainty of the public land development corporation's intentions and development plans. Despite efforts to allay concerns, many individuals and organizations, particularly environmental and native Hawaiian organi-

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Environment Hawai'i

Volume 24, No. 2

August 2013



NEW AND NOTEWORTHY

Sailing On: “Ahoy rrrrye mates! The *Queen’s Treasure* be sailin’ again!” read the June 28 message to followers of *Queen’s Treasure’s* Facebook page.

For about the last year and a half, Ka’anapali Tours, LLC (KTL), which owns the 65-foot luxury catamaran, has been fighting in federal court for the right to operate the vessel along Maui’s Ka’anapali coast.

In September 2011, the state Department of Land and Natural Resources’ Division of Boating and Ocean Recreation prevented the company from sailing *Queen’s Treasure* under its one-of-a-kind permit that purported to allow the use of either a monohull or a multihull vessel.

DOBOR argued that the permit should never have been granted because its rules for Ka’anapali don’t allow for such a permit. What’s

more, the rules require catamaran permittees to be selected from a waiting list (and KTL was not at the top of that list when it acquired its permit).

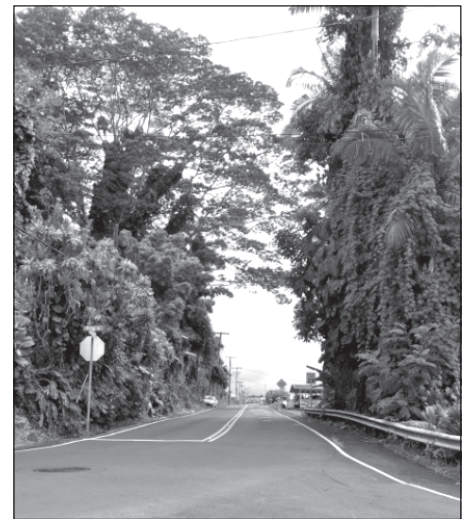
KTL sued in U.S. District Court and lost. Although the company’s monohull/multihull permit expired last year, KTL appealed to the 9th Circuit Court of Appeals.

However, in May, attorneys for KTL and the state filed a motion asking that the case be dismissed with prejudice. According to DOBOR administrator Ed Underwood, KTL recently entered into an agreement with the owner of Fun Charters, Inc., which has a valid catamaran permit for Ka’anapali. Essentially, Fun Charters is leasing *Queen’s Treasure* from KTL, he says. He adds that KTL’s owner is still on the wait list for a permit.

For more on this, read our February 2012 cover story and our March 2012 and February 2013 New & Noteworthy items, all available at <http://www.environment-hawaii.org>.

Albizia Update: The county of Hawai’i is suing a family that owns a vacant lot in Hilo over its failure to trim back an albizia tree that is hanging over Punahale Street, just a few blocks from downtown. The huge, heavy limbs create “a known hazard to motorists, pedestrians, residents and users of Punahale Street,” the county’s complaint states.

The county’s Department of Public Works first attempted to get the landowners—heirs of Harold Spencer—to remove the tree last September, when it issued a notice of violation and order that required removal of the hazard by November 6. An identical NOV was issued November 21, demanding corrective action be



The albizia tree on Punahale Street in Hilo.

taken by January 21. On January 29, yet a third NOV was issued, with corrective action to be made by March 4. All three NOVs indicated that fines of \$1,000 a day would be imposed if the deadline were not met.

The county’s complaint asks for damages of \$1,000 a day, starting only on March 4. By June 25, when the complaint was lodged with the court, the fines would have amounted to \$113,000. The county is also seeking to recover its attorneys’ fees, interest, and other costs.

Even if the county prevails in court, its ability to collect damages from the owners is not a sure thing. Property tax records show they last paid taxes in 2011.

TAUs Are Tossed: Federal Judge Leslie Kobayashi has ruled that a Kaua’i law limiting construction of new transient accommodation units (TAUs) is invalid. In doing so, she agreed with the argument of Kaua’i Beach Villas—Phase II that the law, the result of a ballot referendum, was in conflict with the Hawai’i Supreme Court’s decision in *Kaiser Hawai’i Kai Development Co. v. City & County of Honolulu*, better known as the Sandy Beach case.

Environment Hawai’i published details of the lawsuit in our October 2012 issue. For more information and to see the judge’s decision, see the EH-Xtra item on our website, <http://www.environment-hawaii.org>.

Environment Hawai’i

72 Kapi’olani Street
Hilo, Hawai’i 96720

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

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

Production: For Color Publishing

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ISSN 1050-3285

A publication of *Environment Hawai’i, Inc.*

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Quote of the Month

“No one is trying to make the fish go away, but it’s happening.”

— Chad Wiggins,
The Nature Conservancy

NMFS Ignores Letter of the Law In Extending Bigeye Quota Exemption

When does a law not mean what it says? Apparently, whenever the National Marine Fisheries Service decides Congress must have made a mistake.

That is what has happened in the case of the Commerce Appropriations Act that was passed in March. One part of the measure seems to have been intended to extend for one year (up to December 31, 2013) the congressional authority allowing Hawai'i longliners to get around international limits on their bigeye tuna catches by entering into agreements with the U.S.-flagged territories in the Pacific (American Samoa, Guam, and Commonwealth of the Northern Mariana Islands) that allowed part of the territorial catches to be assigned to the Hawai'i fleet.

But the final version of the law does not achieve that. Instead of referring to the provision in the previous year's act that authorized this scheme, the 2013 Commerce Appropriations Act refers to a different paragraph having nothing whatsoever to do with the longliners' arrangements with the territorial governments.

That did not prevent the National Marine Fisheries Service from going ahead and asking for public comment on a rule that would extend the arrangement through the end of 2013. The rule makes no mention of the problem with the current appropriations act, citing as authority Section 113(a) of the original legislation. In fact, it goes so far as to claim that the earlier law was "continued by" the current appropriations act, despite the problem with the language.

After the 2013 law was signed, *Environment Hawai'i* asked Mike Tosatto, head of the Pacific Islands Regional Office of the National Marine Fisheries Service, what would happen if Congress didn't fix its mistake by the time the Hawai'i longliners reached the quota allotted them by the Western and Central Pacific

Fisheries Commission. They would either have to stop fishing for bigeye or fish in the more distant waters of the Eastern Pacific, he responded — unless the Western Pacific Fishery Management Council could amend its management plan for pelagic fish to address the issue.

When the proposed rule was published in June, Tosatto was asked again about the problem that the law that claims to authorize the rule in fact does no such thing. He replied that NMFS lawyers had given his office the green light to act as though Congress had indeed re-authorized the 2012 law.

In its comments, the Hawai'i Longline Association was generally supportive of the proposed regulations, "insofar as they continue to confirm and implement agreements" authorized by the 2012 legislation.

Its letter, from HLA attorney Jeffrey Leppo, also put NMFS on notice that in addition to having the previous agreement to take part of the American Samoa bigeye quota, the association "will be entering into another qualifying ... arrangement with American Samoa, Guam, or CNMI in substantially the same form."

"Insofar as HLA is able to discern, the proposed rule does not alter in any way the applicable criteria for a qualifying Section 113(a) arrangement. If NMFS intends anything different, HLA hereby objects (because such an intent would conflict with applicable law and because fair notice of a different intent is not given in the proposed rule)."

Reinitiated Consultation?

The only other substantive comments were from Catherine Kilduff, the staff attorney for the Center for Biological Diversity.

"The practical effect [of the proposed rule] is to allow unlimited bigeye tuna fishing through agreements transferring territories'

For Further Reading

To learn more about the law giving Hawai'i longliners the ability to catch more bigeye tuna than the Western and Central Pacific Fisheries Commission has allotted them, see our January 2012 cover article, "Federal Law Gives Hawai'i Longliners Free Rein to Ignore International Quota."

unlimited quota by virtue of a loophole created by appropriations riders," she wrote.

"We request that NMFS end overfishing and set catch limits for all fishing within U.S. jurisdiction, including vessels in the longline fisheries of American Samoa, Guam, and the CNMI. At its meeting concluding June 28, 2013, the Western Pacific Regional Fishery Management Council recommended that the Pelagic Fishery Ecosystem Plan be amended to include a 2,000 metric ton bigeye tuna longline limit for the U.S. Territories... There is no reason not to implement this recommendation now via the proposed rule."

Citing the recent work of Jeffrey Polovina and Phoebe Woodworth-Jefcoats, Kilduff wrote, "Catch limits for all vessels are imperative given the recent science showing that increases in fishing in the past 16 years have altered the Pacific Ocean ecosystem, perhaps irreversibly... Current fishing levels are unsustainable and NMFS has a legal and moral mandate to reduce bigeye tuna mortality immediately."

Finally, Kilduff stated that should the proposed rule take effect, NMFS "must reinitiate consultation on the activity's effects on endangered species such as the sea birds, sea turtles, and endangered marine mammals. The most recent biological opinions do not include fishing effort data from 2011 or 2012 — years in which there have been no bigeye tuna limits — and thus this is new information triggering reinitiation because the effects of the agency action may affect listed species in a manner or to an extent not considered in prior biological opinions."

— P.T.

Wespac continued from page 1

Pacific Fishery Management Council, no one did, at first. Council member Ed Ebisui just grinned for a while. Finally, council member and fish auction representative Mike Goto piped up, mainly to say that Hawai'i fishermen are still making good money catching tuna, so the fact that they're catching large batches of undesirables isn't really anything more than a curiosity.

The Hawai'i longline industry has seen only an increase in value across the board, Goto said. And as far as the continued increase in unmarketable bycatch goes, Hawai'i is "probably not going to see any significant effect on the fishery itself, in my opinion," because large tunas will always retain their value, he said.

Goto admitted that the fishery does have periods where it catches vast numbers of non-target species, but "it's really not something

that detracts from the value of the fishery itself. It's more an anomaly than anything to see an abundance of one species, then a decline, then a reappearance."

Polovina pointed out that once smaller species become more abundant than apex predators, "you're going to see a lot of fluctuation."

To Goto's comments that the fishery is still doing well economically, Polovina stressed that he and his Pacific Islands Fisher-

ies Science Center (PIFSC) colleague Phoebe Woodworth-Jefcoats are trying to point out a change in the structure of the whole North Pacific ecosystem.

Overall prices for tuna are increasing substantially and the fishery can still turn a profit, so the industry is not concerned it's seeing more escolar? Polovina asked Goto.

"It's always something we've been interested in," Goto said. "Your presentation may explain why. ... If the trend is also showing a decrease in apex species, we want to correlate it with effort versus climate change. ... In the present, [tuna are] a very viable resource across the board," Goto replied.

Polovina, however, suggested that the fishery might want start finding markets for lancetfish and snake mackerel.

A New Regime

"We joke it's no longer the longline fishery for bigeye. It's the longline fishery for lancetfish," Polovina said. In 1996, he said, large apex predators like tuna and swordfish represented 70 percent of observed catches. By 2012, they represented only 40 percent.

What now makes up most of the catch? Mainly, it's been mahimahi, escolar, lancetfish, snake mackerel, and sickle pomfret. Lancetfish now has a higher catch rate than bigeye tuna in the longline fishery, he said.

According to Polovina, it's not easy to dislodge apex species (such as blue shark, bigeye and albacore tunas, swordfish, and striped marlin) from their place in the ecosystem.

"One of the things interesting about the [North Pacific] pelagic food web is there's a lot of duplication, replication [in] the food web. Many of these apex species have very similar diets, so if you remove one or two of them, the others would just fill in that void and the ecosystem wouldn't change much," he said.

But if you substantially reduce the top group, you will see changes. And judging by the results of recent ecosystem modeling of the longline fishery's impact on the food web and years of fishery data, Polovina said the ecosystem probably has changed.

His model didn't make a lot of assumptions — mainly just that large fish eat small fish and the longliners go after a certain size of fish. But it confirmed that the substantial removal of large fish from an ecosystem results in an increase of smaller fish. In the case of waters around Hawai'i, longlining is not impacting the food web down to the primary productivity level, but it is affecting species composition "orders of magnitude down," Polovina said.

While foreign vessels account for most of

the tuna catch in the North Pacific, the number of sets in the Hawai'i-based fishery has also grown exponentially, tripling over the past decade and a half. The number of hooks has quadrupled.

"Moving forward, climate is going to be an issue," Polovina added. He recently modeled the impacts of climate change on commercially targeted pelagic stocks and found that toward the end of this century, they will decline significantly.

"The combined impacts of increased fishing effort and future climate change are projected to be additive and accelerate a shift of ecosystem size structure to smaller sizes," he wrote in a April 2013 *Plos One* paper he co-authored with Woodworth-Jefcoats ("Fishery-Induced Changes in the Subtropical Pelagic Ecosystem Size Structure: Observations and Theory").

"Many of these small fishes have faster growth rates and shorter life spans than the larger fishes and hence may be more responsive to inter-annual environmental changes," they wrote.

To head off or at least minimize the likelihood of such a future, Polovina suggested that international fishing organizations, perhaps the Western and Central Pacific Fisheries Commission, pursue a multi-species fishing quota, rather than the current regime of having maximum sustainable yields (MSY) set for each individual species.

Wespac staffer Eric Kingma asked whether the Pacific Island Fisheries Science Center, an agency of the National Marine Fisheries Service, had the ability to develop a multi-species MSY on its own. No, Polovina responded. To do this would require international catch-and-effort information, which the PIFSC lacks, he said.

In the end, the council approved a recommendation of its staff calling for the PIFSC to model changes in the abundance of North Pacific pelagic fish and how this is influenced by fishing pressure, climate change, and oceanographic factors. The council also asked the center to consider the development of a multi-species MSY.

So Long, Stingray?

Polovina's talk and the resulting discussion centered mainly on the decline of commercially targeted species. The *Plos One* paper, however, also points out that pelagic stingrays and oceanic white-tip sharks are in big trouble. The sharp decline in their populations "presents concern of collapse for these species," they wrote.

Oceanic white-tips are already recognized as vulnerable to over-exploitation and are critically endangered in parts of the Atlantic.

In their study, Polovina and Woodworth-Jefcoats found that the sharks are declining in the North Pacific at a rate of 6.9 percent a year.

Pelagic stingrays, however, are generally thought to be one of two species of elasmobranchs (which include sharks, rays, and skates) facing a low extinction risk due to their life history characteristics, Polovina and Woodworth-Jefcoats wrote. However, they added, their data suggest "this may not be the case."

One might expect that a decrease in apex predators — which eat stingrays — would result in an increase in the stingray population. It hasn't. In fact, catch rates of pelagic stingrays have steadily decreased, suggesting that fishing may be killing more stingrays than their natural predators kill, they wrote.

"While this paper has focused on changes in ecosystem structure, it is clear that with increases in escolar and snake mackerel [catch rates] of 12 and 15 percent per year respectively and declines in pelagic stingray and oceanic white-tip [catch rates] of 5.4 and 6.9 percent per year respectively, we are also seeing changes in the ecosystem composition with potential significant impacts on ecosystem function," they wrote.



Council Team of Experts Finds Pelagic FKW Population is Growing

In the eyes of Wespac, one of the biggest threats, if not the biggest threat, to the Hawai'i longline fishery is its interaction with endangered false killer whales. If it kills or seriously injures even a small number of whales in a short time frame, a huge swath of fishing ground gets closed off until the National Marine Fisheries Service decides to reopen it.

During Wespac's meetings and those of its Scientific and Statistical Committee, the true abundance of the animals and the methods used to calculate it often comes into question. Scientists with NOAA's protected species division, however, have stood by their estimate that there are some 1,500 false killer whales in pelagic waters around the main Hawaiian islands.

Unsatisfied, the council recently convened its own group of experts, including some of its SSC members, to produce a new abundance estimate. No scientists from NOAA's Pacific Islands Fisheries Science Center attended the March workshop as they were, coincidentally, at another meeting the days the Wespac group met.

Using an age-structured population model developed by fisheries scientist Ray Hilborn,

the group determined that even with current levels of take by the longline fishery, Hawai'i's pelagic false killer whale population is likely growing at a rate of about two percent a year.

"Eighty-five percent of the time, there's a chance the pelagic population is either stable or growing," Wespac's Asuka Ishizaki told the council at its June meeting.

"In 2010, this model predicts a median population of 1,858, with a mean of 2,023," compared to NOAA's current estimate of 1,503, she said.

The group also developed a framework for a risk analysis for false killer whales that Ishizaki said could be easily adapted to the insular and Northwestern Hawaiian Islands populations of false killer whales, which are even smaller than the pelagic population.

Ishizaki said the model "will not replace getting out into the field and getting data."

NMFS Pacific Islands Regional Office director Mike Tosatto asked what the council intends to do with the modeling results.

"I don't know what your goal is," he said.

Ishizaki responded that the council is looking into asking Hilborn to publish the results in a peer-reviewed journal. She also said that if NOAA knows with a level of certainty that the stock is increasing rather than decreasing, perhaps it could factor that into its abundance calculations.



Monk Seal Update

The 200 or so endangered Hawaiian monk seals living in the Main Hawaiian Islands probably eat a tiny percentage of the fish biomass here, according to a recent National Oceanic and Atmospheric Administration assessment. But they do interact regularly with fishermen and their gear. And Jeff Walters, NOAA's Hawaiian monk seal recovery coordinator, wants fishermen to report those interactions so his agency can start building case files on "trouble" seals that may require management, including relocation.

During his update to the council at its June meeting, Walters noted that six seals had been hooked on Kaua'i since January, an average of one a month. Fisherman Ed Watamura later testified that a trap fisherman he knows has documented a seal repeatedly turning over his traps. Seals have also been found caught in abandoned nets.

To prevent an increase in such interactions, Walters says he's made outreach his main priority. NOAA has a new paper on how much monk seals really eat and their

impact, as well as a four-page-long document on how to reduce and prevent fishery interactions, he said.

"We need to simplify those messages, make them more accessible," he continued.

"If there was one message I could get out to fishermen, or anybody: please do not feed monk seals," Walters said. He's heard of some spearfishers giving a monk seal a fish or two while they're spearfishing so the seal will leave them alone.

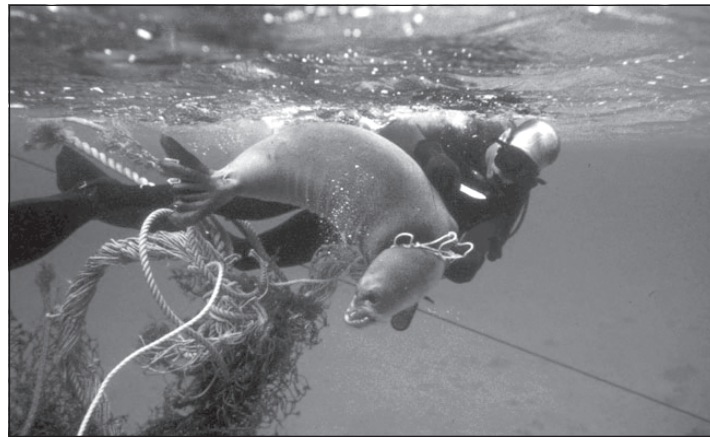


PHOTO: NOAA
An endangered Hawaiian monk seal entangled in fishing gear.

"That's the worst thing you could do," Walters said, adding that it only habituates the seals to being fed by humans.

"Seal behavior modification is a growing concern for us," he said. He added that NOAA is compiling "problem seal" histories of seals that have been fed by or otherwise interact with humans and may need to be captured.

Council member McGrew Rice said some fishermen may not be reporting monk seal interactions out of fear of being more strictly regulated.

"[Seals] learn how to pull the bottomfish off the line ... they get used to it. They do it regularly. ... The fishermen are going to be the ones regulated because the monk seal decided to get smart. ... That's my fear," he said.

Walters said he was aware of only three instances of monk seals taking bottomfish off lines and that his records show that fishermen who report interactions are not being prosecuted.

"My point is, get the information so we can start documenting. We have to find a way to coexist," Walters said.

Wespac executive director Kitty Simonds recommended that Walters work with Watamura on reaching out to fishermen.

"Ed talks to the fishermen on every island," she said of Watamura, who chairs the council's advisory panel.

Council member Julie Leialoha suggested that Walters continue outreach on the Big Island, particularly regarding NOAA's now-

shelved proposal to temporarily translocate young seals from the NWHI to the MHI.

"It's pretty clear some people thought translocation was happening all this time. ... That misconception needs to be better explained," she said.

Walters admitted that when his agency announced it would postpone that program, it got into the O'ahu newspapers, but not those on the outer islands.

Walters said NOAA plans to expand its

critter cam research to Moloka'i, Kaua'i, and O'ahu and will continue to study fecal DNA and fisheries interactions.

A draft plan for management of seals in the MHI is expected to be issued later this year and the monk seal recovery team, which has been dormant for some time, is expected to reconvene in October, he said.

The two-stage translocation program has been postponed until more management tools are developed in the MHI, he said. For one thing, NOAA wants to be able to track any translocated seals to keep them out of trouble.

In the meantime, NOAA has filed a permit application with the Papahānaumokuākea Marine National Monument to allow it to take MHI seals to the Northwestern Hawaiian Islands to see how they fare.

State and federal agencies have also discussed the possibility of establishing a protected area around Ni'ihau. That effort is "largely in the hands of the [National Marine] Sanctuary program," said NMFS Pacific Island Regional Office director Mike Tosatto.

"There are a lot of moving parts regarding Ni'ihau. ... Do they affect each other? Sure," he said.

Council member Alton Miyasaka, a biologist with the state Department of Land and Natural Resources' Division of Aquatic Resources, said his director, William Aila, "would like to see some monitoring of resources in the area to base his decision on whether or not it should be included in the sanctuary."



Detting, Cabos Lawsuit

A few months ago, the U.S. District Court dismissed without prejudice a case

Author Robert Cabin Responds to 'Restoring Paradise' Review

I appreciated Patricia Tummons reviewing my book *Restoring Paradise: Rethinking and Rebuilding Nature in Hawai'i* in the July issue of *Environment Hawai'i*, but was surprised by her strong negative reaction to this and my previous book, *Intelligent Tinkering*. I also found her overall hostility ironic, because a central theme in both my books is the urgent need for more mutual respect, tolerance, and pluralism in conservation. In other words, we've got to stop circling the wagons and shooting at each other.

One of the most informative things I have ever done was interview a swath of Hawai'i's broader environmental community. Despite all their differences, many of these people similarly lamented that rather than engaging in constructive debate and, when necessary, respectfully disagreeing and moving on, too often we myopically obsess on the relatively few things that divide us. I have certainly been guilty of falling into this trap myself. This is partly why I have become increasingly passionate about the need for those of us who love Hawai'i to put aside our often petty differences and unite around the many things we virtually all agree can and should be done.

Tummons correctly assumed that I don't do this kind of writing for the money. At least for me, it's damn hard work that provides essentially zero fame or fortune in return. I also agree that there are many other people who are more qualified to write about Hawai'i than I am. So why do I do it?

Because to date no other writers have told the kinds of stories that I think need to be told. Why did I devote most of *Restoring Paradise* to the most successful ecological restoration programs in the islands? As I stated in the introduction, in part "...because these success stories demonstrate that at least some of Hawai'i's remaining native biodiversity can be preserved and restored, I hope they will inspire us to do more before it really does become too late." Whenever possible, I tried to tell these stories through the unfiltered eyes and mouths of the people responsible for their success.

I also strived to analyze and present my 72.5 hours of taped oral interviews as objectively as possible. For example, one of the questions I asked everyone was "What role does science presently play in guiding ecological restoration in Hawai'i, and what if any changes would you like to see in the future?" As I noted in *Restoring Paradise*, "This question provoked the most passionate responses from almost all my interviewees." Some people "emphatically stated that science and scientists were of obvious fundamental importance" and "stressed the critical importance of carefully recording, monitoring, and assessing our management activities." Others discussed what they perceived as the extreme tensions between scientists and resource managers, and how "scientists and resource managers come from and live within two distinct worlds." Some questioned the practical relevance of conservation science; oth-

ers suggested various reforms that they believed would help make this science more relevant. Still others said that science is only one of many different ways of knowing, and argued that the larger conservation movement needed to show more respect for other knowledge and value systems. In this section, and throughout the book as a whole, I worked hard to present the perspectives of each of the different "camps" on such divisive issues in an accurate, even-handed, and non-judgmental manner.

Tummons repeatedly accuses me of being disrespectful and unappreciative of science and scientists. I respectfully disagree. In fact, I would maintain that I have bent over backwards in my books and other writings to make it clear that these are neither my intentions nor my beliefs. I must say that it has been extremely gratifying for me that the larger expert community has appreciated and commended me for these efforts. I am also proud of the fact that excerpts from both of my books have been published in leading scientific and environmental magazines, and that these books have received such exceptionally kind and complimentary reviews (examples of these are available on my Amazon pages).

I hope that people who read *Restoring Paradise* will gain a greater understanding, appreciation, and respect for other people who may have fundamentally different perspectives on environmental issues and the complex and ever-evolving relationship between humans, nature, and science. Moreover, I hope that this pluralism will ultimately help catalyze more and better science and more and better conservation within and beyond the Hawaiian islands.

— Robert Cabin

brought against NOAA by Hawai'i fishermen Joe Dettling and Robert Cabos. The two alleged that they lost their fishing grounds with the establishment of the Papahānaumokuākea Marine National Monument and the Pacific Remote Island Areas monument. What's more, they argued that they should have been compensated along with federally permitted NWHI bottomfish and lobster fishers who benefitted from not one but two rounds of congressional appropriations totaling several million dollars.

Dettling sought \$1.2 million in compensation; Cabos sought \$900,000.

On May 31, U.S. District Judge Alan Kay found that the men failed to show that they were entitled to fish in the NWHI

monument area and thus were entitled to compensation. Neither had obtained a federal fishing permit, although they fished in federal waters.

"Indeed, plaintiffs' factual allegations appear to show that plaintiffs were not eligible for compensation," Kay wrote in his decision.

Kay also found that Dettling and Cabos failed to exhaust their administrative remedies.

The two had until June 30 to file an amended complaint, which they did. In it, Dettling is seeking the same amount of compensation, but Cabos now wants \$1,260,000.

"\$6.7 million dollars of Congressional funds were used to ... compensate the

federally permitted lobster fishermen who had their quotas set at zero approximately 15 years prior and who had already previously received compensation for being displaced," they attorneys wrote in their amended complaint. "NOAA employees initially told both Dettling and Cabos that they were accidentally excluded when they disbursed the compensation funds [and] assured both Dettling and Cabos, however, that they would ask Congress to allocate additional funds to compensate Plaintiffs."

(For more background on this story, see our August 2012 cover story, "Fishermen Seek Belated Compensation for Exclusion from Marine Monuments.")

— Teresa Dawson

Legislature from page 1

zations, have expressed support for legislation to repeal Act 55.... While the optimization of the use of public lands is a meritorious goal ... achieving this goal requires a greater respect for existing laws and procedures....” (For more on the manner in which Act 55 moved through the Legislature and its final provisions, see the cover article in the August 2011 issue of *Environment Hawai'i*.)

But aside from the PLDC's repeal, the environmental measures passed by the 2013 Legislature, for better or worse, generally flew under the radar. Here are some of those that perhaps should have received more attention than they did:



SPRBs for SWACs

Seawater air-conditioning has captured the Legislators' collective imagination. Act 238 of the 2013 session authorizes the state to issue up to \$40 million in special purpose revenue bonds for a project that says it will cool the Keahole airport and the nearby Natural Energy Laboratory of Hawai'i Authority. Act 129 authorizes up to \$200 million in SPRBs for a similar Waikiki project.

SPRBs are not direct grants or loans from the state. Rather, when a company receives permission to issue the bonds – after approval from the state Department of Budget and Finance – buyers are attracted by the fact that they pay no federal income tax on the interest those bonds yield. The bondholders benefit in this manner, so, as a general rule, the companies issuing the bonds get a break on the interest that they have to pay. The full faith and credit of the state is not at risk, but the state is limited in the total amount of SPRBs it may issue. Consequently, approval of SPRBs is one way the Legislature has of providing indirect support to companies that lawmakers think will benefit the state economically, environmentally, or socially.

Testimony in support of the two measures was not plentiful, but it was generally enthusiastic. Jeff Mikulina of the Blue Planet Foundation (formerly director of the Sierra Club, Hawai'i Chapter) praised seawater air-conditioning as a means of achieving substantial reductions in fossil fuel consumption.

Cord Anderson, a partner in Kona SWAC, LLC (the entity proposing to build the Keahole facility), claimed his project would replace 23,000 barrels of oil a year, reduce potable water use by 35 million gallons a year, reduce sewage discharge by 15.4 million gallons a year, and reduce “harmful gas emissions of approximately 11,100 tons/year.”

Anderson, a grandson of politician D.G.

“Andy” Anderson, has been involved in several business ventures, including a foreclosed-upon effort to renovate the iconic Ilikai hotel in Waikiki. He has also run afoul of the Board of Land and Natural Resources for the way he has managed state-owned land in the village of Kailua-Kona. Anderson, by the way, is a member of the Honolulu Planning Commission.

In his testimony, Anderson said his plans included “leveraging” unused capacity in an existing 55-inch pipeline at NELHA. There was no testimony from NELHA to indicate whether such capacity exists.

Anderson's company, he said, is a subsidiary of Kaiuli Energy, whose management team, he said, “is comprised of Hawai'i business leaders with the necessary experience critical to the project's success.” Among them are Ray Soon, former head of the Department of Hawaiian Homelands, and Darryl Nakamoto, former chief financial officer of the bankrupt alternative-energy company Hoku Corporation. (Hoku, by the way, was also a SPRB beneficiary. As of mid-July, its stock was selling at 1.66 cents a share.)

The lone discouraging word came from Henry Curtis, executive director of Life of the Land. He pointed out that the request by Kona SWAC for as much as \$40 million in SPRBs (Senate Bill 1280) “was filed before the company registered” with the Department of Commerce and Consumer Affairs. (It finally registered on February 5 of this year; the DCCA website shows that its sole member is Kaiuli Energy, LLC.)

“Neither company has a working website,” Curtis said in his testimony. “Neither company has any public information about their skill sets, knowledge of SWAC or ability to deliver. In the interest of open government, sunshine, and community participation, we believe their requests for SPRBs are not ripe and should be deferred until the public has had adequate time to evaluate their proposals and to offer meaningful comments to this committee.”

The Waikiki project will save 106,000 barrels of oil a year, according to Nakamoto, identified in his testimony as a partner in Kaiuli Energy. Nakamoto also claimed it would reduce potable water use by 157 million gallons a year and reduce sewage discharge by 69 million gallons a year.

Since 2005, the Legislature has authorized up to \$145 million in SPRBs for yet a third seawater air-conditioning project intended to cool downtown Honolulu buildings. Although Honolulu Seawater Air Conditioning, LLC, prepared a state environmental impact statement for the

project in 2009, the necessary federal EIS has not been completed. In 2011, a draft federal EIS was panned by the Environmental Protection Agency.

A source at HSWAC told *Environment Hawai'i* that the company had submitted a revised environmental impact statement to the Army Corps of Engineers “recently... within the last three months.” Earlier this year, a spokeswoman for the company told *Pacific Business News* that the final EIS would probably be available for public comment in May with a record of decision in July. At that time, start of construction on the \$250 million project was anticipated by the year's end.



Shrimp Farm SPRBs To Fund Retreat from Shore

Climate change and sea-level rise did not get a lot of legislative attention this year. Two bills, both introduced by Rep. Cynthia Thielen, would have set up a Climate Change Roundtable (HB 460 and HB 1058) but they failed to get so much as a single hearing.

Still, whether they knew it or not, lawmakers did come face-to-face with the issue in House Bill 1388. Its formal title was “relating to the issuance of special purpose revenue bonds to assist a processing enterprise,” but a more appropriate description might be, “helping a company adapt to rising sea levels.”

The bill, which became Act 128 upon the governor's signature, authorizes the Department of Budget and Finance to issue up to \$1.3 million in Special Purpose Revenue Bonds to help Sunrise Capital, Inc., move its shrimp farm operations on Kaua'i to higher ground.

According to testimony from James Sweeney, president of the company, the “slow but relentless” erosion of the coast poses a serious challenge to its operations.

“Over the last year,” Sweeney said in written testimony, “the entire west side shoreline of Kekaha, Kaua'i, has experienced heavy erosion due to unusually high waves. The increased wave erosion has created a potential public safety hazard next to the Kaumuali'i Highway, which has required emergency action by Kaua'i County to shore up the highway to keep the highway from collapsing. The heavy wave erosion, which is threatening the Kaumuali'i Highway embankment, is occurring approximately 100 feet further inland than the oceanside boundary of our hatchery property. The erosion we are experiencing has completely undermined over 150 feet of chain-link security fencing and has completely taken down five, 50-foot tall iron-

wood trees. The erosion ... is currently less than 20 feet from the edge of our packing facility and salt-water well."

The bonds, he continued, will allow the company to "immediately protect our facility and in the long term, plan for the relocation of the vital infrastructure which will keep our company solvent."



New Law Exempts DOT Harbors From Conservation District Rules

Usually, if the Chamber of Commerce and the Building Industry Association-Hawai'i support a bill, you'll find the Sierra Club and the Office of Hawaiian Affairs on the other side of the fence.

But not in the case of Senate Bill 1207, one of the measures in the governor's package. It may rank as one of the tersest bills heard this year — except for the blank, so-called "short form" bills — but in terms of its potential impact, it could be one of the big contenders. It consists of just one sentence: "Notwithstanding any law to the contrary all work involving submerged lands used for state commercial harbor purposes shall be exempt from any permitting and site plan approval requirements established for lands in a conservation district."

Now that it has become law, as Act 86 of the 2013 Legislature, the state Department of Transportation is free to ignore any and all Conservation District rules that otherwise would apply to submerged lands. Testifying in favor of the measure was the Department of Transportation and one member of the public (in an email that indicated his support, but gave no reason). Opposed were not just OHA, the Sierra Club, the Chamber, and the BIA-H, but also the Maui Nui Marine Resource Council and other members of the public including one employee of the Department of Land and Natural Resources' Office of Conservation and Coastal Lands, which administers Conservation District rules. (She was testifying as a private citizen.)

The BIA-H was not against the idea of exempting improvements to existing commercial harbors from Conservation District requirements, since this "will enable the Harbors Division to more efficiently implement needed projects to meet the growing needs of the maritime industry."

"However," the BIA-H testimony continued, "the language in the bill does not appear to limit the exemption to 'existing commercial harbor system,'" but instead applies to "all work involving submerged lands used for state

commercial harbor purposes."

The Chamber of Commerce noted that even with the exemption, the DOT would still be subject to the requirements of the U.S. Army Corps of Engineers, the Environmental Protection Agency, and the Department of Health. "As such," the Chamber said in its written testimony, "it is unclear ... why the Conservation District Use Application process has been singled out by the Department for an exemption."

Kimberly Tiger Mills, the DLNR employee, testified that the Conservation District Use Application process was already streamlined, requiring a decision be made within 180 days of the application being accepted. "Harbor improvements," she noted, "are exempt from County SMA requirements, therefore the Conservation District Use Application process may be the only local opportunity in which traditional, cultural, and customary uses may be vetted."

"For newly designated areas or harbor expansion within the Conservation District, DOT Harbors **should not be exempt** from the CDUA process," she continued. "Submerged, unencumbered public trust lands are used for fishing, gathering, canoe paddling, ocean recreation and other activities. I believe there needs to be oversight for sustainable use of the natural resources."

Passage of the measure was not a slam-dunk. Four senators opposed it on the final vote: Josh Green, Les Ihara, Laura Thielen, and Russell Ruderman. In the House, 13 "no" votes were recorded. Casting them were Mele Carroll, Lauren Cheape, Beth Fukumoto, Kaniela Ing, Aaron Ling Johanson, Chris Lee, Nicole Lowen, Dee Morikawa, Marcus Oshiro, Karl Rhoads, Cynthia Thielen, Gene Ward, and Jessica Wooley.



Increasing Compensation For Lease Withdrawals

The third time (at least) is the charm for this bill, which increases the amount of compensation that the state may pay to ranchers on state land when part of the land they lease is removed before the lease term ends. The origin of the measure, which was incarnated this year as Senate Bill 5 and became Act 234, goes back more than a decade to construction of the realigned Saddle Road on the Big Island. To mitigate for the loss of palila habitat, the state withdrew land high on Mauna Kea from several large pasture leases. Under terms of the leases, the land can be withdrawn for any purpose, with the rent being reduced proportionately.

The affected ranchers, however, claimed that they were owed more than a simple reduction in rent. They say they still had to pay taxes and insurance on the withdrawn land, and that they also suffered by having to sell off part of their herds at fire-sale prices. Also, per the "Findings" section of SB 5, "lessees cannot mitigate the long-term, fixed costs associated with operating a ranch in the way they anticipated when the lease was negotiated. Thus, the lessees have experienced financial hardship for an extended period of time that is not sufficiently mitigated by a reduction in their lease rent."

The new law sets up a system for determining the losses that a lessee experiences (whether they involve crops, trees, or livestock). In the case of livestock, "the [Board of Land and Natural Resources] shall pay to the lessee the difference between the appraised breeding value and the salvage value, including the cost of transportation to a market." Also, the lessee "shall be entitled to compensation for costs attributable to the diminished use of the leased land."

Land Board chair William Aila noted in his testimony that the bill, introduced by Clayton Hee, "represents a compromise position between the Legislature and the [DLNR] reached last session, and, as such, the Department has no objection to its reintroduction this session."

He went on, however, to note that "the concept behind these measures had the potential to impede the state's flexibility to set-aside portions of state lands for state public purposes. Implementation of this measure will potentially result in the department having to pay additional costs to pasture and agricultural lessees when lands are withdrawn ... Additional expenses include appraisal costs to determine value of breeding livestock, paying the difference between appraised value and salvage value of such livestock, and reimbursing lessees for insurance and real property tax expenditures on lands made subject to easements."



And Also Worth Noting...

Act 120, Lateral Beach Access: This measure (House Bill 17) limits the amount of sand an individual can take from the beach to pretty much what sticks to their feet and their clothes. It also makes permanent a law passed in 2010 that prevents landowners from obstructing public lateral access along the shoreline and requires the Department of Land and Natural Resources to enforce this.

BOARD TALK

DLNR Proposes Strict Size, Bag Limits On Fish Catches Around Maui, Lana'i

On June 12, the state Board of Land and Natural Resources approved a request by the state Division of Aquatic Resources to hold public hearings on some rather restrictive size and bag limits proposed for several fish species around Maui and Lana'i. Although DAR's Alton Miyasaka told the board he was aware that a number of commercial fishermen opposed the bag limits, the only public testimony that day came from Melva Aila, wife of Land Board chair William Aila.

As a part-time commercial fisher, she said, she felt commercial fishermen will not be able to survive under the proposed rules.

For the highly prized uhu, or parrotfish, only two of the four species of uhu found in those waters could be harvested. And of those, a catch of no more than two a day would be allowed. Currently, there is no uhu bag limit.

DAR proposes to cap catches of another popular species, ulua (a group that includes

several jack and trevally species), to five a day, no more than two of which can be greater than two feet in length. The current bag limit for ulua is 20 fish.

The highest proposed caps — 20 a day — are for aholehole, kole, manini, and u'u. 'Aweoweo, moi, and paku'iku' catches would be limited to five a day. The limit for moano kea, munu, and mu would be two a day.

Moi currently has a bag limit of 15 per day; there is no bag limit for most of the rest of the listed species.

Under the proposed rules, no one would be able to possess more than the daily bag limits of any of the fish at any one time.

Why the drastic measures? Simply put, fish stocks in the Main Hawaiian Islands are in trouble.

During a May 23 briefing to the Land Board on the proposed rule changes, Maui DAR biologist Russell Sparks reported that

since the at least the early 1900s, Hawai'i residents have been complaining that there aren't as many fish as there used to be and that fishers are using wasteful methods or are simply overfishing. More recently, in 1998, 57 percent of fishers surveyed by the state felt that Hawai'i's fisheries are in terrible or poor shape, Sparks said, adding that catch data suggest that their feelings are justified.

In the 1900s, coastal commercial catches were as high as four million pounds a year. By the 1950s, they were a third or fourth of that, he said.

The most rapid decline occurred in the late



Uhu, pictured here, are essential to healthy reefs but are declining in nearshore waters.

Act 233, Graywater Use: This measure (SB 454) encourages the use of graywater (from showers, laundry, dishwashing — anything except toilets) for landscaping and gardening purposes. It also requires graywater systems to conform to the state plumbing code.

Act 241, Lipoa Point Acquisition: Honolulu Bay and Lipoa Point, on the northwestern coast of Maui, have great scenic and natural resource value. A couple of years ago, the Maui County Council considered putting Lipoa Point into protective zoning. That prompted the owner, Maui Land & Pineapple, to begin to talk of selling it off for development into luxury house lots. The land, the company said, had been pledged as security for workers' pensions; if it were downzoned, it would lose value — and retired workers might well be thrown onto the public dole, the company argued.

House Bill 1424 called on the Department of Land and Natural Resources to work with the private Hawaiian Islands Land Trust to attempt to negotiate the sale of Lipoa Point so that both the land and the pension fund can be protected. Hundreds of individuals testified in support, as did members of the Maui County Council. The Department of Land and Natural Resources

gave qualified support to the measure: "The department supports acquisition," stated Land Board chair William Aila, "provided that the designated management program has the capacity to manage the property for its cultural and recreational values."

Act 105, Pesticide Reporting: House Bill 673 began life as a pretty gutsy measure. It would have required the state Department of Agriculture to develop a pesticide-use reporting system and to publish annually a report on pesticide use by geographic area. It would also be required to summarize health complaints from pesticide use, report on results of investigations done by the Department of Health on such complaints (the DOH would also be required to do these investigations), analyze trends in pesticide use, assess the accuracy of reported pesticide information, and provide an accounting of the amount and type of pesticides imported and used in the state. All pesticides except those deemed to be of minimal health risk by the federal government would be included in the reporting system.

Several dozen individuals submitted supportive testimony, criticizing the bill only for its exemption of the "minimal risk" pesticides. But testifying in strong opposition were the Hawai'i Pest Control Association, repre-

senting about 80 termite control companies, Alexander & Baldwin and its subsidiary, Hawaiian Commercial & Sugar, the Hawai'i Cattlemen's Council, the Hawai'i Crop Improvement Association, representing most of the biotech companies, and the Hawai'i Farm Bureau Federation.

The director of the Department of Agriculture, Russell Kokubun, said the bill may have been well intended, but was "unworkable, given present staffing and resources." He noted that the only state in the union that has a pesticide reporting requirement is California, whose reports are some three years in arrears.

By the time the bill made it out of both chambers, it had been watered down significantly. As Act 105, it requires the DOA to publish on its website "the public information contained in all restricted use pesticide records, reports, or forms submitted to the department," except those relating to pesticides used "for structural pest control" (not just termite tenting, but also other kinds of fumigation) or which are legitimately withheld from disclosure under the state's public records law. It also calls for the Legislative Reference Bureau to provide the 2014 Legislature with a report on how other states account for pesticide use.

— Patricia Tummons

1960s and early 1970s and catch rates have stayed about the same since then, despite technological advances (i.e., scuba, fish finders, global positioning systems) that make it easier to catch fish, he continued.

Still, according to a study comparing reproductive health in the Northwestern Hawaiian Islands to that in the MHI, it's unlikely fish stocks in the MHI will improve without aggressive management. Fish larger than 22 inches are the main egg producers, and in the MHI, fish that size account for only 3.4 percent of the biomass, he said.

"The implications [on] reproductive output are huge," Sparks said. "Basically, it means no projected output." Most of the proposed size limit changes are to protect sexually mature fish.

The large parrotfish, in particular, need protection.

"Uhus ... have an important role in coral reef ecosystems, the way they graze and stimulate coralline algae. We need to have large parrotfish in shallow reef environments," he said.

The decline in uhu numbers in nearshore waters coincides with changes in fishing methods, he continued.

"Right around the late 1970s and early 1980s, spear fishing came into the mix. Prior to that, it was illegal to sell speared fish. Once that started, the catch went up dramatically," he said, adding that today, 58 percent of uhu are caught by spear.

Where parrotfish are scarce, as they are in Makena and Kahekili on Maui, invasive algae move in, he said.

Continuing the gloomy picture, Sparks said that modeling by University of Hawai'i

asked him whether he had thought about how the fishing effort will shift if the Land Board adopts the proposed rules.

"There's still a lot of fish that could be harvested. Kala, a lot of weke. So I imagine those will continue. The uhu and some of the other fish, like the large goatfish ... I don't know," Sparks replied. "Fishermen said they can no longer do what they're doing [under the proposed rules]. They may stop [fishing] or go pelagic. ... There might be a little more effort on fish that don't have bag limits."

He said that if fisheries improve after the rules are imposed, maybe the rules can be relaxed. Also, if DAR notices big shifts in effort to other species, it might have to come back to the Land Board to adjust the rules again.



Land Board Approves West Hawai'i Fishing Rules

After hearing hours of testimony lasting into the early evening of June 28, the state Board of Land and Natural Resources narrowly approved a ban on scuba spearfishing in West Hawai'i. Afterward, a small cadre of fishermen, most of them from O'ahu, huddled outside the Kalanimoku building, where the Land Board met, to discuss what had just happened.

Worried that such a ban would spread to other islands, they had presented the board with video showing large schools of a variety of fish in waters off West Hawai'i, suggesting that fish stocks aren't as bad as state aquatic biologist William Walsh says they are. Maybe

What's more, Big Island Land Board member Rob Pacheco just couldn't get past the discrepancy in some of the testimony in opposition to the ban: One fishermen said banning scuba spear-fishing would put him out of business, although he said later that scuba spear-fishing accounted for only five percent of his catch.

After public testimony ended, Pacheco moved to approve a recommendation by the Department of Land and Natural Resources' Division of Aquatic Resources that it accept a rule package drafted by the West Hawai'i Fishery Advisory Council, which included the scuba spear-fishing ban, to prevent over-fishing.

Outgoing Maui member Jerry Edlao, outgoing O'ahu member John Morgan, and at-large member Sam Gon joined Pacheco in supporting the motion. Land Board chair William Aila and at-large member David Goode did not.

Nearly a month later, the status of those rules — whether they had been sent to the state Department of Attorney General for review before going to the governor's office for signing — was a mystery to members of the public, as well as DAR staff. DLNR public information officer Deborah Ward did not respond to an inquiry by press time.

A number of people have been asking about the status of the rule package because the most controversial part — the scuba spear-fishing ban — nearly didn't make it to the Land Board. Aila, who is also DLNR director, had initially pulled it. Although the rules were the product of more than a decade of work by the West Hawai'i Fisheries Council and DAR staff, Aila was not convinced there was enough data to support a scuba spear-fishing ban.

When Walsh briefed the Land Board on the rules package on May 23, Aila announced the ban would not be part of the package that came to the board in June. (He also did not allow the public to testify on the matter that day, in apparent violation of the state Sunshine Law. The state Office of Information Practices is investigating.) However, after a number of Land Board members expressed their discomfort with Aila's decision, he changed his mind.

When the rules finally did come to the board, commercial fishermen attacked them for not being based on local data. They argued that scuba spear-fishing is one of the most selective methods of fishing and that those who use the gear don't try to take every fish off the reef. They also said scuba divers need to be able to have spears with them to ward off aggressive eels or sharks.

The Nature Conservancy's Chad Wiggins

"It's about as bad as you can get."

— Russell Sparks, DAR

marine scientist Alan Friedlander shows that overfishing is occurring in the omilu fishery.

"It's about as bad as you can get. This is a fish (a kind of ulua) we have a fair amount of data for," he said.

The proposed caps would affect a relatively small number of commercial fishermen, Sparks contended. Based on commercial marine license (CML) data from the past four years, he found that most holders don't sell reef fish. Most CMLs are for pelagic or bottomfish.

However, 412 fishermen statewide reported reef fish sales of less than \$1,000. Thirteen had sales greater than \$20,000. For Maui, nine fishers reported sales in excess of \$1,000 and about how three fishermen had sales in excess of \$10,000, he said.

After Sparks' presentation, William Aila

researchers had just surveyed a bad patch of reef, they suggested.

Commercial fisherman Carl Jellings of Nanakuli, former Western Pacific Fishery Management Council chair Frank Farm, Aha Moku council head for O'ahu's Kona district Makani Christensen, and Phil Fernandez of the newly formed Hawai'i Fishermen's Alliance for Conservation and Tradition, Inc., among others, all testified against the ban.

But the Land Board also received information from Walsh that fish stocks in the area, across the board, have seen dramatic declines over the past few decades — as much as 94 percent for some species. And while no studies have been done linking the decline to scuba spear-fishing, the practice has proved devastating in other parts of the world and is by and large banned throughout the Pacific.

said that while there are areas of healthy fish populations in West Hawai'i, overall, they're declining.

"There was a time when you could fish all day and make a living fishing off Kona. Somebody said nobody is going to take every fish off the reef. We tried, with roi [an introduced species]. ... We used scuba spear-fishing. It was very effective. In 11 days, our dive team — who is not half as good as the people in this room — we were able to catch 95 percent of the roi on that reef," he said. "No one is trying to make the fish go away, but it's happening."

"Something is missing there for me in the testimony"
— **Robert Pacheco, Land Board**

He recalled how one scuba spear-fisherman he met at Puako had filled two and a half coolers with fish in just one day.

Wiggins added, "If anyone leaves this meeting thinking a spear is a good way to stop a shark, that would be a dangerous thing. There are documented events of people being [injured] after spearing a shark."

Concerned about the impact of a complete ban on scuba spear-fishing, board member Morgan asked whether a two-year ban would be long enough to provide data on its effect.

At-large board member David Goode asked Walsh how long he would need to gather enough data to determine the impact of the ban.

Walsh said that some species don't reach sexual maturity until they are several years old and it may take another several years for populations to build. Based on that, he proposed a 10-year ban, at minimum.

In any case, he added, his division needs to have a better ability to know what's being caught.

"We can't inspect coolers. Unless that aspect is addressed, you can see changes, but can you link it to spear-fishing," he said.

Aila suggested that instead of imposing a ban, DAR develop a permit for anybody in West Hawai'i who spear-fishes. That way, "we know who they are and what they catch. I'm very concerned about unintended consequences. I would much prefer seeing what is going on," he said.

Pacheco, however, already seemed convinced that scuba spear-fishing had at least the potential to devastate West Hawai'i's reefs.

"It struck me as curious ... the fishermen, they all seemed to downplay the amount of fish being taken through scuba with spear-fishing. In one area, they're saying it's not that big a take, then they say this is going to make

it so we can't fish anymore," he said. Given that scuba spear-fishing allows divers to go deeper and stay underwater longer, "they can go out and do some serious damage to a reef population," he added, pointing to Wiggins' comment about a fisherman taking two and a half coolers worth of fish in one dive, as well as evidence from around the world.

"Something is missing there for me in the testimony. This is as pretty potent way for people to remove fish," he said.

To Aila's suggestion of developing a spear-fishing permit, Walsh said that already, many of the people who have permits are not

reporting their catches. A recent study comparing coral-reef dealer reports with catch reports from commercial license holders (CML) found that for the year studied, CML holders reported catching 71,000 pounds of uhu, while dealers reported purchasing 191,000 pounds. That's more than 100,000 pounds of unreported catch, Walsh said. "That's the kind of issue you're going to face with a permit ... and that's just uhu."

"I personally think we need to have some data. Whatever we have in place, you're not going to [see results for 10 years] we might as well know what they're catching," Aila responded.

In any case, because a sunset date on the proposed scuba spear-fishing ban had not been discussed during any public meetings or

in public testimony, the Land Board could not add one in without taking the rule back out to public hearings, deputy attorney general Linda Chow said.

When it came time to vote on the ban, it passed, 4-2.



Board Approves Removal Of Hanapepe Trespassers

Rehabilitating old taro lands is generally a good thing, but the DLNR and the Commission on Water Resource Management would prefer that those undertaking such work abide by state laws. Ku'i Palama hasn't done that.

A few years ago, Palama restored a number of taro patches on unencumbered state land and on land owned by Alexander & Baldwin in Hanapepe, Kaua'i. He also diverted Hanapepe River without permission from the Water Commission, and graded and grubbed and installed a cesspool in the Conservation District without a Conservation District Use Permit.

An agent with the Land Division on Kaua'i initially offered to work with Palama on getting him a revocable permit for the 23 acres of state land, but Palama claimed he already owned the property.

Last October, the Water Commission ordered Palama to cease his water diversion, but "Palama claims Kanaka Maoli rights and refutes the state's authority over him in the

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matter," a Land Division report states. It adds that the state abstractor found that "at no time in the past did Mr. Ku'i Palama or his family appear to have an ownership interest in the property."

So on May 24, the Land Board approved a recommendation by the DLNR's Land Division to fine him \$5,000 for unauthorized use and trespassing on public land, temporarily close the land off to public access, and remove all encroachments, nuisances, and trespassers.



Forest Protection Ramps Up Under Watershed Initiative

Since its launch in 2011, the DLNR's 'The Rain Follows the Forest' watershed protection initiative has vastly increased the amount of land protected from destructive feral ungulates. What's more, it's already yielding visible results.

While flying over south Moloka'i recently, "for the very first time, I saw huge amounts of recovery of native grass and flowers," at-large Land Board member Sam Gon said at the board's July 12 meeting. "I can't believe how well the vegetation is recovering in that area."

That recovery is due, in some part, to aerial shooting by the department, said Natural Area Reserves System (NARS) planner Emma Yuen.

Over the last two years, with several million dollars from the Natural Area Reserves System fund and capital improvement project allocations, some 26,000 acres have been protected, Yuen said. That's nearly a third of the initiative's 10-year goal of protecting 90,000 additional acres of forest.

"This is a vast acceleration of what we were previously able to do," she said, adding that program funding has been used to help manage more than 160,000 acres over the last year.

Save the Date: August 23.

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

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

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



William Aila

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

Seating is limited; please reserve early.

And the program is continuing to grow. This past session, the Legislature approved \$11 million to be spread over the next two fiscal years. Also, the Land Board has recently approved a memorandum of agreement with the Honolulu Board of Water Supply to allow the latter agency to contribute funds so the DLNR can carry out watershed protection activities on county-owned property.

Still, Yuen said the DLNR hopes to secure dedicated funding sources.

Yuen expects that with the Legislature's most recent appropriations, the DLNR will be able to protect at least another 40,000 acres. The Manuka NAR alone, on the Big Island, will account for 25,000 of that total, she said.

Under the program, an evaluation committee of hydrologists and resource managers choose the best projects submitted by

watershed partnerships, invasive species committees, or other entities for funding.

"We know from multiple government sources that based on climatic changes, the next 30 to 50 years are going to become drier. This is trying to be proactive ... to produce as much water as we can [and] to protect against the intense storms to come. It's really a recognition that times are changing," said Land Board chair and DLNR director William Aila.

According to Yuen, it's also helped inspire natural resource managers.

"I want to let you know how incredibly meaningful it is for staff to have such an initiative. The staff having the knowledge that this is really engaging the top members of our state is extremely good for morale," she said. "It's really a great time for watershed protection."

— T.D.