

# Environment



# Hawai'i

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## Crude Calculations

Going green is more cost-effective than most people think, according to a recent report on Hawai'i's potential for reducing greenhouse gas emissions by 2030. What's more, the report by San Francisco's McKinsey & Company suggests that Hawai'i can go farther and faster than the rest of the country toward reducing its oil dependence and GHG emissions.

But as members of the state's Greenhouse Gas Emission Reduction Task force pointed out at recent meetings, McKinsey's projection that sugarcane could once again be grown on hundreds of thousands of acres – this time to produce biofuel – is an iffy one, at best.

Even so, the report marks the first time such an analysis has been done for the state, and suggests that as oil prices continue to rise, the abatement technologies available to Hawai'i will become increasingly "cost negative." Whether the state can and will step up to the challenge of implementing them, however, remains to be seen.

## Economists Attempt to Quantify Potential For Greenhouse Gas Reduction in Hawai'i

Last year, economists with the consulting firm McKinsey & Co. released their analysis of what it would cost to abate greenhouse gas emissions in the United States. The December 2007 report – *Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?* – examined all of the world's industries and, using a maximum cost of 40 Euros/ton above business-as-usual costs, determined how much greenhouse gas abatement could reasonably be achieved in the United States by the year 2030. The report, which evaluated some 250 different abatement options, concluded that based on an abatement cost of \$50/ton (using a now-hopelessly outdated conversion rate of \$1.20 to one Euro) of greenhouse gas and an oil cost of \$60/barrel (also a figure the world is unlikely to see again), the United States could reduce its greenhouse gas emissions in 2030 by 3 to 4.5 billion tons using proven or high-potential technologies.

Shortly after the report's release, the U.S. Department of Energy asked McKinsey to do a similar analysis for Hawai'i as part of the Hawai'i Clean Energy Initiative, a DOE-State of Hawai'i project aimed at boosting renewable energy use and decreasing energy demand so that by 2030, 70 percent of the state's energy will come from clean sources. On June 5, a team from McKinsey presented that analysis to the state Greenhouse Gas Emissions Reduction Task Force, whose job it is to help the state reduce its emissions to 1990 levels (18.4 megatons) by 2020.

The McKinsey report, "Reducing Hawai'i's Oil Dependence and Greenhouse Gas Emissions," states that Hawai'i can go farther and faster than the rest of the country when it comes to reducing its greenhouse gas emissions because it need not rely on a large number of untested technologies. Using the top ten technologies, McKinsey's Matt Rogers

told the task force, Hawai'i can achieve 80 percent of its emission reduction potential.

While Rogers said Hawai'i's small size allowed the analysis to be very specific, McKinsey's Nicholas Hodson warned that the analysis is not meant to be "spot-on accurate." Its main goal was to evaluate a range of technologies in a consistent manner. Hodson said that some of the factors absent from the analysis are international and marine travel and "imported carbon," which is the carbon dioxide emitted during production of imported goods. Calculating imported carbon, Hodson said, "gets really complicated really fast." Also not included in the analysis are the costs of policy implementation, dynamic impacts of carbon prices, changes in consumer lifestyles or behavior, and broader societal costs or benefits.

Given those caveats, Hodson said that by 2030, Hawai'i could reduce its annual oil imports under a "mid-range case" by 17 million barrels. Under a "high-range" case, that number jumps to 30 million barrels. Today, Hawai'i imports more than 40 million barrels of oil a year and, according to the McKinsey report, that number will grow to more than 60 million barrels by 2030 if the state doesn't change its energy sources or curb its demands.

Under a business-as-usual scenario, Hawai'i would emit 31 megatons per year of greenhouse gas. However, Hodson said, those emissions could be reduced by 7.8 megatons a year under a mid-range scenario and 13 megatons in a high-range. To put things yet another way, the state could achieve a reduction of 28 percent of its carbon-based energy demand under a mid-range scenario, and a 48 percent reduction under a high-range.

McKinsey representatives noted their analysis was based on oil costing less than half its current price (around \$140 a barrel in mid-

### IN THIS ISSUE

2

*New & Noteworthy*

3

*The Decline and Fall of the Po'ouli:  
A Cautionary Tale of Delay, Dissent*

7

*Declaring War  
on Climate Change*

8

*Fishery Council Supports  
New Turtle Caps, Native Management*

10

*Board Talk: Rock Thieves,  
Aeby Controversy, and Green Energy*

# Environment



# Hawai'i

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## NEW AND NOTEWORTHY

**Tradewinds Moves Forward:** The company that has been holding for years the right to harvest trees from the state's Waiakea Forest Reserve, near Hilo, has taken a step forward. The company, Tradewinds LLC, has signed an agreement with the Big Island utility, HELCO, to deliver some 2 megawatts of power to the utility over a 20-year period, beginning in October 2010. By then, Tradewinds hopes to have completed work on a power plant in O'okala, which will burn waste from the veneer plant it says will be up and running by mid-2009.

The company has applied for a clean air permit for the veneer mill, but in February two residents of O'okala petitioned the Environmental Protection Agency, asking that the permit be denied.

Tradewinds received the license to harvest timber from nearly 9,000 acres in Waiakea nearly seven years ago. Since then, it has re-

quested and received from the state time extensions and other amendments to its original agreement. Under the most recent terms (October 2005), the deadline for completion of both the veneer plant and the power plant was July 1, 2008, with a "drop dead" deadline of January 1, 2009.

Paul Conry, administrator of the Department of Land and Natural Resources' Division of Forestry and Wildlife, said he was aware of the slippage in schedule. "They've sent notice saying they're requesting extension of that July 1 deadline until the end of the year," he said. "In the meantime, they'll comply with the conditions in the license," calling for advance payment of \$3,000 a month in so-called "stumpage fees" until January 1. If they're still not compliant with license terms by then, Conry said, the matter will go back to the Board of Land and Natural Resources for reconsideration.

sewer litigation stood in front of me beaming about having resolved – so they thought – the issues, only to have...sprung a leak."

The "disastrous deferred maintenance" by the city was "something quite disturbing to this court," he went on to say. He noted that this was not a criticism of the current administration, but still expressed dismay that fixing the system "is now going to cost taxpayers of this community multiple millions of dollars." He added he was also disturbed by "people out there, I'm not saying who" who are placing the blame on the "big bad people at federal court." Ezra told counsel for all parties to talk to their clients about the rhetoric being disseminated.

"We have a perfect storm going on here. We have these expenses going on here at a time when [we can least afford it]....In terms of priorities, this comes first," he said, adding that while he was not for or against light rail, "we have a broken sewer system that needs to be repaired."

Ezra's ruling will address claims raised in 2004 by plaintiffs (Sierra Club, Hawai'i Chapter; Hawai'i's Thousand Friends; and Our Children's Earth Foundation) and dismissed by Ezra in 2005 for being "substantially identical" to claims that had been addressed years ago. In a turnabout rare in federal courts, Ezra reinstated those claims earlier this year after plaintiff attorneys William Tam and Christopher Sproul argued that an Environmental Protection Agency-state Department of Health lawsuit against the city over the 2006 Ala Wai canal spill proved that claims could be made against the city for spills after 1994.

**Ezra on Wastewater, Light Rail:** U.S. District Judge David Ezra is expected to issue another ruling soon in the ongoing lawsuit over the City and County of Honolulu's many sewage spills from its wastewater distribution and treatment systems. At a June 30 hearing, he did not say outright how he would be ruling, but he did not hold back withering comments on the mess the city now faces.

When James Dragna, a California attorney representing the city, said that the city plans to sign an agreement this month with the federal government that should resolve many of the issues raised in the case, Ezra said, "Several years ago, attorneys for both sides of the Honolulu

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### Quote of the Month

*"I was trying to talk to people about how you have an extinction in a culturally appropriate way."*

— **Mike Buck,**  
*ex-DOFAW administrator,  
on the po'ouli*

**Honors:** Last month, the Hawai'i chapter of the Society of Professional Journalists announced its awards for work published in 2007. *Environment Hawai'i* was honored in three categories. Teresa Dawson received finalist awards for her stories on the Western Pacific Fishery Management Council and for her column "Board Talk," which chronicles the actions of the state Board of Land and Natural Resources. Patricia Tummons received a finalist award for her investigative reporting on Venu Pasupuleti, Megasoft, and the Natural Energy Laboratory of Hawai'i Authority.

## R E V I E W

## The Decline and Fall of the Po'ouli: A Cautionary Tale of Delay, Dissent

Recently, it seems as though there's a boom market in books about endangered species that have gone or are well on their way to extinction. And Hawai'i, unfortunately, offers no shortage of candidate subjects. Two years ago, there was Mark Walters' book on the 'alala, *Seeking the Sacred Raven*. As readers of *Environment Hawai'i* may recall, that volume seemed to me an exercise in vain self-indulgence. It shed little light on the circumstances leading to the 'alala's plight, while giving free rein to Walters' own existential angst.

An entirely different animal is Alvin Powell's new book on the po'ouli, *The Race to Save the World's Rarest Bird* (Stackpole Books, 2008). Powell's account relies heavily on interviews with the biologists who discovered the bird in 1973 and studied it over the next three decades. His retelling of their hardships and joys makes for lively, engrossing reading. In several instances, Powell has provided the first published record of their experiences, making his work invaluable as an oral history, if nothing else (though it is much more). That there is a crying need for this type of record was underscored with the recent death of David Woodside, the former state biologist who was among those involved with the po'ouli and interviewed by Powell.

In recounting the factors that forced the po'ouli into ever higher, ever wetter, and seemingly ever more hostile habitat, Powell provides a succinct but well-grounded recap of human disturbance in the islands. The fateful introduction of the mosquito, a vector of devastating disease for many native birds, is one of the critical turning points in this history. Powell relates this event and its heartbreaking consequences with a fresh voice, diving deep into scientific literature going back half a century or more.

And though Powell provides a good deal of helpful context, he manages always to bring the story back to the bird. For example, while there's no shortage of discussions of the ways in which feral pigs damage habitat for native Hawaiian forest birds, Powell describes the precise ways in which pigs affected the East Maui forest where the po'ouli was making its last stand.

"Through the mid-1980s, [Cameron]

Kepler and [Steve] Mountainspring became more and more worried by what they saw in the forests of Hanawi. Po'ouli numbers were declining, and increasing numbers of pigs were wiping out the forest understory. And the pigs' wallowing wasn't just clearing out the vegetation that the po'ouli relied on for the snails and insects it ate. It was also causing extensive erosion of the sloped forest floor, endangering the forest itself." The two measured soil loss over the next year, with Mountainspring telling Powell that, "in areas there was really massive soil loss... The erosion was so horrific there."

At the same time, it became clear that po'ouli numbers were in steep decline. Although estimates of its population were always very rough, what data were available led scientists to believe that its numbers fell between 80 and 99 percent from 1975 to 1981.

By the mid-1980s, experts agreed that an integral part of any effort to recover the po'ouli and other rare birds in East Maui would have to be a fence to keep out pigs. But when the federal Fish and Wildlife Service sought to get the state's cooperation in building a fence, it ran into a brick wall. Powell provides details on the state's maddening foot-dragging at what might well have been a critical time for the po'ouli's chance for survival.

After the federal government had approved funds for the fencing, Powell writes, Allan Marmelstein, head of the FWS office in Honolulu, wrote the director of the state Department of Land and Natural Resources, Susumu Ono, in October 1985. Marmelstein cited "the drop in po'ouli numbers, the birds' limited geographic range, and the dramatic increase in pig damage." He noted that fences were an element in the forest bird recovery plan for Maui and Moloka'i, and that the federal government would be paying for the fences. Since the land was owned by the state, approval was needed from Ono's department.

"Over the next three months, the state

tried to ensure that the proper paperwork was filed and that it wouldn't get stuck with the project's bill," Powell writes. "Their correspondences showed little concern that a remaining tract of intact native forest be preserved to secure the future of an imperiled native bird."

"Throughout this process," he continues, "there were signs that the state had little enthusiasm for the fencing effort. On October 31, 1985, a state official refused to meet with Marmelstein, saying 'there was nothing to discuss.' On November 7, Ono wrote to Marmelstein that they hadn't decided whether the project was a good idea." Even the Natural Area Reserve System Commission, which had a role to play since



Po'ouli

PHOTO: ZOO SOCIETY OF SAN DIEGO.  
USED WITH PERMISSION

much of the area to be fenced was part of a state Natural Area Reserve, refused to cooperate, although the Hanawi NAR management plan "clearly supported removing pigs from Hanawi," Powell notes. Then-NARSC executive secretary Robert Lee informed the FWS that the request for a special permit for the fence "contains little or no detail on method and procedure, the potential adverse impact on the native ecosystem, and the management of the installed project.... We perceive our staff review and recommendation for a subsequent NARS Commission evaluation to be largely a matter of weighing the benefit of the project against detrimental effects that likely will occur to achieve that benefit."

"While the state was dithering over permits and dragging its feet on the paperwork, it was also adamant that its turf be protected," Powell writes. "Lee chastised Cameron Kepler for not waiting for the state to issue a special use permit for his research in Hanawi, warning [Ernest] Kosaka [of FWS] ... that Kepler's permitless work was 'technically illegal' and that the state could confiscate equipment used in it, including the helicopters that touched down in the reserve."

The state's recalcitrance was only the first stumbling block. Estimates of what it would cost to build the fence in rugged Hanawi turned out to outstrip the funds available for the project. As Powell writes, it would be another three years before the fencing project was launched. "During those three years, pigs continued to run free through Hanawi, and the po'ouli lost more and more habitat. Though three birds were seen during the November 1985 trip... no po'ouli were seen at all in 1987, and though some were spotted in 1988, none were seen in 1989."

Throughout the 1990s, sightings of po'ouli became even less frequent. In 1994, Michelle Reynolds and Tom Snetsinger found five or six po'ouli, which fed hopes that a last-ditch effort to save the bird might have a chance of success. A year later, the Maui Critically Endangered Species Project (informally called the Po'ouli Project) was up and running, Powell writes. Paul Baker, who headed up fieldwork for the project, mapped out home ranges of six birds, including two pairs. In 1996, the known population had dropped to five. "Worse, in July, both pairs lost a partner... The remaining po'ouli population totaled three."

### Dissension

But as the bird's population crashed, dissent among those charged with its recovery soared. Much of what Powell describes is well known to those closest to the project. Those of us more distant heard occasional rumors of personality clashes, disputed decisions, and other disagreements, but knowing exactly who and what were at issue was usually difficult. Powell, however, was able to get those involved to speak candidly of their experiences, and the result sheds a great deal of light on the many problems that, perhaps inevitably, arise when dozens of individuals, agencies, and agendas are thrown together in a common effort.

One of the more bizarre angles to emerge from Powell's history is the role Mike Buck played. Buck, as head of the DLNR's Division of Forestry and Wildlife through the 1990s, was the boss of every state employee and contract worker involved with the po'ouli's recovery – which, Powell notes, Buck evidently thought was a futile process from the outset. Mark Collins, who headed up the Maui field work for several years, recounted to Powell a conversation he had with Buck while attending the annual Hawai'i Conservation Conference, a short time after Collins was

brought onto the project. Collins, Powell writes, was pulled aside by Buck, who then asked him, "What are we going to do about the po'ouli?"

"Collins says he began recounting the story of New Zealand's black robin, drawing lessons from an effort that recovered the robin from a single breeding pair. Then he stopped."

"It turns out he wasn't really listening to me," Collins says. "That wasn't what he was referring to. He was thinking in the context of some kind of ceremony about the passing of the po'ouli. Here I am a couple of weeks into this, and they're talking funeral."

A few pages later, Powell describes a meeting in April 1998 that Buck called, ostensibly to build "mutual understanding of the available options ... for po'ouli recovery." In talking with Powell, however, Buck described the meeting "as something of a counseling session for those who had cared for a dying friend: the po'ouli."

"Buck says that because he had lived through the death of both his wife and father, he recognized what was going on with those involved in the recovery effort and what was behind the disagreements. 'I had a whole different perspective on grieving and on how to manage this issue. What we were really doing was managing an extinction. I knew that going in, and what I was seeing all around me were the kinds of things people do when they're grieving: blaming someone, fear, all those kinds of things.'"

At the meeting, Buck said, "I was trying to talk to people about how you have an extinction in a culturally appropriate way."

Yet others, including Robert Smith of the FWS Honolulu office, weren't giving up, although he acknowledged that the federal government should have given the bird's recovery higher priority.

Powell writes: "Despite Smith's acknowledgement, the lesson that delay would only further the po'ouli's decline appeared not to have been learned – or at least not heeded. Though these birds of unknown lifespan were already several years old, four more years of planning and paperwork still lay ahead before a single po'ouli was translocated, and six more years passed before one would be captured for breeding."

In gruesome detail, Powell describes many of the conflicts that led to that delay. No one can know exactly what role the dithering and conflicts and foot-dragging played in the po'ouli's ultimate extinction – a well-documented event that occurred

### Emissions from page 1

July). They said that as the price of oil increases, so do savings associated with abatement, while the price of renewable resources stays the same.

"In some ways, [these scenarios represent] an insurance policy to hedge against the high price of crude oil," said McKinsey's Brandon Davito.

For Ted Peck of the state Department of Business, Economic Development, and Tourism's Energy Planning and Policy branch, the study puts to rest any doubt that greenhouse gas emission abatement is economically infeasible.

"There's been a lot of discussion about how it's going to be so expensive to abate greenhouse gases. If you look at the report, it's hard to conclude that that's going to be the case. The cost curve is based on \$60 a barrel of oil... Even if you take the things that would cost \$150/ton of greenhouse gas... all of that today is in the money," he said. "We are going to be able to abate greenhouse gas and it's not going to cost us an arm and a leg."

### Technologies

What kinds of changes must Hawai'i make under these scenarios?

The medium case calls for the implementation of 45 different technologies, while the high case includes 56. In both cases, businesses and residents throughout the state need to immediately switch to energy-efficient electronics and lighting. McKinsey's abatement curve shows that the top five most cost-

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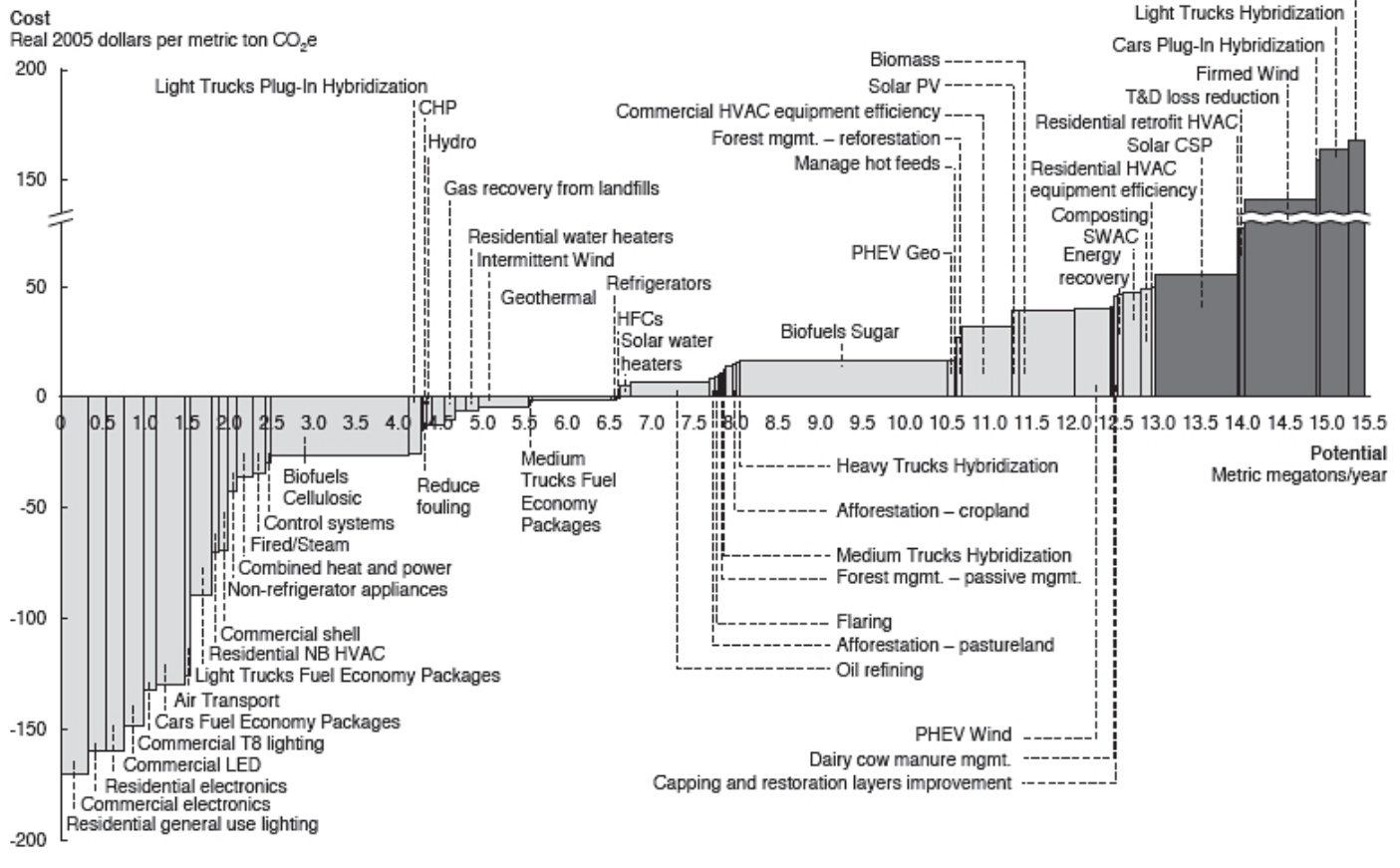
near midnight on Friday, November 26, 2004, when the last known bird died in captivity.

One can say with certainty, however, that the years of turmoil did nothing to enhance the bird's slim chance of survival. By dissecting those conflicts, Powell has laid out a cautionary tale – and although the po'ouli is beyond help, his description of all that went wrong in efforts to save it should be required reading for anyone involved in future recovery efforts. For the rest of us, it's maddening, aggravating, informative – and well-written, to boot. Although the subject is hard reading at times, Powell's prose carries the story along.

And, despite it all, he ends on an upbeat note. Powell quotes Jim Jacobi, who was as deeply involved in the po'ouli story as anyone else. "Keep your eyes and ears open," Jacobi told Powell. "I tend to be one of the optimists who feel we may still see another." — *Patricia Tummons*

## HIGH CASE SHOWS 13.0MMt AT LESS THAN \$50/TON AND 15.4MMt IF HIGHER COST OPTIONS ARE INCLUDED

Hawaii GHG Abatement curve (Abatement Opportunity : 13.0 MtCO<sub>2</sub> and 30MMB at <\$50/ton, 15.4 MMT and 35 MMB at >\$50/ton)



SOURCE: MCKINSEY & CO.

effective abatement measures, which each save about \$150 for each metric ton of greenhouse gas saved, fall under energy-efficient commercial and residential electronics and lighting.

More efficient transportation and appliances also save money. Solar, geothermal, gas recovery from landfills, and hydropower, among other renewable energy sources, are also included in the mix, as well as afforestation (planting forest where none has historically grown, such as on pasture and cropland) and reforestation. Biodiesel from algae, biokerosene, ocean thermal energy conversion, electric vehicles, biomass gasification, and carbon capture and sequestration were some of the technologies excluded from the analysis because they face technological and/or commercial obstacles.

Biofuel production plays a major role in the analysis and accounts for the largest emission reductions in both mid- and high-range cases. The report assumes that all existing sugarcane would be used for ethanol production and that sugarcane-based biofuel production would max out at the 1969 levels of sugarcane production. In the high case, they

estimated 360,000 acres of sugarcane would be used for ethanol production in addition to cellulosic biofuel production on the Big Island.

The report also assumed that there would be significant increases in plug-in hybrid vehicles powered by renewables, and that wind power would be developed on Lana'i. Under the high case, wind-generated electricity from Maui County would be transmitted to O'ahu via an undersea cable.

### Obstacles

At the task force's June and July meetings, members questioned the report's assumptions about the potential for biofuel production using sugarcane. One member noted that meeting the water requirements for the acreage proposed would be an obstacle. And task force chair Larry Lau, deputy director of the state Health Department's Environmental Management Division, questioned whether planting 360,000 acres of sugarcane can even be done anymore.

Regarding water issues, Rogers said that allocation, not the quantity of water, is the binding constraint in Hawai'i and that for all

of the technologies, policy decisions have to be made on what the trade-offs will be. Hodson added that water infrastructure is a very significant issue, and according to Davito, it would cost \$20 million to bring the required irrigation systems "back up to a functional level."

In response to Lau's question, Davito explained that the biofuel projections assumed a "friction-free environment" and that sugarcane acreage was based on figures in a report done by the Hawai'i Natural Energy Institute. Davito said that such production was "feasible, but it would require a significant amount of dedication on the part of the state to reach that level." To this, Lau said that in addition to water issues, a lot of the land that was once used for sugarcane production has been urbanized or is being used for diversified agriculture.

Lau also asked whether any technological breakthroughs needed to be made to transmit electricity between islands with a cable. Davito said that the cable that would connect Maui to O'ahu would be similar to those connecting Scandinavian countries to Germany and the Tory Islands to British Colum-

bia. He added that an O'ahu-Kaua'i or Maui-Hawai'i cable would also be technologically feasible, but he was not sure of the cost for those.

Task force member and Hawai'i Sierra Club executive director Jeff Mikulina noted that the most cost-effective abatement technologies – things like switching to energy-efficient light bulbs – were not constrained by permitting or natural resource issues, which led one member of the public to ask what was preventing people from using efficiency technologies since they seemed to be a goldmine of savings.

Rogers said that, in part, the high initial cost of the technologies is to blame.

"A new home builder will not put in the extra \$2,000 to install energy-efficient fixtures that may save the buyer many times that over time because he'll lose the sale to a neighboring builder who didn't put them in. No manufacturer wants to be the first to incorporate a new technology because it's more expensive. If it's a standard, they'll put it in," he said. He added that observations of the industrial sector suggest that if a manufacturing plant saves energy in one area, the savings are seen in a different area. "So the incentive for a unit manager to save energy is

not there. Companies with an energy czar that's looking over the whole thing actually capture the benefits more than those in which each section's energy use is overseen by section managers. Those are some of the reasons efficiency opportunities still linger," he said.

Feasibility questions aside, could Hawai'i meet its legislative mandate to reduce greenhouse gas emissions to 1990 levels by 2020 under either of McKinsey's scenarios? According to Davito, Hawai'i would slightly exceed 1990 levels for greenhouse gas under the medium case. However, in the high case, "Hawai'i would be able to achieve 13 megatons of abatement, which gets...slightly under the levels of 1990," excluding emissions from international and marine travel, he said.

Mikulina pointed out that McKinsey's analysis used 2030 as its goal date, while the state's deadline under 2007's Act 234 is 2020. In response, Davito admitted that while the high case analysis suggests that at 2030 Hawai'i should be at 1990 emission levels, "It's unclear whether you could make that level by 2020."

The report notes that if abatement options that cost more than \$50 a ton are implemented, "Hawai'i would be well below 1990 GHG (greenhouse gas) levels" by 2030.

### The Right Approach

Implementing either of McKinsey's scenarios would be a struggle, to say the least. Still, Rogers said, Hawai'i is in a better position to reduce its oil consumption and greenhouse gas emissions than the rest of the country, since Hawai'i has more natural resources and proven technologies to work with.

"This isn't trying to launch 250 initiatives," Rogers said. "It's really launching a finite set of initiatives that actually move along well... The question is what is the right approach to developing local ethanol, wind, and geothermal resources, because capturing those relatively quickly provides a foundation for doing a set of these other things."

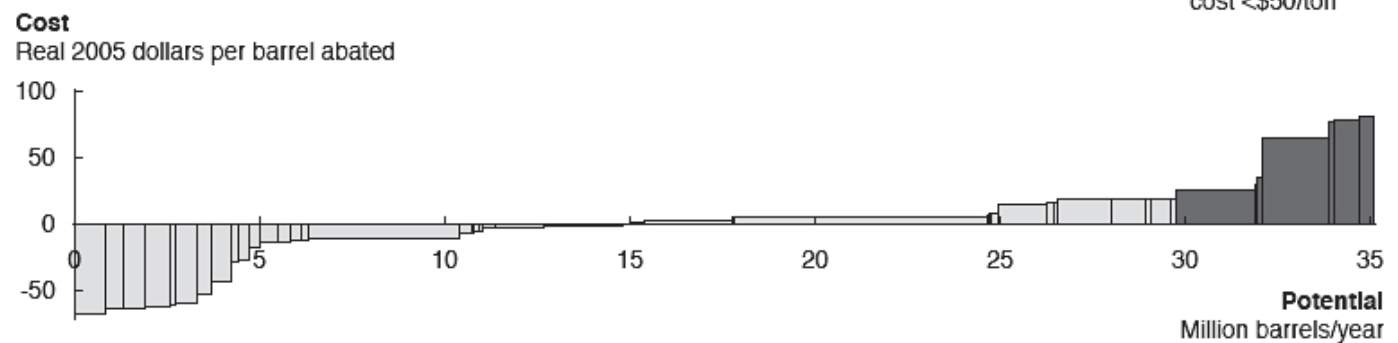
Transmission and distribution infrastructure upgrades are key, he said, particularly for things like electric hybrid vehicles that are powered by renewable resources and "further out" approaches, such as algae-based biodiesel and wind technologies that "may come into the money in the next 20 years."

With regard to ethanol, task force member and former Matson Navigation Co. senior vice president Gary North said his company had just helped the Legislature pass a bill for \$618 million in port upgrades, which don't include any ethanol-related facilities.

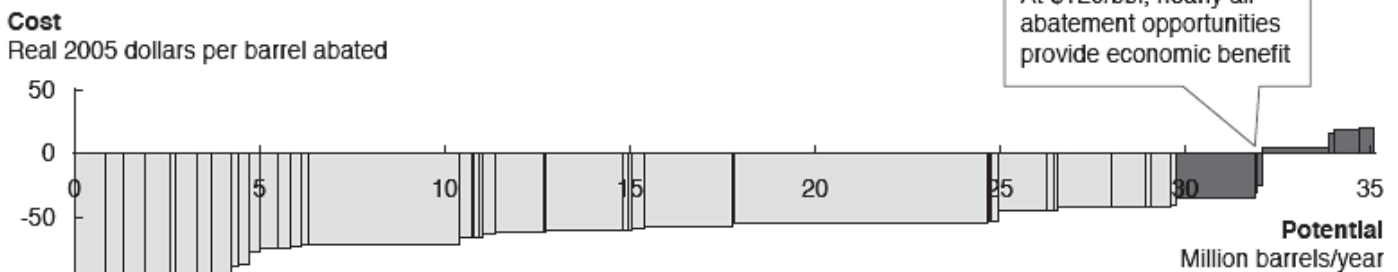
## MOST OPTIONS BECOME COST EFFECTIVE AGAINST COST OF OIL AT \$120/bbl

BASED ON HIGH GHG ABATEMENT CASE

Hawaii oil abatement curve at \$80/bbl (15.6 mbbl oil abatement opportunity)



Hawaii Oil abatement curve at \$120/bbl (35.7 mbbl oil abatement opportunity)



## Declaring War on Climate Change

This is not a cheerful talk, but it's based on the best science available," coral reef expert John "Charlie" Veron told the Western Pacific Fishery Management Council at its June meeting in Honolulu. And while Veron's talk stuck out like a sore thumb amidst the routine fishing effort presentations, enforcement reports, and the like, council chair Sean Martin said that Veron's report on the effects of climate change on the world's oceans "is one we all need to hear."

In a nutshell, Veron said that if greenhouse gas emission trends continue as they have been, the world eventually won't be able to function. "Things are looking very nasty for our planet," he said.

The weather phenomenon known as El Niño offers a hint of what global warming might do to the world's reefs. El Niño, which "packages up the heat that the earth has been collecting" and sends it to the equatorial regions, is responsible for killing half of the coral colonies on the map, he said. While corals have a tremendous capacity to recover from bleaching, which can result from increased ocean temperatures, they can only do so when all other factors are relatively normal, he said.

In most climate change scenarios, corals

will have to deal with ocean acidification, which occurs when carbon dioxide in the air is absorbed by the ocean at a rate faster than the ocean can assimilate it. Veron said that because carbon dioxide is more soluble in cold water, acidification is starting in the polar areas and is moving towards the equator. In a highly acidic ocean environment, any organism that uses calcium carbonate suffers, be it coral, fish, or tiny copepods. Already, Veron said, acidification is affecting plankton in the southern ocean.

In a highly acidic environment, bleached reefs will not likely recover. Veron presented a photo of a blackened, degraded reef at Papua New Guinea, which he said is what the world's reefs will look like in an acidic environment. Almost nothing lives there, he said, adding that the reef is dominated by slime.

"By mid-century, if we carry on business as usual, all reefs will look more or less like this," he said. The destruction of fish habitat is a big deal, he told the council, but is by far not the only thing. The physiology, reproduction cycles, and the distribution of all other marine life will also be affected, he said.

What's more, he added, "The lack of

coral reefs is only the tip of the iceberg. If we create an environment where we destroy coral reefs, it will destroy everything else."

In an article titled "Climate Change Impacts on Marine Ecosystems," he writes, "I cannot escape the conclusion that ocean acidification has played a major role in all five mass extinctions of the past. A particularly disturbing aspect of all this is that, following all mass extinctions, living reefs completely disappeared. Not just for thousands of years, but for millions."

Despite the dour outlook, Veron ended his talk on a positive note, stating that although the world has only a decade to turn things around, "Humans can move very quickly if the motivation is there. We just have to declare the war."

According to a biography distributed at the meeting, Veron has discovered and described 20 percent of all coral species of the world and is former chief scientist of the Australian Institute of Marine Science. He now heads his own organization, Coral Reef Research, and his latest book, *A Reef in Time: The Great Barrier Reef from Beginning to End*, "presents the case that if humanity continues to produce carbon dioxide at present rates for another decade, the coral reefs will be committed to wholesale destruction and the initiation of the sixth mass extinction," the bio states. — **T.D.**

"I think that clearly, if you're going to be running ethanol from Maui and Kaua'i and from the Big Island, you're going to need huge amounts of investment [in harbor facilities]...In Kahului there's basically no place to go and Kawaihae [on Hawai'i] there's is someplace to go but [it needs] a lot of investment," as does Kaua'i, he said. "You really need to look at those numbers if you're going to grow that much sugarcane and make that much ethanol."

Without a clear and consistent policy framework, questions about who's paying and how costs and benefits are distributed will result in the continued delay of economically and environmentally attractive investments, Rogers said.

For Hawai'i, the motivation to establish such a framework is clear, Rogers said: "You get a double whammy: You get declining revenues because people stop flying when energy prices are high and stop coming, and you get higher costs at exactly the same time.... The question is, can you substitute some capital today to essentially protect you against that risk going forward and at the same time capture some significant environmental ben-

efits and really provide a leadership model for what the rest of the United States is going to be wrestling with?"

While Lau told *Environment Hawai'i* that the Sunshine Law bars him from speaking in detail about how the task force plans to use the McKinsey report, he confessed that "it's too early to say [how it will be used]. I'd probably want to take up some of the issues with the [task force's] analysis committee."

As an individual, Lau said he found the report, "very stimulating, just the idea of the relative cost or savings from various options and the amount of energy involved with each. People can argue the details, but it would be important to look at major trends in the analysis. Obviously if we can save with efficiencies, we should be pushing for those things." Echoing his earlier comments to McKinsey, Lau added that he was "very curious" about the feasibility of re-instituting large-scale agriculture for biofuel and said he had "thoughts on the fact that the greatest reduction in emissions comes from biofuel production and that the acreage is based on peak sugar numbers."

DBEDT's Peck notes that McKinsey's report is just a projection, an approximation, and that the state's bioenergy master plan, which is currently being drafted, will fill out a lot of the uncertainty about biofuels. He said that while a study released earlier this year stated that biofuels weren't reducing emissions, "it compared pristine rainforests to cutting [them] down and planting biofuels. We have a lot of fallow land that isn't sequestering any greenhouse gas."

"The devil is in the details. We have a lot of things in front of us," he said, adding that there will be tradeoffs and there has been a lot of discussion with DOH and the task force about systemic changes needed.

"It's analogous to critical infrastructure built years ago. Buildings built by the military and government were not built with security in mind.... Greenhouse gas applications are not incorporated in the planning process yet at a systemic level," he said. For example, "Municipal solid waste is an area where a lot of decisions are being made on all islands without thought to greenhouse gas emissions," he said. — **Teresa Dawson**

## Fishing Council Relaxes Turtle Limits, NMFS to Initiate New Biological Opinion

**H**ow close is too close to quasi-extinction?

It's a subjective question, Melissa Snover told the Western Pacific Fishery Management Council at its June meeting. But in light of the council's recent recommendation to lift the effort limits on Hawai'i's shallow-set fishery, Snover, a scientist with the Pacific Island Fisheries Science Center's Marine Turtle Assessment Program, tried to answer that question by assessing the impacts of potential increases in interactions between the shallow-set longline fishery, commonly known as the swordfish fishery, and rare loggerhead and leatherback sea turtles.

Using turtle nesting data from Jamursba-Medi in Indonesia, Costa Rica, and Japan, as well as data on post-interaction mortality, Snover determined how likely turtle populations from those areas are to see a 50 percent reduction in nesting females within three generations. According to the International Union for Conservation of Nature, such a reduction would be an indication that a population is "vulnerable."

Snover found that an annual loss of more than one adult female Costa Rican leatherback would result in "excessive increases in SQE (susceptibility to quasi-extinction)." For the Jamursba-Medi leatherbacks, fewer than four, and ideally fewer than two, adult female deaths a year would have a minimal impact on SQE. Finally, for the Japanese loggerheads, fewer than seven, and ideally fewer than three, adult female deaths would have a minimal SQE impact.

"These numbers are small and may seem to suggest that this method is overly conservative, however these populations are all small and declining and the allowable fatal interactions from them should reflect their status," she wrote.

While Snover's results were given in terms of adult female mortalities (AFM), most turtles taken by the fishery are juveniles. So, using sex ratios, reproductive values, and mortality rates, Snover determined that an interaction or take level of 46 loggerheads would result in about three AFM, and 19 leatherback interactions would result, again, in about three AFM.

Snover said genetic data indicates that 94 percent of the leatherbacks that interact with the Hawai'i longline fleet are from the Western Pacific with the remaining six percent from the Eastern Pacific. Most are from Jamursba-Medi, while a few are from Costa

Rica. All of the loggerheads that interact with the Hawai'i fishery are from Japan. While all are at risk of quasi-extinction, she said, her assessment indicates that there is no significant difference between the current allowed levels of takes for the two species and the increased levels the council was considering.

Even so, she warned that her analysis incorrectly assumes that the trends at nesting beaches are representative of the total population trends. For that reason, she notes in her assessment that "caution needs to be applied in interpreting these results."

Her report states that since 1997, loggerhead nesting abundances in Japan have been increasing, but the two most recent years of data suggest a substantial decline. While two years isn't long enough to make any real inferences, she writes, "[T]he mortalities of juveniles off the Baja peninsula of Mexico are

**"[C]aution needs to be applied in interpreting these results." — Melissa Snover, turtle researcher**

well documented and these mortality levels are relatively recent. The current declining numbers in the Japanese loggerhead trends may simply be the start of another [historic] cycle, however it may also be that the reduction of the juveniles in Baja is just now being manifested in the nesting beach data and the population could be declining at a much more rapid rate than the analyses here represent. Considerations of extenuating circumstances such as these should be accounted for when determining acceptable interaction levels."

Despite her warnings, the majority of the council felt her assessment represented the best available science and narrowly voted (5-4-1) to make a final recommendation that the National Marine Fisheries Service raise its annual hard cap on interactions with loggerheads from 17 to 46 and the one for leatherbacks from 16 to 19.

Now that the council has voted, the NMFS' Pacific Islands Regional Office will prepare a biological opinion to assess the impact of raising the turtle take limit, to comply with Section 7 of the federal Endangered Species Act. If the NMFS finds that the proposal will not jeopardize the turtles' survival, it will likely promulgate rules in accordance with the council's recommendation. PIRO's Lance Smith told the council that he could not speculate on whether or not there will be a jeopardy finding. He only said that Snover's

SQE analysis will be considered as his office tries to determine the effects turtle mortalities will have on each population and on each of the two species as a whole.

### **Bad Timing**

According to Center for Biological Diversity attorney Andrea Treece and Ocean Conservancy manager Meghan Jeans, the National Environmental Policy Act and the Administrative Procedure Act should have prevented the council from taking final action on its proposed swordfishery rule amendments.

In a June 13 letter to council executive director Kitty Simonds, they argued that because the NMFS had not released a draft supplemental environmental impact statement for public review, the council's votes of support for new swordfishing rules violate "the most basic purposes" of those acts.

NEPA, they wrote, is meant to ensure that agencies have detailed environmental impact information before a decision is made, and guarantee that the information is made available to the public that "may play a role in the decision-making process." The act requires

environmental information, such as a draft EIS, be disseminated "early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made," they wrote. The APA, they continued, requires the council to "give interested persons an opportunity to participate in the rule making."

Treece and Jeans concluded that until a draft SEIS is made available to the public and public comments have been considered, the council must refrain from selecting a preferred alternative or taking final action with regard to modifying shallow-set fishery effort levels, turtle take hard caps, or other requirements.

In her June 14 response, Simonds called their statements "willfully inaccurate" and a "misguided attempt to impugn this council's record on sea turtle conservation and management." She explained that final action by the council is being required by the NMFS *before* the initiation of the ESA's biological opinion process. She added that while the timelines of NEPA, APA and the Magnuson-Stevens Act (which governs council actions) may be confusing, her staff had informed Jeans on June 13 about the rule-making process, before their letter was sent.

Simonds also pointed out that the NMFS is the "agency" in this case, and since NEPA





documents are agency documents, “council staff cannot release the DSEIS to the public to initiate formal public review until NMFS has approved the document for public release.”

She wrote that she expected a draft SEIS to be available for public review by mid-August and that the council would consider all public comments made during the 45-day comment period.

“If substantive comments are provided by the public that bring forth relevant information that would warrant reconsideration of proposed management modifications for the Hawai'i shallow-set longline fishery, the council will consider modifying its recommendations at its October 2008 meeting, as appropriate,” she wrote.

Simonds also wrote that the confusion over NEPA, APA, and MSA timelines has led Congress to direct the NMFS to develop new environmental review procedures and that the NMFS has already issued a proposed rule on them.

When council member and state Department of Land and Natural Resources director Laura Thielen asked about the conservancy's letter at a June 16 standing committee meeting, PIRO director William Robinson responded that ideally the NEPA process would have been completed before the council took final action. Even so, Robinson said he did not believe there was any legal requirement to have done that and that the NEPA process will be completed before the NMFS takes any action.



## Native Communities To Advise on Resources

On the last day of the council's June meeting, when most of the big items had been heard and most members of the public had gone elsewhere, the council approved a directive that sounds nearly identical to what the state's newly created 'aha kiole advisory committee is supposed to help do. Under Act 212 of the 2007 Legislature, the committee is supposed to lay the groundwork for the creation of an island-based advisory council, called 'aha moku, to recommend to state agencies the best way to manage local resources in accordance with indigenous methods.

So far, however, Governor Linda Lingle has refused to release funds for the committee's work. That, combined with the state's strict procurement process, has stymied the committee's attempts to fulfill its mission.

Earlier in the course of the council's three-

## for further reading...

For more background on these topics, read the following articles, available for free to our subscribers, at [www.environment-hawaii.org](http://www.environment-hawaii.org). Non-subscribers may purchase at 2-day archives pass for \$10.:

### On the swordfish fishery regulations:

“Fishery Council Narrows Scope of Study on Expanded Longlining Effort in Hawai'i” (November 2007)

“Fisheries Council Approves Proposal to Raise Caps on Turtle Interactions” (May 2008)

### On the 'aha kiole committee:

“Aha Kiole Committee Tramples Over Public Process in Selecting Contractor” (March 2008)

“If at First You Don't Succeed...The Ongoing Saga of 'Aha Kiole” (June 2008)

day June meeting, 'aha kiole committee member Charles Kapua gave a presentation on the committee's mission and its troubles. He explained how the Ho'ohanohano I Na Kupuna Puwala series of 2006 and 2007, funded mainly by the council, had led to the drafting and passage of Act 212. For many of the participants in the Puwala series, the act seemed like a victory.

“How can we be successful without money?”

— **Charles Kapua,**  
**'aha kiole advisory committee**

But that victory was short lived, by Kapua's account. He complained to the council about the lack of funding and how the committee's eight members had spent \$1,700 of their own money trying to meet their mandate. He said that the committee had held 61 community meetings and three committee meetings – all at the expense of its members.

“How can we be successful without money?” he asked the council.

Department of Land and Natural Resources director and council member Laura Thielen tried to explain why things haven't panned out as expected. She said that usually, non-profit groups would receive a grant-in-aid from the Legislature. (While the 'aha kiole was, in fact, established by the state, Thielen seems to view the committee as a citizen organization.)

“I don't know why, but the money [for the committee] came through our department,” she said, adding that the committee's request that its \$220,000 legislative appropriation be used to pay for a salaried employee ran into problems with the state's procurement process.

She also pointed out that the committee

was not the only state entity that has been denied its funding. Her department's entire budget was cut by more than four percent this year, and its parks and administration division budgets were cut by 20 percent, according to Thielen.

Thielen admitted, “It's been difficult for them as a citizen organization.” But when Kapua said committee members did not know

how to secure their own funding since “we're coming off the street,” Thielen fired back, saying that her staff had met with the committee to explain various state rules and budget requirements. She had even sent the committee a letter encouraging it to stop spending money because the funds had not been released.

For the record, she said, “Our staff has been working with the committee this whole time.”

On the last day of the council's June meeting, with no prior public discussion, the council decided to “develop a community cultural consultation process throughout the region for the native communities to inform resource managers on the best practices for traditional resource development.” While the process is strikingly similar to the 'aha moku council anticipated in Act 212, council media specialist Sylvia Spalding told *Environment Hawai'i* that she did not think the measure was intended as a way to pay the 'aha kiole committee. That is the state's responsibility, she said. Spalding was not able to explain by press time why the council recommended the measure and whether the council planned to create its own 'aha moku-type system.

— **T.D.**

## BOARD TALK

O'ahu Men Are Fined \$3,050 Each  
For Raiding Maui Stones for Imu

On July 11, the state Board of Land and Natural Resources fined Hawai'i Superferry passengers Charlie Bright, Ralph Chun, and Victor Fonoimoana \$3,050 each for the unauthorized taking of a total of 934 river stones from the Conservation District of Waiehu, Maui in August 2007. The three O'ahu men, who had loaded the rocks into three pick-up trucks, planned to transport them on the Hawai'i Superferry. But when the Maui Circuit Court halted Superferry services later that month, the rock-laden trucks, stuck in the ship's queue, were discovered by officers of the Department of Land and Natural Resources' Division of Conservation and Resources Enforcement following a tip from the Maui Sierra Club.

The officers seized both the stones and the trucks. According to a report to the Land Board by the DLNR's Office of Conservation and Coastal Lands, the men planned to use the stones for imus (traditional Hawaiian earthen ovens) for the Mormon Church on O'ahu. According to the OCCL's report, the men were prompted to harvest the rocks by the Hawai'i Superferry's \$5 promotional fares for its maiden voyage to Maui. The widely publicized incident underscored arguments at the time about the ferry's potential to exacerbate resource raiding and invasive species transport between islands.

Because the stones were taken from the Conservation District, an enforcement case was brought before the Land Board, which approved the OCCL's recommendation to impose on each of the men a fine of \$2,000 per violation per day plus \$1,050 in administrative costs. (This year, the Legislature raised the maximum fines for Conservation District violations from \$2,000 to \$15,000 per violation per day. Because this enforcement case had been prepared before the new fines went into effect, the OCCL recommended the old maximum fine.)

At the board's July 11 meeting, at-large member Tim Johns and Hawai'i island member Rob Pacheco voted against the fine. Johns held back because he felt the fine was too small, while Pacheco seemed concerned that the stones may have been taken by men who were simply exercising their traditional gathering rights.

*Calculating Fines*

One of the first questions Johns asked OCCL administrator Sam Lemmo was whether state law allowed the board to impose a fine for each rock taken. Years ago, the Land Board had tried unsuccessfully to fine a Maui developer – who had excavated coral from a beach – for each scoop of coral that had been taken. But the board has imposed per-tree fines (on Johns' former employer Damon Estate, among others) for native trees taken from the Conservation District. The difference, Lemmo explained, was that taking the large native trees involved a selection process that distinguished the act from non-native vegetation clearing, which would be considered a single violation.

"Don't you pick up one rock at a time?" Johns asked.

Lemmo said that a per-rock violation would have resulted in astronomical fines. That "would have been fine," he said, "because it would send a message that we don't tolerate this." However, he added, a per-truckload violation would bring a quicker resolution and still send a strong message to the public. "I was thinking more comprehensively, trying to get from A to Z on this without having a lot of conflict," he said.

*Native Rights*

Attorneys representing the three men asked the board to defer deciding on the case for two weeks. Former city prosecutor Keith Kaneshiro, representing Chun and Fonoimoana, said he wanted the deferral to avoid going to a contested case hearing and avoid further legal expenses for his clients. He did not offer any testimony, stating that he did not want to jeopardize his clients' rights. Bright's attorney, Thomas Otake, said he wanted a deferral until he had a chance to provide information on Bright's gathering rights. Information supporting those rights, combined with Otake's claim that most of the rocks (about 700 of the 934) were taken with permission from private property owned by Darryl Aiwohi, might result in a finding that there was no violation, he argued.

While Lemmo said his staff had not considered laws protecting traditional and customary practices when preparing the case, Maui board member Jerry Edlao questioned whether the men truly believed what they did

fell under traditional gathering. If they had, Edlao argued, they would have declared to Superferry agents that they were transporting imu rocks. Instead, according to the OCCL report, Bright "drove through the checkpoint and tried to avoid conversation."

Even so, board member Pacheco said he wanted the cultural practices aspect of the case to be explored. And while Otake wanted to distance the case from the highly politicized Superferry issue, Pacheco wanted just the opposite.

"I really do believe we probably wouldn't be seeing this, with the attention that's been drawn to it, if it wasn't [related] to the Superferry," Pacheco said. "We need to think about that transmovement of material between islands. If it's something that's a cultural and traditional practice, was it traditional to take that from one island and take it to another island?" he said.

In the end, Edlao's motion (seconded by Kaua'i member Ron Agor) to accept OCCL's recommendation passed, with Pacheco and Johns dissenting. After the board's vote, Otake and Kaneshiro requested a contested case hearing.

Are NWHI Violators  
Banned for Life?

At the Land Board's June 13 meeting, everyone seemed to agree that the DLNR's rules for the Northwestern Hawaiian Islands Marine Refuge bar coral disease expert Dr. Greta Aeby from obtaining a permit this year to resume her research in the remote island chain. Whether the rules bar permit violators from the refuge forever was not so clear cut.

Aeby, a researcher with the University of Hawai'i's Hawai'i Institute of Marine Biology, has studied coral reef diseases in the NWHI for years. But in July 2007, the Land Board fined her \$1,000 for violating conditions of her 2006 research permit when she transported live coral between French Frigate Shoals and Gardner atoll in an open-flow tank aboard the *Hi'alakai* research vessel. The board also deferred Aeby's request for a permit to participate in a 2007 research cruise to the Papahānaumokuākea Marine National Monument, which includes the state's refuge.

Aeby contested the violation at first, but backed off months later after the hearing officer appointed to her contested-case hearing recommended that the Land Board expand the case's scope and allow KAHEA: the Hawaiian Environmental Alliance to inter-

vene. According to a May 23 briefing to the Land Board, the case was dismissed in April 2008 and Aeby paid her \$1,000 fine.

Aeby tried to resume her work in the monument this year by having UH assistant professor Evelyn Cox apply for the permit with Aeby tacked on as a principal investigator. Under DLNR's rules regarding penalties for permit violations, Aeby could not herself apply.

The DLNR's Division of Aquatic Resources brought Cox's permit request to the board on May 23. The DAR recommended approval in its report to the board, but at the board's meeting, DAR administrator Dan Polhemus proposed deferring the matter. The proposal had generated strong opposition from KAHEA, whose program director, Marti Townsend, complained in a press release, "This appears to be another attempt to circumvent the state protections for Papahānaumokuākea." At least one Land Board member also expressed concern about Aeby's inclusion in the permit application.

"I'll just be frank. It appears to be a maneuver by someone who violated a permit to get back up there," Hawai'i island Land Board member Rob Pacheco said at the meeting, adding that he wanted to know "A, is [Aeby] vital to the research, and B, is the work so important that it overrides her violation?"

University of Hawai'i attorney David Lonborg responded that picking up where Aeby left off was not something Cox could do by herself. "This is the only way this work can continue," he said.

### **Banned for Life?**

On June 13, the DAR brought Cox's permit request back to the board, as well as a separate request that the board officially deny Aeby's 2007 permit application. Polhemus said that since the contested case over the 2006 violation was dismissed earlier this year, "DAR felt that Aeby's 2007 permit request needed to be brought back to the board so that it could meet the requirements of the DLNR's rules." Those rules state that the Land Board "shall deny" permit applications from those who have had violated NWHI permits in the past.

When Pacheco asked whether the phrase "shall deny" should be interpreted as a recommendation or a requirement, Thielen said the board could seek advice from its deputy attorney general. (The refuge rules dealing with violations and permits can be confusing when read together. A section on permits states that the board shall deny permit applications based on past violations. A subsequent section on penalties, however, states that an applicant shall not be eligible to apply for a permit within one year of a violation.)

Although board member Tim Johns said denial of the permit was a moot issue (since the cruise for which the research was proposed was conducted last year), Polhemus said his division believed the rules required it to bring the permit back to the board for denial. He added that Aeby was given an option to withdraw the 2007 application, but chose not to.

At-large board member Sam Gon asked whether there had been any clarification "on whether denial of a permit and the term 'shall' applies to just a single permit application following a violation or all permit applications following a violation?"

Polhemus said that after considerable internal discussion at DAR, "our reading of the rule as it stands is that if an applicant has a violation, they cannot subsequently be a successful applicant in the future."

"I have a problem with that," Pacheco said. And Gon agreed.

### ***Better taken outside***

Although the question of the lifetime ban was raised by board members Gon and Pacheco, Thielen did not allow anyone from the public to join the discussion.

When UH's Lonborg tried to express the university's concerns with the DLNR's interpretation that the rules provide for a lifetime ban, Thielen cut him off. "That's not in front of us right now," she said, suggesting that he wait until the board considered Cox's permit application.

The board then voted to deny Aeby's 2007 permit application and began discussing Cox's permit request. But Thielen again cut off discussion of the lifetime ban issue. Tod Aeby, Greta's husband, wanted to read a statement from Greta, who was in Ameri-

can Samoa at the time. He asked when the best time to testify would be.

Thielen said the board could not discuss a lifetime ban at all at the June 13 meeting because, under the Sunshine Law, the board can only discuss items on the agenda.

Johns then suggested that the board might want to schedule a briefing by the Attorney General's office on the subject. "I'm not sure I concur with the interpretation it was a lifetime ban or that that was the intent of the rule," he said.

Thielen said that the contested case hearing could have addressed that issue and that concerns about the rules and the practice of past violators piggybacking on other peoples' permits could be addressed in the monument management plan, a draft of which was released earlier this year. She added that the DLNR may need to take subsequent action to clarify any inconsistency in its rules.

When Tod Aeby asked what would have happened had his wife submitted a new permit application, Thielen, citing the Sunshine Law, said, "I think this conversation is better taken outside," and suggested that Aeby talk to Polhemus after the meeting.

While Polhemus said he would schedule a board briefing on the matter to "allow everyone to weigh in," Thielen interjected that it would probably be a closed "executive session legal briefing."

Concerned that a decision on his wife's fate would be made behind closed doors, Tod Aeby asked whether he or his wife would have an opportunity to make a statement before a decision is made.

Thielen said that if Greta Aeby submitted a new application, she would have an opportunity to make a statement when it came to the board. Thielen added that submitting

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comments on the management plan was also an option.

"Doesn't she have an opportunity to submit something with regard to [the briefing on her contested case hearing] today?" Johns asked.

When Thielen replied that the briefing was simply a notice that Greta Aeby withdrew her contested case hearing request, Johns said it also addressed the fact that there was a violation. "The logical step [in discussing that matter] would be: what are the implications or consequences of a final determination that a violation occurred?" he said.

### *Last-Minute Change*

In addition to the confusion over the lifetime ban issue, Cox surprised the board with a new request. In his June report to the board, Polhemus wrote that Aeby would not be participating in Cox's research. At the board meeting, he added that Aeby was removed at HIMB's request.

Cox, however, said that the DAR had recommended removing Aeby, and said that she still wanted Aeby to join her. She explained that Aeby had established the permanent monitoring sites in Northwestern Hawaiian Islands, and that since she had been there only once, she needed Aeby's assistance in finding the sites.

None of the board members seemed amenable to Cox's request.

"I would want to get a lot more specific info from you about that," Thielen said, adding that while she understood the reasons behind Cox's request, "The people who follow this, [based on] what's been posted, [believe] she was withdrawn" from the permit.

The board approved Cox's permit without Aeby. Thielen then said that Cox could apply to amend it to include Aeby.



## Farmers Make Room For Green Energy

All of them shook hands as they filed out of the room, the earnest would-be producer of renewable energy and the farmers who had to give up portions of their land to make room for him. After a rocky start and several months of negotiation, they had come to an agreement.

On May 23, the Land Board approved a revocable permit to Green Energy Team, LLC, to plant eucalyptus trees on about 1,000 acres of land at Kalepa, Kaua'i, which had until then been occupied by ranchers and farmers belonging to a group known as the Kalepa Koalition.

Last November, Green Energy president Eric Knutzen requested a revocable permit from the Land Board to plant albizia trees on 2,160 acres of Kalepa lands. The trees were to be chipped and burned in a nearby facility to produce electricity. Knutzen's proposal was swiftly and vehemently criticized by farmers and conservationists aghast at the idea of permitting the large-scale planting of such an invasive species and using irrigated ag land for a tree farm.

The Land Board deferred taking action and directed the state Agribusiness Development Corporation to coordinate discussions with all affected parties on a co-existence plan. Knutzen, the Kalepa Koalition, the East Kaua'i Water Users Cooperative, Department of Land and Natural Resources staff, and Hawai'i Mahogany eventually negotiated an agreement, which was brought to the Land Board for approval on May 23.

Under the agreement, Green Energy must plant eucalyptus instead of albizia and harvest existing stands of albizia in accordance with a plan approved by the DLNR's Division of Forestry and Wildlife. All 13 Koalition permittees agreed to surrender a total of 1,037 acres to Green Energy, including 255 acres of irrigated lands.

According to a report by DLNR land agent Gary Martin, the Koalition agreed to the terms on the condition that the 2000-plus acres of agricultural land in Kalepa be transferred to the ADC, as the Land Board had already approved at a meeting last April. The report adds that a recommendation to transfer the water system serving those lands will be brought to the board once a contested case hearing initiated over a proposed 65-year water lease for a hydroelectric plant concludes.

Despite the fact that the Koalition agreed to give up 255 acres of irrigated land, when the matter came to board, representatives from the ADC, the coalition, the water users' co-op, the Kaua'i County Farm Bureau, and the Hawai'i Farm Bureau Federation all testified against the use of irrigated lands for the Green Energy project. Several said that while they support renewable energy, they'd rather see the land used for diversified agriculture.

In written testimony, state Board of Agriculture chair Sandra Lee Kunimoto avoided taking sides. She stated that Green Energy could reduce Hawai'i's imported oil dependence, but also wrote that the existing permittees must be acknowledged and "[c]onsideration must also be given to determine the best use of irrigated land."

"The allocation of agricultural land to be used for food versus energy is a critical issue that will continue to come up. As responsible stewards, we must take great care when allocating public lands to ensure a balance between food and energy to meet the current and future needs of Hawai'i's citizenry."

Land Board member Tim Johns said he was disappointed and hoped the DOA would have offered some direction to the board. "Sandy's testimony to us is worthless," he said.

At the meeting, Kalepa Koalition interim chair Leslie Milnes asked that a 68-acre parcel of irrigated land that was to go to Green Energy be withdrawn, which would leave the company with a total of 969 acres. Because Knutzen said his bank has requested that he secure 1,000 acres, Milnes offered to make up the difference with land he currently occupies. — T.D.

