Attachment to the Final Programmatic Environmental Impact Statement for Four Wind Energy Projects in Hawaii Appendix K Response to Public Comments.

Redacted letters and emails (45 plus attachments) received during the Public Comment period.

DEPARTMENT OF THE INTERIOR Mail

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind Energy HCPs and PEIS" FWS–R1–ES–2019–N032

[redacted] Sat, Apr 27, 2019 at 9:02 AM

To: "HIwindPEIS@fws.gov" <HIwindPEIS@fws.gov>

Clean energy is as important to our ecosystem as conservation of endangered species. The waste from electric or fossil fuel or nuclear energy is a huge threat to any living creature man fowel fish or animal. Trash from the systems humans need to survive goes into the oceans and have destroyed the reefs and killed or made sick the marine life living there. All these creatures are innocent victims of man's need to supply himself with ego gratifying luxuries (bigger hotels more non essential industry and overuse of the shoreline). No matter what we do we will be setting our footprints firmly on the ecosystem. To reverse the damage already done would take many generations of strict conservation that I don't see happening any time in the near future. FWS/DLNR seems to think spot removal is the solution. Ie the eradication of invasive species but we still allow 50 boats a day to destroy molokini. So yes in the near sighted view I applaud the attempt to provide clean energy with minimal impact on native hawaiian species. Looking ahead I don't think it will make much difference one way or the other as the islands are already so far removed from where they could or should be ecologically. I think personally the study is a smoke screen. And personally I object to my view of the clear horizon being junked up and destroyed by a bunch of wind turbines. However I like the clean energy.

[redacted]

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DEPARTMENT OF THE INTERIOR Mail

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Opposition to Wind Farm proposal to increase kill of native bats and birds

[redacted]> Mon, May 20, 2019 at 11:04 AM
To: HIwindPEIS@fws.gov

I'm writing to voice my strongest possible objection to the proposed untenable increase in hoary bat and other wildlife take by wind farm operations around the state.
Take levels were determined by a thoughtful, science-based process that took into account the health and sustainability of endangered and endemic species.
Just because the farms are now unable to meet the conditions of their operating permits is NOT a good reason to change the take limits.
Yes, the proposed deterrent systems and operational adjustments such as lowering speeds at night should be encouraged/required. Why only now that take limes have been exceeded are these measures being taken? Shouldn't the operator have realized sooner that they were needed?

Increasing the take beyond what was originally allowed is NOT at all acceptable nor science-based.
In the future, if wind farms are unable to operate within prescribed FWS guidelines, human undertakings should not expect a "free pass" to change the rules to suite themselves after the fact.

Dramatically altering hoary bat take limits in this situation amounts to a dangerous precedent of moving the line in the sand. Will other enterprises similarly see FWS guidelines as soft, moveable barriers that can be moved with financial pressure?

Thank you for protecting our environment and the species that cannot write letters for themselves.

[redacted]

DEPARTMENT OF THE INTERIOR Mail

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind farm plan aims to reduce Hawaiian bags deaths-Sustainability 3 ways to keep baqts away from Wind Turbines

dennissuzuki@hawaiiantel.net <dennissuzuki@hawaiiantel.net> Mon, May 20, 2019 at 7:05 PM
To: HIwindPEIS@fws.gov
Cc: tom.o@bird-x.com, bussfence@bussfence.com, sales@darbywiremesh.com, afence@afence.com, service@dareproducts.com

To: U. S. Fish and Wildlife Service

Here's our input. We like to submit our written comments to: HIwindPEIS@fws.gov E-mail

Beside the deterrent system, manufactured by NRG System, Inc. in Vermont, emit an ultrasonic acoustic field in the same range as the bats' natural calling frequencies. The system interferes with the bat's ability to receive and interpret its own echolocation calls, thereby discouraging it from entering the airspace around the wind turbines. We like to call this Ultrasonic "boom boxes" that emit continuous high-frequency sounds from 20 to 100 kilohertz deter bats from getting too close to turbines by interfering with their echolocation. We hope it works for Hawaii's endangered bats-Hawaiian hoary bats from flying into the turbines.

Migrating bats such as the hoary bats on all 30 turbines at Kawailoa and three other wind farms-Auwahi and Kaheawa Wind Power II on Maui and Pakini Nui Wind Farm on Hawaii island-are also seeking to increase their "incidental take" of Hawaiian hoary bats in amendments to their existing plans.

I do represent Bird, Inc. who sells BroadBand Pro-Programmable sonic/ultrasonic species-species repeller includes three visual devices, which address the take of endangered nene and Hawaiian petrels.

We do agree of turning off its turbines, during low wind speeds and at night, when bats are most active, to minimize fatalities.

Operational Changes

Turning turbines off from summer to late fall during low-wind conditions-when bats are most active-is the single most promising option to protect them, according to Ed Inert, a pioneer of bat and wind energy research efforts. In tests at the Casselman Wind Power Project in Pennsylvania, small changes to turbine operations reduced bat mortality significantly. During nights from July to October in 2008 and 2009, operators shut down the turbines when wind speeds were below 6.5 meters per second. As a result, bat deaths were reduced by 44 to 93 percent, with less than 1 percent annual power loss.

Climate of Hawaii

The climate of an area is a composite or frequency distribution of various kinds of weather. The outstanding features of Hawaii's climate include temperatures throughout the year, moderate humidity, persistence of northeasterly trade winds, significant difference in rainfall within short distances, and infrequent severe storms.

For most of Hawaii, there are only two seasons: "summer," between May and October, and "winter," between October and April.

If the owner of the wind farm is interested in ultralight, please ask them to call us.

UV light is not discernible to humans, but many bat species are sensitives to it, so several researchers and companies are studying how to use the light to keep bats away from turbines. The National Science Foundation recently awarded a $150,000 grant to Lite Enterprises, based in Nashua, N. H. to test the technical and commercial viability of this technology. "What's promising is that it would extend further than the ultrasonic deterrence and could be cheaper to install," Hein says. The ultrasonic deterrence's effective range is about 20 to 40 meters from the source, whereas the UV-light-emitting device could extend 50 meters or more.

Lets build dream homes with bats and nene and Hawaiian petrels in mind.

If your wind farm aims-architects are drawing up designs for a new bat condo complex. The idea is to help bats find a home because their habitat is being destroyed by human development.

More and more bats are losing good homes in Davis County to human development like roads and residences. So designers at the firm, Architectural Nexus, are taking up the challenge of building them a custom condo.

It would be easy to contact a design firm to launched an in-house contest for drafting plans. The owners of the project needs to tell the architects, engineers and builders how the design plan bat condo should fit in.

The idea with this project is to create a bat barn that will allow colonies that aren't welcome in other areas to move in to an area that's more welcoming to them.

The structure should be 10 by 12-big enough to house 5,000 of the flying mammals. And the inside should contain lots of baffles-parallel plywood sheets positioned up-and-down so bat families can hang out. "It's kind of a challenging problem for our designers, said Rick Arave, a project architect at Nexus and originator of the idea. "And we thought this would be a fun volunteer effort for them to use their expertise."

The Utah Bat Conservation Cooperative is also a project partner, and member Kody Wallace advised the architects about some of the necessary design features. She says bats get a bad rap.

"Once you get people acquainted with bats, they love them: she says.

She hopes the condo can be built by next spring, so she can start using it to educate the public about how helpful and loveable bats really are.

"We need to implement significant conservation measures to reduce mortality from wind turbine collisions and soon-effective conservation measures will help not just hoary bats but all bats that get killed by turbines."

Here are some tips to get you started...

Where should I place my bat house?

How many should I install?

How high should the house be?

American Wind Energy Association also commented on some of these "solutions" that might help mitigate undue harm to bat populations.

"Early results of the research into acoustic deterrent devices, for example using ultrasonic sounds that bats can detect to ward them away from turbines, have shown promise and that research continues," explained Ton Vinson. "Various bat species have been significantly harmed by white nose syndrome and are at further risk as a result of climate change, for which expanding wind energy is a leading solution. The wind industry has a legacy of care for the environment and will continue to work to protect bats while addressing these larger threats to their survival."

There's some evidence to suggest that bats, at least some species are attracted to wind turbines, but what this is, if anything beyond sheer curiously, remains unknown.

One promising solutions Bat Conservation International's wind program team, under the auspices of the BWEC, is investigating the effectiveness of Ultrasonic Acoustic Deterrent, or UAD devices, mounted on the wind turbines themselves.

The idea is that these devices will "jam" bats' echolocation or make the airspace around the turbine aurally uncomfortable, thereby keeping bats away from potential dangerous rotating turbine blades. Researchers got the idea from some species of moth's ability to "jam" bat calls in order to avoid perdition.

If the government needs second deterrent systems for Hawaiian hoary bats and nene and Hawaii petrels to repel bats and birds with multi-faceted sonic and ultrasonic sounds@ The BroadBand PRO's 4-speaker system simultaneously emits sounds that are both audible and inaudible to humans that confuse, disorient, and intimidate bats and birds, keeping them away. Bats and Birds will not linger when exposed to these sounds.

Option to add 3 Visual Scares to package for added efficacy. International voltage options available upon request.

Covers up to 6 acres

Uses sonic and ultrasonic technology

Weather resistant box designed to withstand outdoor use

Includes installation consultation

30 Day Electronic Performance

Satisfaction Guarantee

With both ultrasonic and sonic frequencies, Hawaiian hoary bat or opeapea and Nene and Hawaiian petrels-birds won't stand a chance! Use this versatile electronic bat and bird repeller outdoors locations, with coverage up to 6 acres. Four speakers included-each with 100 ft. of wire. Fully programmable-control volume, sound delays, and daylight/night operation

This industry favorite can be used in Hawaii, our plan aims to reduce Hawaiian hoary bat or opeapea and Nene and Hawaii petrels deaths. The first step toward making wind farm less fragile is taken by wind farm owners, who decide how robust they want their wind farm to be and instruct their wind farm teams accordingly. After that, architects, engineers and builders can consider adopting improved practices that contribute to a more fault-tolerant wind farm plan airs to reduce Hawaiian hoary bats and nene and Hawaiian petrels deaths.

Basically, it is all about avoiding to deter Hawaii's endanger bats and birds from flying into the turbines.

Wind farms killing more bats and birds than expected.

Hawaii's five major wind farms are killing endangered Hawaiian hoary bats and Nene and Hawaii petrels birds at a much faster pace than expected.

The wind farms have killed 146 Hawaiian hoary bats out of the 187 they are allowed. They've killed that many in 6.4 years while they were expected not to reach the total for 20 years or more.

The wind farms have also killed at least 50 nene-the endangered Hawaiian goose and state bird-and 26 petrels, an endangered seabird.

Lets all work together and take its wildlife conservation responsibilities seriously, including with respect to bats and birds, and are proactively working to reduce Hawaiian hoary bats and nene and Hawaii petrels birds deaths.

We need to work together to balance protection of endangered species with the state's goal of producing more electricity from renewable sources and cutting Hawaii's dependence on importing fossil fuels.

When installing the deterrent system. The air from it moves past the islands as northeasterly trade winds. Its persistence directly reflects that of the Pacific High from which it comes.

The storm tracks and the Pacific High follow the seasonal shift of the sun, moving north in summer and south in winter. The high tends to be stronger and more persistent in summer than in winter. Therefore, in winter, the trade winds may be interrupted for days or weeks by the invasion of the fronts or migratory cyclones from the northern latitudes and by Kona storms forming near the islands. Therefore, winter in Hawaii is the season of more frequent clouds and rainstorms, as well as southerly and westerly winds.

Hawaii's mountains significantly influence every aspect of the weather and climate. The endless variety of peaks, valley's ridges, and broad slopes, gives Hawaii a climate that is different from the surrounding ocean, as well as a climatic variety within the islands. These climatic differences would not exist if the islands were flat and the same size.

The mountains obstruct, deflect, and accelerate the flow of air. When warm, moist air rises over windward coats and slopes, clouds and rainfall are must greater than over the open sea. Leeward areas, where the air descends, tend to be sunny and dry. In places sheltered by terrain, local air movements are significantly different from winds in exposed localities. Since temperature decreases with elevation by about 3 degrees per thousand feet, Hawaii's mountains, which extend from sea level to nearly 14,000 feet, contain a climatic range from the tropic to the sub-Arctic.

The climate of Hawaii can be defined by what is has end by what it does not have. It does not have the extensive of cold winters and summer heat waves and it usually does not have hurricanes and hailstorms. However, Hawaii's tallest peaks do get their share of winter blizzards, ice, and snow. Highest temperatures may reach into the 90s. Thunderstorms, lighting, hail, floods, hurricanes, tornadoes, and droughts are not unknown. However, these phenomena are usually less frequent and less severe than their counterparts in continental regions.

The highest temperatures ever recorded in Hawaii was 100 at Pahala (elevation 870 feet) on the Big Island of Hawaii on April 27, 1931. The lowest ever recorded was 12 on Mauna Kea (elevation 13, 770 feet), also on the Big Island, on May 17, 1979.

The absence of trade winds affects mostly the windward and upland regions, which receive a smaller proposition of their rain from winter storms.

If you need manufacturer fence support to build a fence to prevent hoofed animals form entering a wind farm. Darby & Son, Inc. offers a wide array of wire mesh that in caging, enclosure, and fencing applications.

Let's take a look at electric fences, and at how they keep desired animals in, and undesirables out.

Like anything in life, electric fences have their pros and cons. They're low-cost, as materials are lighter than other fences, and less labor-intensive to build. Electric fences require little maintenance. They provide an easy way to protect a large field, since you can place the fence posts much farther apart than you can with a welded wire or woven fence.

As mentioned above, the treat of shock might not be enough to deter, say, a rutting buck, a determined wolf or a rabid anything. If you opt for an electric fence, you'll need to put up large warning signs. Otherwise, you could be liable if a person, or somebody's pet, gets shocked.

An electric fence is a psychological barrier that keeps livestock and predators out-even over long distances. A pulse of electric current is sent along the fence wire, about one pulse per second, form an energizer (a.k.a. fence charger or fencer) which is grounded. When an animal touches the fence, it completes the circuit between the fence and the ground receiving a short, sharp but safe shock.

Because the fence is a psychological barrier, it does not require physical strength. However, it must be well designed and constructed to absorb some pressure from animals, snow and wind. The energizer must have enough power from the length of the fence and for the animals being controlled.

There are ways to address these problems-using good design practices based on real field conditions. Builders will put good trained people on the job and adequately supervise them. We don't need workers cutting corners or performing shoddy work is a risk that must remain with the party best able to manage and control that risk, the builder, on time and on budget., and manufactures who provide them with the equipment, systems, and tools to do it right, will win big.

Whether you're considering an electric fence, we'll help you deduce the best solution for your situation.

We'd like to hear your thoughts on these issues. Let's begin a "healthy" dialogue on this topic. Call, Fax, Write or Email your comments to: Dennis Suzuki,
Title: Sales Representative, Phone: 808 848-0401, Fax: 808 848-0401, Address: 2812 Kalihi Street, Apt. A1, Honolulu, Hawaii 96819-3070, or via E-mail: dennissuzuki@hawaiiantel.net

cc:

Tom Olmsted, National Account Manager, Bird-X, Inc. 312 226-8785 Tel.

Buzz Custom Fence, 817 200-4398 Tel.

Kencover Farm Fence Supplies 800 536-2683 Toll Free

Darby & Son, Inc. 800 857-6374 Toll Free

American Fence & Supply Co. 281 322-0511 Tel.

Dare Products, Inc. 800 922-3273 Toll Free

Bat Conservation International 800 538-2289 Toll Free Give me a few days before I can send their E-mail if needed...

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind Energy HCPs and PEIS, FWS–R1–ES–2019–N032

[redacted] Thu, May 23, 2019 at 1:07 PM
To: "hiwindpeis@fws.gov" <hiwindpeis@fws.gov>

Welina me ka Oiaio,

I am passionate about OPPOSING the increase in Take for 2 main reasons: Wanton Killing of Native Species, and Inefficiency with Impunity.

1.) Most if not all our Native flora and fauna are Critically Endangered or Endangered—MANY have gone Extinct. Of the 3 ENDANGERED species on this particular list, I have only seen a Nene in the wild. In fact the Nene returning to Kahuku was such a huge event it made the news. I have never IN MY LIFE seen an Opeapea nor Uau in the wild. How could we possible justify higher KILL rates (that's what a "Take" means) when these Native species are already at such critical levels. The Kahuku Wind Farm alone has devastated the Opeapea population, not to mention negatively impacting the Pueo, Nene, Aukuu, and more. Aole loa.

2.) Hawaii is perfect for Solar and for Ocean based Wind Farms. Why are we giving such leeway for Land based Wind Energy Projects that thus far have proven to be more bluster than energy boom? By allowing a higher Kill rate ("Take") we're approving of inefficiency and bad business practices. Their claim that they're simply asking for the maximum Take instead of minimum is already a red flag that should be investigated, NOT rewarded. Aole loa.

Mahalo for your time,
[redacted]
Hauula, Oahu

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind Energy HCP's and PEIS scoping Community Feedback

[redacted] Thu, May 23, 2019 at 2:06 PM
To: "HIwindPEIS@fws.gov" <HIwindPEIS@fws.gov>

To whom it may concern;

My name is [redacted] I am a citizen of the Eastside /Northshore side of the island of Oahu.

In 2015 I was working in a little hauula beauty shop and I gained a client who was key to a project studying the effects of the windmills on the bird and bat population in kahuku. I will not offer his or her name, nor will I share in what capacity the person worked, however, I will tell you that we had many conversations about the Kahuku windmills over the span of our time together. The projections were EXTREMELY low. I never knew of bats here, and, as they were this persons passion, they explained how key they were to our ecosystem and invited me for a tour. Busy Cherie kept putting it off until one day I finally had the time and when I ran into the person in laie sadly, they explained that there was hardly anything left to see, that their calculations were horribly off and they were being transferred. Folks, that carnage happened within two years.

They will go instinct.

What will come then and how will we repair the damage we have done to the delicate balance nature provides?

THIS DEEMS THE WINDMILL PROJECT UNSUSTAINABLE.

And the people of Hawaii are herby being sold a bill of goods.

In trying to decide between the savings associated with wind energy versus completely obliterating the wildlife, lets do the right thing, shut down the project all together and look for true sustainable solutions.

Sincerely

[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind farm plan for Maui

[redacted] Thu, May 23, 2019 at 2:55 PM
To: HIwindPEIS@fws.gov

Aloha,

I am a lineal descendant of Maui, my family and I do not support any further developments or plans to build wind farms/turbines here on Maui due to the extremely negative impact on our wildlife/habitat/natural resources.

The bats and birds are our aumakua and I am referencing Article 12 of the U.S. Hawaii constitution that states you shall protect our cultural practices!

We will not allow you or any other entities to "take" of/from our native species/habitats, nor will we allow any further desecration of our Aina.

Mahalo,
[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Kawailoa Hoary Bat Kill

[redacted] Mon, May 27, 2019 at 12:41 PM
To: HIwindPEIS@fws.gov

Aloha,

your request to increase your hoary bat kill is totally unacceptable.

This is just one more way that this project was misrepresented when the Company that did the installation was applying.

The first action you need to take, if you want to show residents that you are honorable and responsible should be to IMMEDIATELY shut down the turbines at night.

You can then calculate the power loss involved and review your agreement with HECO for a price adjustment.

The HECO CEO is the highest paid CEO in Hawaii.

If she is truly a good leader and responsible executive she will recognize that by continuing to buy power from a source that kills bats, HECO is equally responsible for the kill and should share in the cost of stopping the kill.

[redacted]

[redacted]

May 27, 2019

Field Supervisor
United States Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

RE: WIND ENERGY PAKINI NUI HCP AND HAWAII WIND PEIS
Subject: R1-ES-2019-N032

Aloha,

The community of Ka'u appreciates the FWS public meeting held in Naalehu on May 23rd with an informative presentation and attentive representatives who seriously considered our concerns and comments.

It is not every day that a government agency comes to us down here in Ka'u – seeking our input and epitomizing the spirit of "public process" embodied in the legislative intent of environmental review statutes.

I especially appreciated talking with Michelle Bogardus about my concerns with extirpation of the Hawaiian hoary bat given the lack of baseline population data upon which to judge the quadrupling of incidental take of HHB. As well, I shared my concern with the County of Hawaii Department of Environmental Management (DEM) Dir Kucharski and Div. Chief Goodale's violation of FWS mitigation measures by beginning the Ocean View Transfer Station construction in March 2019 without the requisite prior Hawaiian hawk nesting survey.

In light of the edification I received from the FWS meeting information, I would make the following written comments on the Pakini Nui HCP/EIS:

1) The use of $1,463,728.00 allotted for HHB mitigation to simply provide 1,200 acres (of the 330,000 acres of the Hawaii Volcanoes National Park Land) of "habitat restoration" may not be the best use of resources. Obviously, when viewing maps of the area, 1,200 acres amidst a million forested acres is truly a drop in the bucket. As well, just because that 1,200 acres is not presently good HHB habitat, does not mean that by natural progression over 20 years projected as needed for this instant proposed mitigation project, the HVNP property would not naturally become good bat habitat without any intervention.

   The nearby Manuka Natural Area Reserve (*see* Manuka NAR map, attached) is known for its bat habitat and HHB sightings. It begs the question, if they (pay to) plant the trees, will the bats come? There is absolutely no guarantee that if you change 1,200 acres that a single bat will roost there – or that any bat will otherwise benefit from a heavy canopy forest of all-native species.

2) Do bats really like a solid forest canopy as shown in the 8 year after planting picture in the HCP/EIS Page 50, Figure 6.3? According to scientific evidence – no. Nor do HHB care if the forest has invasive species.

3) Moving into scientifically unsupported habitat mitigation without any knowledge of baseline HHB populations in Ka'u is placing the cart before the horse. Just monitoring that particular small site being planted will not contribute to the body of knowledge being developed with other wind farm funded Hawaiian hoary bat mitigation-supported research (by researchers with USGS and UH-Hilo Hawaii Cooperative Studies Unit).

4) The Pakini Nui HCP should have tiered mitigation wherein there are 5 years of monitoring the entire Ka'u area to develop the HHB

availability and the species limiting factors of predators, pesticide and disease.

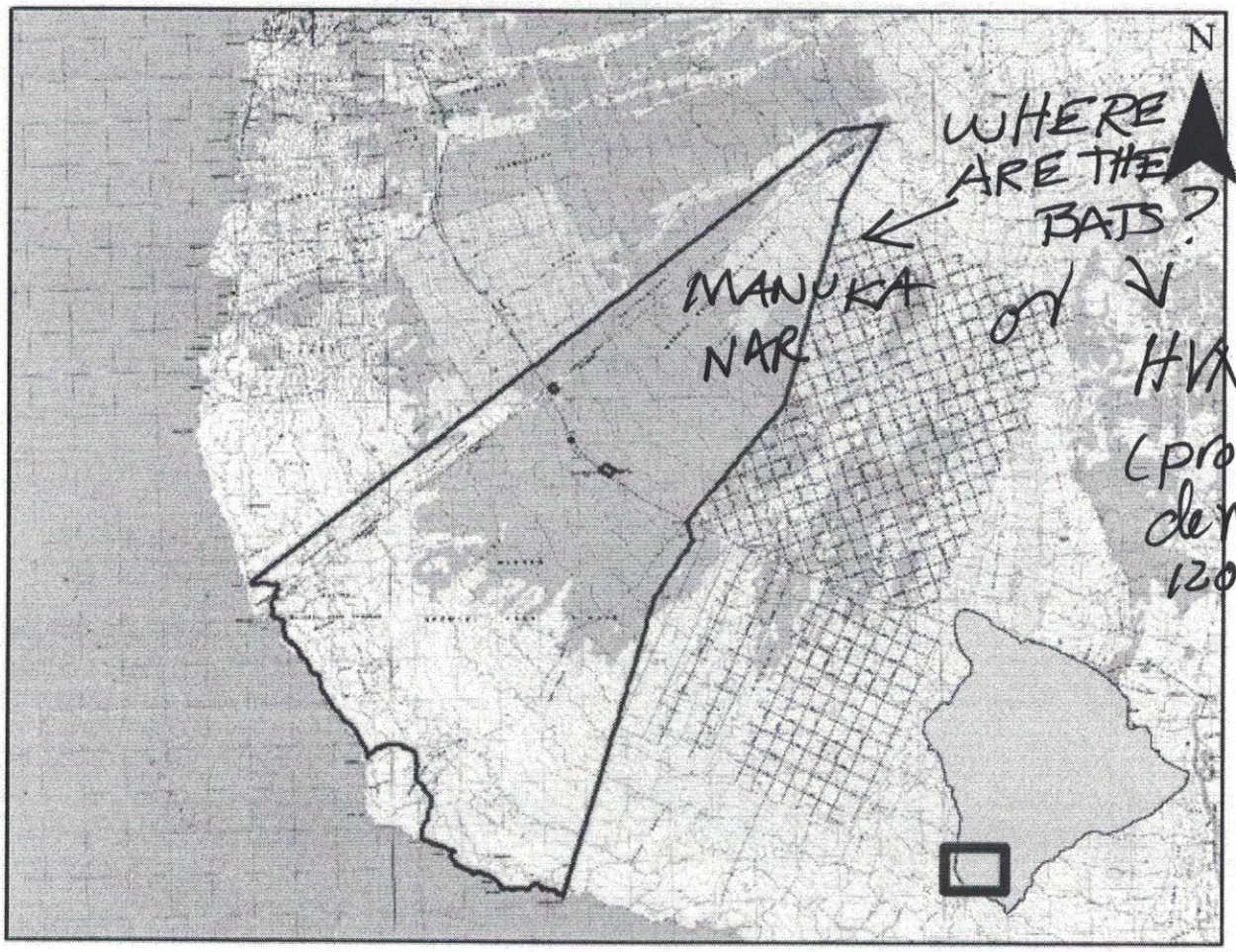
9) The Pakini Nui Wind Farm mitigation measure of monitoring and research of the Ka'u HHB Population and Habitat Suitabilty can offer a golden opportunity to work with the Ka'u community to expand awareness of this endangered bat species and to obtain their cooperation in raising additional matching funding to expand the conservation activities.

Thank you for your consideration of my comments and for continuing your efforts to protect our beloved bats!

Sincerely

[redacted]

Manuka NAR



0 1,350 2,700 5,400 Meters

Legend

NAR

Map Created 8.12.08
Emma.Yuen@hawaii.gov

Monitoring and research needed for baseline population of HHB in Kau to determine necessity of 1,200 ac HVNP habitat "restoration"

[redacted]

May 27, 2019

Field Supervisor
United States Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

RE: WIND ENERGY PAKINI NUI HCP AND HAWAII WIND PEIS
Subject: R1-ES-2019-N032

Like my wife, [redacted] I would like to make written comments on the Pakini Nui HCP/EIS. I share her concern for the Hawaii Volcanoes National Park 1,200 acre rehabilitation project as a Hawaiian hoary bat mitigation measure because there is absolutely no guarantee a single bat will come to these new trees.

I agree with her that a monitoring and research project that involves participation by our local school, especially, would really help the next generation become aware of the need to conserve to preserve our bats.

Please encourage Pakini Nui to change their mitigation plan to provide research that would justify the need to rehabilitate the HVNP land before spending money on it.

Thank you for allowing me to comment.

Sincerely,

[redacted]

05/23/2019

[redacted]

RECEIVED
MAY 28 2019
U.S. FISH & WILDLIFE SVC
PACIFIC ISLANDS FWD
HONOLULU, HI 96850

ATTN: Draft PEIS on Four Wind Projects
Field Supervisor
US Fish and Wildlife Service
Pacific Island Fish and Wildlife Office
300 Ala Moana Blvd.
Room 3-122
Honolulu, HI 96850

To Whom It May Concern,

I believe the four HCP's accurately describe the impacts of take and the ways to minimize what seems inevitable with any industrial installation of these sizes. The PEI's appear accurate as well, given all the "unknowns" in assessment of complex biological systems. I think the scoping process is as best as can be expected, and comprehensive enough to address the salient issues.

I would like to see the permits for these four projects approved. I believe the principals involved have performed their mandated duties and the Fish and Wildlife Service has been forthright with the public. In my regard, any mitigation of take is better than no mitigation and it will make an impact on preserving bio-diversity.

Thank you for your time,

Respectfully,

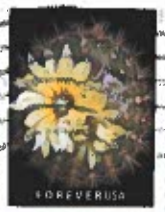
[redacted]

[redacted]

ROBER COLE
71 MAKA WAO AVE #6
MAKA WAO, HI
96768

HONOLULU HI 968

24 MAY 2019 PM 1 1



RECEIVED

MAY 28 2019

U.S. FISH & WILDLIFE SVC
PACIFIC ISLANDS FWD
HONOLULU, HI 96850

ATTN: DRAFT PEIs on FOUR WIND PROJECTS
FIELD SUPERVISOR
U.S. FISH & WILDLIFE SERVICE
PACIFIC ISLAND FISH & WILDLIFE
300 ALA MOANA BLVD
ROOM 3-122
HONOLULU, HI 96850

96850-312297

KA'U REALTY

[redacted]

May 28, 2019

RECEIVED
MAY 28 2019
U.S. FISH & WILDLIFE SVC
PACIFIC ISLANDS FWD
HONOLULU, HI 96850

Field Supervisor
United States Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

RE: WIND ENERGY PAKINI NUI HCP AND HAWAII WIND PEIS
Subject: R1-ES-2019-N032

Aloha,

My name is [redacted] Principle Broker of Ka'u Realty located in Na'alehu across from the famous Punalu'u Bakery. I am concerned with the Pakini Nui Wind Farm and the way it is harming the local Hawaiian hoary bats.

From my own experience I can tell you that the state of the environment matters to people buying property in Ka'u. Without a good basic knowledge of the bat population affected by the Ka'u wind farm, you are in danger of wiping out our endangered bats!

Please make Pakini Nui do the required bat population research before doing any habitat restoration project.

Mahalo for your consideration of my comment on the Pakini Nui Wind Farm HCP/DEIS,

[redacted]

[redacted]

From: [redacted]

To: Field Supervisor
United States Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

RE: WIND ENERGY PAKINI NUI HCP AND HAWAII WIND PEIS
Subject: R1-ES-2019-N032

I would like to make written comments on the Pakini Nui HCP/EIS because I do not think it is a good idea to use the Hawaii Volcanoes National Park project to mitigate for the loss of Hawaiian hoary bats already taken and which will be taken for the next ten years by the South Point wind farm.

Since they never did very much monitoring for 12 years, Pakini Nui needs to do it from now on. That and they need research so we can have scientific data showing how many bats use Kau lands and where they are located.

I hope PIFWO will make Pakini Nui Wind Farm change their mitigation plan to provide research so we will get to know more about how to really help conserve our bats!

Thank you for helping save all the remaining bats in Kau.

[redacted]

From: [redacted]

May 28, 2019

To: Field Supervisor
United States Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

RE: WIND ENERGY PAKINI NUI HCP AND HAWAII WIND PEIS
Subject: R1-ES-2019-N032

I am the granddaughter of [redacted] and the mother of [redacted], two people who share a great love of Hawaiian hoary bats!

Both have Aspberger's, so their passion for bats is extraordinary and they will work hard to make sure the bats in Ka'u will be there for the future.

Because [redacted] will be in Second Grade at Naalehu Elementary School, I think a research project that involves the family in spotting local bats would be a terrific idea. I know we always look for bats when driving at sunset and at dawn throughout Ka'u. I would be happy to provide help with this project.

The Pakini plan to just restore the HVNP land is doomed unless you know that bats need that habitat. Otherwise, with no guarantee that the bats will ever use the restored habitat, you are wasting money on a project with no scientific reason to do it.

Pakini Nui Wind Farm must change their mitigation plan and work with the school and the rest of the community to get extra grant money so that a good research study gets done to help protect the bats for my sons' futures.

Mahalo on behalf of my sons, [redacted], and the rest of the keiki o Kau -

[redacted]

From: [redacted]

May 28, 2019

To: Field Supervisor
United States Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

RE: WIND ENERGY PAKINI NUI HCP AND HAWAII WIND PEIS
Subject: R1-ES-2019-N032

I am [redacted]
and I love bats,
please help save my bats.

Mahalo for helping save my bats!

[redacted]

[redacted]

HONOLULU HI 968

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RECEIVED

JUN 03 2019

U.S. FISH & WILDLIFE SVC
PACIFIC ISLANDS FWD
HONOLULU, HI 96850

LaSha Lynn Salbosa
Field Supervisor.
US Fish + Wildlife
PIFWO
300 Ala Moana Blvd. Rm 3-122
Honolulu HI 96850

96850-312297

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Ope'ape'a testimony

[redacted] Tue, Jun 4, 2019 at 11:39 PM

To: "hiwindpeis@fws.gov" <hiwindpeis@fws.gov>

Aloha, my name is [redacted] and i am against The amendment regarding a new HCP with a higher "Take" for our Ōpe'ape'a. I went to the recent presentation regarding the new amendment and shared some of my concerns.

I volunteered a while back to help monitor the Ōpe'ape'a in the district of Kula Uka. I was able to take some notes and learn much about them. It is very important that we know our native species so that we can not only protect them, but in the process, protect our Moku also. Wind Turbines are becoming an obsolete technology with much more environmentally friendly tech making its way to the table, including smaller versions of windmills that are becoming much more popular due to zero risks and high performance ratings. It would seem that the wind-turbine entities are in breach of their prior amendments because of all the birds they are killing especially the amount of native endangered species amongst them.

There really are no real numbers on population, and reproduction and little studies on migration. We know they live as individuals and not in flocks, and that they live in trees, and not in caves, and that they play a valuable role in our eco system of Maui, what that is, we still scratching the surface. We also know that they give birth to only one pup at a time, and that they fly to higher elevations to mate, and then fly to lower elevations to give birth, so when one dies, generations die with them.

It was brought up in prior meetings that slowing down the turbines will lower the take. I feel it will only allow for more Ope'ape'a and Nēnē to seek opportunity to fly in these areas and get hurt. To think that it will have a desired affect to lower the "Take", is not realistic, and just guessing in my opinion since their is not much info on the bats to go on anyway. They also want to create a better habitat for them away from the windmills, but who is to say that they will even go there? Have they done it before? No they have not, will it still deter them from the windmills? I doubt it. Just another way to check it off the list and to get their amendment approved till their lease is over in 2030.

Who is to really say how many bats are even left, but they wanna raise the "Take". Its inhumane and obvious that the true intentions behind such an act, that many fought against in community opposition after the first amendment was set, here we are again with the disregard of rules and regulations to bend at their will and command. It is time to honor what was set in place and deny this new Amendment.

It was also brought to my attention at the hearing, that endemic plants would be removed to lower the amount of birds frequenting the area. removing their natural habitat is another form of "take" and it was compared to the removing of wetlands from the birds to prevent them from nesting and feeding....

The term "Take" is a term of genocide to the ecosystem of Hawai'i. What kind of example are we setting for the future generations, when we use terms like "Take" instead of Lokahi? Why are we moving so fast, that we cannot take the time to step back, slow down and learn more about the 'Āina and our place in it.

- Queen Lili'uokalani, translation of the ending of the 7th section of the Kumulipo

The awful stillness of the night that came--

The night that went by and brought forth an offspring...

He is equal to the blowing breeze,
The younger brother of the god

From which sprang the gods of the bats--
The hairy bats. Sprang the bat with many claws--

Sprang the bat and moved away,
That the rising surf might give it birth.

'Tis night."

Mahalo for your time, Aloha.

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind turbines and bats

[redacted] Thu, Jun 6, 2019 at 5:19 AM

To: HIwindPEIS@fws.gov

Please shut down your wind turbines at night to protect endangered bats! A small effort is required to spare these bats!

Sent from my iPhone

The Senate

STATE CAPITOL
HONOLULU, HAWAII 96813

June 6, 2019

Field Supervisor, U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3–122
Honolulu, Hawaii 96850

Submitted by Email:
HIwindPEIS@fws.gov

RE: Wind Energy HCPs and PEIS
FWS–R1–ES–2019–N032

Dear Field Supervisor:

I have read these documents and offer the following comments and questions.

Alternative 3, Increased Curtailment, would prohibit all nighttime operations between April 15 and September 15, "when Hawaiian hoary bats are observed to be rearing young and are most active. The cessation of operations during this timeframe would result in minimization of the take of adult Hawaiian hoary bats and eliminate indirect take of juvenile bats."

Appendix G, Timber Harvesting, says "The Service recommends to not cutting trees above 15 ft between June 1 and September 15 to avoid impact to dependent (non-volant) bat pups."

1. Why does the Service contemplate two different beginning dates to limit activities that impact bat pupping and rearing? Should the timber harvesting restriction date be moved to April 15?

The Auwahi Wind PCMP includes systematic searches at all turbines inside the 328-ft radius surrounding the tower base. Kawailoa searches all 30 turbines within a 115-ft radius. Auwahi turbines are 428 ft tall, while Kawailoa turbines are 493 ft tall.

2. Why do these two projects have such different search radii? Why is this difference allowed, particularly in light of the Kawailoa's bat take? A 5 oz. baseball can travel over 400 feet after leaving a baseball bat at 100 mph. How far can a Hawaiian hoary bat travel when struck by a wind turbine blade spinning much faster? Is a 115-ft, or even a 328-ft, search radius considered prudent?

KWP II and Pakini Nui PCMP both include searches at all 14 turbines every seven days, the former within a radius of 229.7-ft radius, and the latter within a radius of 197-ft to 295-ft.

Auwahi and Kawailoa search approximately twice a week. KWP II and Pakini Nui towers are 328-ft tall.

3. Why is it appropriate for KWP II and Pakini Nui to search half as often as the other two projects? What is the likelihood a bat found at three days would also be found at seven days? Why do KWP II and Pakini Nui have wider search areas than Kaiwailoa and narrower search areas than Auwahi? How does KWP II search the cliffs?

Auwahi proposes 6.9 m/s LWSC from August through October, and 5.0 m/s otherwise. Kawailoa proposes to continue with 5.0 m/s year-round, with a 5.2 m/s renewal cut-in speed. KWP II proposes 5.5 m/s cut-in from February 15 through December 15. Pakini Nui proposes a 5.5 m/s cut-in and 5.0 m/s cut-out.

4. How do these different LWSC plans affect the estimated take for each of the projects? It would be helpful to review a table comparing the estimated reduced take for each project at each of the various wind speeds. If the purpose of LWSC is to minimize bat take to the maximum extent practical, why is each project allowed a different cut-in speed? If the reason for diverse LWSC is financial, please provide the financial impact for each project at each wind speed.

The mitigation actions listed for the proposed final tiers use terms like "based on the best available science and agency guidance…" and include general guidelines for land acquisition and protection. The minimum expectations appear vague and susceptible to financial haggling.

5. Is there a minimum commitment of land to be acquired or money to be invested if/when the final tiers are reached? What happens if the best available science indicates a certain amount of land acquisition and the project claims it cannot afford to acquire that much land? Negotiations should not be subject to claims of poverty, such that the project continues to operate without adequately meeting its obligation to species protection.

6. Why is any project allowed to operate after exceeding its allowable take? Is that not operating outside the law and subject to penalty for the non-permitted take? Why are they not bound to immediate nighttime curtailment whenever they fail to meet a tier commitment or exceed the take permit for bats? Why not make that clear in the amended permits and in future plans?

In Section 3.8, Hawaiian Hoary Bat, the median core use area for a male bat is calculated as 20.3 acres. The report then makes various assumptions and posits an estimate of 14,500 bats throughout the state, and 11,400 bats on Oahu, Maui and Hawaii islands.

7. It is mentioned elsewhere that the population is unknown. Is the Service establishing the existing bat population in Hawaii based on these assumptions? At a January 2019 meeting of the Endangered Species Recovery Committee, a much larger area per bat was discussed. How would the much larger area per bat affect these calculations? How many bats exist on each island?

Section 4.6.5, page 101, second paragraph, states "The habitat improvement would be expected to provide foraging sufficient to support a minimum of 85 bats if we assume bats use an average 20.3 acres for their core use area."

8. Can you point to a specific 1700 acre parcel, or similar, anywhere in Hawaii that has a documented population of 85 bats? A "minimum of 85 bats" indicates a conservative calculation and some certainty. How many bats are present in that area today? Assuming the numbers would increase to a minimum of 85, how many additional bats would relocate from other areas, and how many will be born in this area as a result of the improved foraging?

Alternative 2, Proposed Action, claims for each project that "It is certain that the entire population of bats on (island) would not be directly extirpated by the operation of (project)." Another recurring comment is "Acoustic detections have not shown a decline (in population)." The section on cumulative impacts does not include all potential take and threats.

9. Although a section called cumulative impacts is included in this report, there is no discussion on the cumulative take of bats per island, or the state, by all wind projects and other hazards. How many bats exist on each island, how much is the annual take, what is the annual rate of reproduction? If these numbers cannot be calculated, how can there be certainty?

10. Until the wind projects were proposed, there was limited detection of bats in many parts of the state. More monitoring is being done today than ever before. Under these circumstances, does "detections have not shown a decline" prove a stable or increasing population? How do we know that the population is not nearing a decline, or already in decline?

I am concerned that these wind projects will not adequately minimize and mitigate their take of the endangered ʻōpeʻapeʻa, the Hawaiian hoary bat, to the maximum extent practical. I am skeptical that the amended HCPs do anything more than condone more take at existing levels.

Why are any projects ever allowed to operate after exceeding their permitted take? Where is the evidence that bats will be replaced by any of the proposed mitigation measures? Adaptive management should include full nighttime curtailment or seasonal nighttime curtailment.

Thank you for allowing me this opportunity to share my thoughts.

Respectfully submitted,

Gil Riviere
Senator, District 23
Oahu's North and Windward Shores

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, HAWAII
DIRECTORATE OF PUBLIC WORKS
947 WRIGHT AVENUE, WHEELER ARMY AIRFIELD
SCHOFIELD BARRACKS, HAWAII 96857-5013

JUN 0 7 2019

Directorate of Public Works

SUBJECT: Comments to Wind Energy Habitat Conservation Plans (HCPs) and Programmatic Environmental Impact Statement (PEIS), Reference: FWS-R1-ES-2019-N032

Ms. Katherine Mullett
Field Supervisor
U.S. Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

Dear Ms. Mullett,

On behalf of the Commander of the U.S. Army Garrison, Hawaii (USAG-HI), I am writing to submit comments on the U.S. Fish and Wildlife Service's (Service) published draft Programmatic Environmental Impact Statement (PEIS) and Draft Habitat Conservation Plan (HCP) and Amendments to existing HCPs, which support requests for new or amended incidental take permits (ITPs) under the Endangered Species Act authorizing the take of endangered species from four similar wind energy projects.

The USAG-HI has training areas on the island of O'ahu and Hawai'i. As members of the Ko'olau Mountains watershed partnership, the Army supports the fencing and removal of ungulates, invasive vegetation removal and planting of native forest trees proposed as mitigation for hoary bat take at the Kawailoa wind farm. I am concerned that an additional take of 377 total for all islands and 205 additional bats for Kawailoa wind farm is a significantly large increase. I am concerned that the increase in authorization may restrict the Army's training flexibility on both O'ahu and Hawai'i islands. Two draft PBAs are under preparation for Oahu training areas and the Pohakuloa Training Area on Hawai'i Island. Respectively, the Army's authorized take will be reassessed and could be more conservative. I would like to ask that the Service work in partnership with the Army to help us maintain training flexibility in light of the additional stressors on endangered species, should the wind farms be granted an increase in take.

I would like to thank you for the opportunity to review and comment on the Service's draft PEIS, HCP, and HCP amendments. Should you require additional information, please contact Ms. Rhonda Suzuki, USAG-HI Environmental Division Chief, at (808) 656-5790 or by email at rhonda.l.suzuki.civ@mail.mil.

Sincerely,

Kent K. Watase, PE
Director of Public Works

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] “Wind Energy HCPs and PEIS” - reference FWS–R1–ES–2019–N032

Rob Weltman <rweltman@twc.com> Fri, Jun 7, 2019 at 7:58 PM
Reply-To: robw@worldspot.com
To: HIwindPEIS@fws.gov

Comments from Sierra Club Maui Group to the PEIS for four Hawaii wind farms on HCP amendments.

Sierra Club Maui Group has reviewed the "Draft Programmatic Environmental Impact Statement Addressing the Issuance of Incidental Take Permits for Four Wind Energy Projects in Hawai’i” of March 2019 and has the following comments. We have only looked at the two Maui wind farms discussed in the document - Auwahi and Kaheawa II. We focus here on the impact on recovery of the endangered Hawaiian Hoary Bat.

1. Accounting
The quantitative threat to recovery of the Hawaiian Hoary Bat by decisions around operation of the wind farms cannot be determined with reliability due to the lack of substantiated numbers of bats present on Maui but also due to uncertainty around the effects of wind farm operations on the bats. It is important to find and count as many as possible of the victims of the wind farms so appropriate decisions and action can be taken.

- Sufficiently wide search radius around the turbines
Auwahi currently searches a radius of 328 feet around the tower base. Kaheawa II searches a radius of 229.7 feet. We support the proposal of the wildlife agencies to expand the radius by 20% to increase the certainty of the reported numbers beyond 80%:
"The wildlife agencies recommend an additional buffer zone of 20% be added to account for the wind effect on carcass fallout and uncertainty until adequate data is gathered for a site. The additional 20% buffer zone would need to be included in the routine searches. The buffer should be located on the down-wind side of the project if the wind is predominantly from one direction.”

- Sufficiently frequent searches with dogs to find carcasses before they are removed by predators
Auwahi uses a canine search team every three or four days. Kaheawa II searches every seven days, primarily with a canine search team. In order to increase the certainty of the take numbers, the frequency of searches should be increased to once every two days for at least a year. If no statistically relevant differences can be found compared to earlier numbers, the search frequency may be reduced to the current frequency after that time.

2. Reduce the take by raising the cut-in threshold wind speed
The only operational modification known to reduce bat take in the Maui wind farms is to raise the cut-in threshold wind speed. The effect on take drops off above 6 meters/second with little additional reported benefit above 6.9 meters/second. Auwahi is proposing 5.0 meters/second November through July and 6.9 meters/second from August to December. Kaheawa II is proposing 5.5 meters/second from February 15 through December 15.
Sierra Club proposes:

- Cut-in threshold of 6.9 meters/second for all sites from 30 minutes before sunset to 30 minutes after sunrise year round.

3. Habitat resiliency
Putting all habitat restoration efforts into one or two areas means that a major wildfire could wipe out most of the bats. Bats on Maui forage up to 12 miles from their roosting area. The following can be done collectively by the Maui wind farms (i.e. not a condition on each wind farm):

- Habitat restoration and maintenance for at least three non-contiguous areas for roosting

- Habitat restoration and maintenance for at least three known/potential non-contiguous foraging areas

4. Escalation
The PEIS should have clear requirements for follow-up reporting and actions if the cut-in threshold changes do not reduce the annual take at each wind farm (as measured with the enhanced search radius and search frequency) by 50% from that estimated for the average of the last three years before new cut-in thresholds were applied. Among the actions to take (individually for each wind farm) are shutdown of the turbines from sunset to sunrise year round as suggested in Alternative 3 in the PEIS.

June 8, 2019

Field Supervisor, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office,
300 Ala Moana Boulevard, Room 3–122
Honolulu, Hawaii 96850

Aloha United States Secretary of the Interior Mr. David Bernhardt and Pacific Region, U.S. Fish & Wildlife Service, and Field Supervisor,

REGARDING: Incidental Take Permit (ITP)
Wind Energy HCPs and PEIS / FWS–R1–ES–2019–N032

OPENING STATEMENT

My name is [redacted] and the numbers as provided as "take" in the Draft PEIS for the Hoary Bat will extirpate the species from its territorial range. The loss of foraging areas equates to a reduction in a breeding ecology.

Hence, the applicant's mathematical formula to quantify what a safe, allowable percentage of bats that can be extinguished by the turbines and the specie proliferate "unscathed/not suffer negative impacts" does not compute.

The Draft PEIS even states the bat will come out in the end with a greater disposition via the Habitat Conservation Plan- this is not accurate since if it were a loss of habitat causing the endangered status, the bat would be already utilizing the land offered by the applicant as "replacement" and a breeding and foraging ecology established there to have the bat removed from the endangered species list.

We are to deduce that after hundreds of bats will be perpetually slaughtered, in a pendulum like fashion, that these bats will not decrease in numbers over time, but actually grow. Nothing could be further from the truth but because I lack the credentials to have the ITP "pulled" on my claim, what I can expose is how the ITP is in violation of Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii). The ITP process has been breached and the applicant abusing the Exemption clause.

COUNT I

The applicant for the ITP has not met nor satisfied the terms and conditions as set forth in Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii) that reads: **"*What alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized.*"**

In the Draft PEIS, the applicant responded to the requisite above under (1.2.1) GOALS AND NEEDS OF THE APPLICANT, that the state of Hawaii does not have another renewable energy option source available to it to reach its goals as set forth within the Hawaii Clean Energy Initiative (HCEI)- and as such, justifies the wind turbines "as a necessity" for this reason.

1.2.1 GOALS AND NEEDS OF THE APPLICANTS

In developing the PEIS, the Service also considered the goals and needs of the four Applicants as well as the public interest, pursuant to 43 CFR 46.420(a)(2). The goals of the Applicants are to assist the State of Hawai'i in reaching the Hawai'i Clean Energy Initiative (HCEI). The HECI was launched in 2008 when the State of Hawai'i and the U.S. Department of Energy signed a Memorandum of Understanding to collaborate on the reduction of Hawai'i's dependence on imported fossil fuels. In 2014, HCEI renewed Hawai'i's commitment to setting clean energy goals that include:

- Achieving the nation's first-ever 100% renewable portfolio standards by the year 2045;
- Reducing electricity consumption by 4,300 gigawatt-hours by 2030; and
- Reducing petroleum use in Hawai'i's transportation sector which accounts for two-thirds of the state's overall energy use.

Nearly 30% of renewable energy generated on the islands of Hawai'i, Maui, and O'ahu is sourced solely from land-based wind (HECO et al 2018). The goal of the Applicants is to come into compliance with State and Federal Endangered Species regulations, while continuing to operate their existing, operational wind generation facilities under their existing Power Purchase Agreements through the State of Hawai'i's Public Utilities Commission.

While the Service has considered the goals and needs of the Applicants, it is the Service's purpose and need for the action that informed the range of alternatives considered in this PEIS and that will serve as the eventual basis for the selection of an alternative.

Evidence: Ocean wave power uses turbines in the water to generate electricity and when in operation, do not take endangered species. The necessity to apply for an ITP is moot for these types of turbines where properly deployed.

It is patently false to make the claim that to meet the HCEI, Hawaii must deploy wind turbines. It is also false to report that alternatives such as the ability to deploy turbines in the ocean to generate energy are not attainable for relief.

Proof: The federal government uses ocean wave power in Hawaii- as does the private sector.

When the military in Hawaii examined alternatives to generate an independent renewable energy resource to sustain itself in the State, it chose ocean wave power to augment solar farms, not wind turbines. The military had to follow the rules and could not falsify the ITP exemption application and lay claim as has this applicant, that wind turbines are the only option as an alternative— when in contrast, they are not necessary, required, mandated, or even warranted in order to justify the issuance of an ITP.

Why hasn't the applicant sought to relocate the windfarms to a location where species of concern were not placed in jeopardy? This solution is not being entertained and should be.

EVIDENCE

The Hawaii State Legislature has a mechanism to fund public-private-partnerships for energy projects using Special Purpose Revenue Bonds that if applied correctly, could render the pursuit for windfarms where harmful to wildlife as obsolete. The State can extend Special Purpose Revenue Bonds to the establishment of harvesting ocean waves as an energy alternative that meets the goals of the HCEI- but has failed to act.

The Draft PEIS as presented is in violation of Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii), being that the applicant has not entertained the option of ocean wave power as an alternative when they were required to present such in the scope. It would be a false statement for the applicant to claim ocean power is not attainable as a source of generating power when the military is doing it successfully on Oahu.

The Hawaii State Legislature has failed to bring to the landscape the remedies that are available to it- such as ocean wave turbines, rooftop solar, sea-water air-conditioning, and bio-mass crop fuel production as alternatives to meet the HCEI benchmark. These energy sources are already in practice and do not have a need for an ITP issuance for its daily operations.

Also, there are hundreds of square miles available to operate windfarm operations in Hawaii's geographical territorial limits where endangered avian species do not frequent- and hence, Hawaii does have the means to situate the wind turbines elsewhere out of harms' way but that remedy has too, not been offered as an alternative. This omission is another violation of Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii).

The ITP process requires the applicant to disclose why other alternatives are not attainable, or were not utilized, and the applicant did not address the fact that ocean wave power is available as one example.

RECOURSE

If the Secretary of the Interior were to adhere to Title 16 U.S. Code § 1531; Section (c) (1) that states **"all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purpose of this chapter,"** the Secretary would have to revoke the application for the ITP on the grounds the applicant has abused the ITP process and protocol by making a claim that is false- that Title 16 U.S. Code § 1539; Exceptions, Section (a) 2, (iii), was satisfied when it was not.

For instance, if ocean wave power were determined to be not a viable alternative - then the applicant must demonstrate this to meet the terms and conditions per Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii). In the Draft PEIS, there is no demonstration. Furthermore, the applicant failed to define any prohibition or technical fault that prevents ocean wave power from being deployed as an alternative to wind turbines that would squash the need for an ITP.

To approve of the Draft PEIS and allow the wind turbines to continue operations would be in conflict with Title 16 U.S. Code § 1531; Section (c) (1) and legitimize the false narrative that Hawaii cannot meet its

HCEI without the addition of wind turbines- and thus, endangered bats and other wildlife must be sacrificed to some degree.

DIRECTIVE / RECOMMENDATION

Please require the applicant to respond to why such alternatives are not being utilized as Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii) mandates. Simply put, the windfarm turbines are not in compliance to continue operations, let alone be issued an ITP.

Mahalo Nui,

[redacted]

Note: If the Federal Government were to take a stand and adhere to the principles that it's not prudent to use windmills where birds collide, the private sector would respond and advance alternative means to generate electricity……so long as the USFWS continues to condone bad practices and put blinders on to enable windfarms to operate where they shouldn't, the push toward more efficient sources of energy to be advanced that don't need ITP's won't come to fruition. Therefore, this option, for example, must be ordered per Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii) as an alternative- one of dozens to render the ITP moot- which is the goal here:

https://www.soest.hawaii.edu/soestwp/announce/news/irish-company-to-deploy-wave-energy-buoy-at-wave-energy-test-site-off-oahu/

TO: Field Supervisor, Attn: HIwindPEIS@fws.gov
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard Room 3–122
Honolulu, Hawaii 96850
June 9, 2019

Dear Field Supervisor,

The public is confident you will reject Kawailoa Wind Farm's application for an incidental take permit for the endangered Hawaiian hoary bat because the application does not meet permit issuance criteria. Kawailoa Wind Farm's proposal and Alternative 3 (Increased Curtailment, with night-time shut down April 15 – September 15) in the PDEIS do not meet ESA Section 10 incidental take permit issuance criteria because these actions 1.) **do not minimize and mitigate bat take to the maximum extent practicable as required by ESA section 10(a)(2)(B)(ii)** and 2.) **implementation of either alternative, killing of even 55 more bats, would jeopardize the continued existence of the endangered bat species by appreciably reducing the likelihood of the bat's survival in the wild in a significant part of its range (Oahu)**.

A.) Kawailoa Wind Farm's HCP Fails to Minimize and Mitigate Take to the Maximum Extent Practicable: Kawailoa Wind Farm is required to shut down at night because endangered species laws require applicants to minimize and mitigate take to the maximum extent practicable. In 2016, and 2019, new information about the Hawaiian hoary bat (that was not available in 2011, when the initial license to kill 60 bats over 20 years was issued) indicates the wind farm's proposed compensatory mitigation does not help the bat. In the absence of mitigation to offset the bat take, legally, all available resources must go toward minimizing the take (to the maximum extent practicable, financially). Fortunately for the bat, Kawailoa Wind Farm is ideally situated to be able to afford to shut down at night, with their 20-year $0.22/kwh power purchase agreement (compared to today's $0.10/kwh agreements for new wind farms and $0.05/kwh solar farms), and their recent bankruptcy reorganization. Kawailoa Wind Farm, with an estimated $34 million in gross annual income (based on Hawaiian Electric Company data, refer to details of the audit you would supervise in my enclosed letter to the ESRC and its Excel Spreadsheet financial worksheet), appears to be among the most lucrative wind farms in the World. Shutting down at night year-round would entail less than a 45% loss of power generation because the shutdown would not apply to very high wind conditions when the bats are not flying (which the wind farm appears to have elegantly worked out in Appendix D of a PEIS addressing the project). Shutting down at night April 15 through September 15 (an option mentioned in the PEIS) would not minimize bat take to the maximum extent practicable because this particular wind farm can afford to shut down at night year-round.

Because the best available science now indicates the endangered bats prefer foraging in grazed land and low-intensity developed areas rather than native forest, the proposed set-aside of native forest (protecting native forest from grazing and low-intensity development), fails to increase the bat population above what it would have been in the absence of the proposed action. Because research has not yet elucidated what (other than wind turbines) is limiting the survival or reproduction of the species, it is not reasonable to base an incidental take permit on an applicant's compensatory mitigation. Because it is not possible to offset take of even one bat, the wind farms (not just Kawailoa, but each of the wind farms that is in a similar financial situation to Kawailoa) must only be permitted to operate at

night to the extent they must to be on equal financial footing. There are major differences in profit between Auwahi Wind Farm and the wind farms constructed by First Wind (which shed their debt in bankruptcy and have made much fewer financial commitments to their neighbors) (Kawailoa, Kahiawa). In addition, we now know a wind farm can be constructed for $0.10/kwh (based on information provided at the Sunset Beach Rec Center PEIS scoping meeting from Auwahi Wind Farm's representative, and based on new power purchase agreements for proposed future wind farms). At $0.22/kwh, with its $34 million gross income per year, it seems evident Kawailoa Wind Farm can afford to shut down at night year-round to avoid killing any more bats. Under very high wind conditions they appear to be devising in Appendix D of the PEIS, when bats are not flying, the turbines could operate without a bat take permit. The shut-down of each of these four wind farms at night is a financial assessment – the "practicability" of the year-round shutdown may be different for Auwahi than it is for the others because of their more significant construction costs and community compensation package costs that the other wind farms don't appear to have (particularly those that went through bankruptcy). Because your DEIS Alternative C – increased curtailment April through September is identical for all four wind farms, it's evident you haven't done your due diligence and completed wind farm-funded audits of the four wind farms to assess their profitability in relation to shut down at night. It seems clear that night-time avoidance will be less practicable for a wind farm (such as the new one proposed on Oahu at $0.10/kwh) than it is for these four wind farms that are all making unimaginable profits (at the expense of ratepayers who were sold a load of goods when these wind farms negotiated their $0.22/kwh power purchase agreements).

Because evidence does not support effectiveness of proposed compensatory mitigation for the bat will help the bat, compensatory mitigation must not be funded - any funding that would have gone toward compensatory mitigation must be put toward avoidance – additional night-time shutdown. If any money is wasted on bat mitigation, it is clear evidence it is feasible/practicable for the wind developer to have put that money toward additional hours of shut-down at night. The Kawailoa Wind Farm's irretrievable and irreversible commitment of funding to needlessly waste money contributing to a land transfer at Helemano is very unfortunate and another sad failure of your trust responsibilities for this endangered animal. As much as the DLNR and US Fish and Wildlife Service appear to love using these wind farms as funding mechanisms for desired forest bird and native plant conservation projects, these actions can't be accounted for as benefits to the endangered bat. The endangered bat is so imperiled, the take of 55 bats without mitigation to offset that take, is a threat to the persistence of the endangered bat species on Oahu. Because mitigation would not effectively compensate for take of one bat, let alone 55 bats (or 140 bats for that matter), the proposed Kawailoa action and Alternative three both jeopardize the continued existence of the endangered Hawaiian hoary bat on Oahu.

I may have missed it, but your April 26, 2019, DEIS didn't seem to include new information, that became publicly available in January 2019, (presumably because it was presented during the Federal Government shutdown) by Kristin Jonasson and Dave Johnston (H.T. Harvey bat biologists). Their radio telemetry bat tracking indicates the average core area used by a male Hawaiian hoary bat (the 50% kernel where the male bat spent 50% of the time) is 2,967.5 acres. Further, their data indicates the bats fly over/traverse native forest tracts to forage preferentially in grazed, low-density developed, and gulch lands. We understand from the PI, your staff have recently received the updated information – and it should be incorporated into the EIS – in Appendix G, and into the analysis in the body of the document. This information, in conjunction with existing information from (Maui pasture), seems to make it impossible for you to approve the proposed HCP or any HCP that proposes conservation of any acreage of native forest to increase bat numbers. Until a proven mitigation method is developed, endangered Hawaiian hoary bat take authorization would not meet the ESA "mitigate to the maximum extent

practicable" permit issuance criteria because these particular wind farms (the wind farms constructed by First Wind) are raking in massive profits at great cost to electricity ratepayers. 2018 radio telemetry bat tracking by consultant H.T. Harvey indicates the average core area used by a male Hawaiian hoary bat (the 50% kernel where the male bat spent 50% of the time) is 2,967.5 acres. Kawailoa Wind Farm's HCP proposes to offset take of 55 bats (Tier 4) by contributing to one sixth the purchase price for the the purchase of approximately 3,000 acres of grazed land (zoned agricultural) and native forest (zoned preservation). The bats prefer low-density developed, grazed, and gulch land. When the wind farms were initially permitted eight years ago, it was reasonable to believe native forest conservation benefited the endangered bats and it was thought the core area of a bat territory was 20-40 acres. We now know the purchase of approximately 500 acres (the wind farm's portion) of land that's already agricultural and preservation does not help one single bat. This land purchase helps the State get recreation areas and it helps native plants and birds – it does not help the endangered bats. Regrettably, the proposed mitigation site is approximately four miles from the wind farm – the home range of a bat at the mitigation site would likely overlap with the wind farm site (the 50% kernel was 2,967.5 acres – the other half the time, the bat's range spans beyond this acreage). What would help the endangered bats is nighttime shut down of the giant spinning turbine blades.

Please see additional detailed comments in Appendix A, my letter to the ESRC regarding the Kawailoa Wind Farm's request for an incidental take license, and apply the contents of the letter to the ESA – all aspects of the State law mirror the ESA with the exception of the State's net benefit stipulation so virtually every sentence of my ESRC letter applies to your permit decision. Please apply the references I make to the DLNR and ESRC staff to the USFWS and USFWS staff. My letter anticipated the wind developer would implement the deterrents because we received that information during the ESRC public comment period (though their ESRC HCP draft did not include it yet).

B.) Nighttime operation of Kawailoa Wind Farm would jeopardize the continued existence of the endangered Hawaiian hoary bat because it would reduce appreciably the likelihood of the survival and recovery of the bat species on Oahu. Regrettably, Kawailoa Wind Farm was constructed on the most favored bat habitat on the whole island on land bisected by the largest gulches on Oahu, with the highest rates of bat detection on the island. Bat data collected in 2018 indicates gulches, ungulate-grazed areas, and low-density developed land – like the land within and surrounding the wind farm – are prime bat foraging habitat. The Hawaiian hoary bat appears to be territorial – presumably there are fewer than 50 bats left on Oahu (they are very rare and have only been seen in a few places, including Pupukea, near the wind farm) and the wind farm is located on prime bat habitat, we won't know we've killed the last bat on Oahu until we kill the last bat on Oahu. As bats are killed at the wind farm they would be replaced by adjacent bats moving in to the desired gulch habitat, until there are no more. Considering the 2018 authorization of take of 51 bats at the Na Pua Makani Wind Farm (which is in litigation), the cumulative effects of authorization of take of an additional 55 bats would be a textbook example of jeopardizing the continued existence of the endangered bat species.

The wind farm must avoid killing any more bats because they can afford to and because take of even 55 Hawaiian hoary bats on Oahu would jeopardize the continued existence of the species – are there even 55 bats left on Oahu with all the bat killing at these wind farms? Hawaiian hoary bats are now known to prefer deep gulches – this wind farm is bisected by the deepest gulches (including Waimea Valley) on Oahu – presumably, most of the Oahu bat population has already been killed by this Kawailoa Wind Farm when the Oahu bats visit these gulches – it's not lawful to allow them to kill more bats because their actions have already irreparably damaged the Oahu bat population – persistence of the Oahu bat

population, with its genetic diversity, has forever been compromised by this wind farm. Persistence of the Oahu bat population can't lawfully be further compromised by any further night-time operation of this Kawailoa Wind Farm.

Conduct Bat Deterrent Research in safe place where bats won't be killed by spinning turbine blades: You can't legally study the effect the bat deterrent system has to the Hawaii bats at the wind farm because there's ample safe areas to do the research. I'm not an expert on the USFWS's issuance of Research and Recovery "10(a)(1)(A)" Permits, but I do know that to study whether the Hawaiian bats respond/avoid the bat deterrent system like the mainland bats do, there are ample safe places in Hawaii where such research can be done in areas away from spinning wind turbine blades. I suppose if Kawailoa bat mortality monitoring was done daily and turbines were completely off most nights, (other than very high wind conditions and under certain humidity/rainfall scenarios when bats are not flying near the turbines, when the turbines would be able to operate without a permit), the night-image cameras could be used to study bat behavior/avoidance of the turbines with the deterrent turned on versus turned off (because the turbines wouldn't be spinning so no bat take would occur – so no permit would be needed to conduct the deterrent efficacy research). Unless the deterrent is 100% effective at keeping bats away from the spinning blades, a 50% or 75% reduction in bat take is meaningless since no bat take can be authorized for Kawailoa Wind Farm.

The bat's status and habitat use on other islands may be a different situation – at least the Maui wind farms are not on the rim of the deep gulches and valleys in the areas most heavily used by the island's bat population. Based on testimony at the Na Pua Makani Wind Farm litigation in State court, unpublished estimates of the size of the Oahu bat population appear to be available for your analysis – should this information indicate the bat population numbers fewer than a few hundred bats, take of 55 bats can't be permitted because it would reduce appreciably the likelihood of the survival and recovery of the endangered bat on Oahu, a population that is likely to be genetically and morphologically divergent from the bats on the other islands. This unpublished bat population information will be available to the judge if this bat take permit is authorized (it's not currently known to the public because testimony from bat researchers was blocked at the Na Pua Makani DLNR contested case hearings). Cumulative impacts of authorizing take of 55 bats on Oahu by the Kawailoa Wind Farm, where your 2018 permit authorized Na Pua Makani Wind Farm to kill 51 bats (I assume that decision will be litigated), seems impossible pursuant to the endangered species act. Authorizing the take of these additional 55 bats (when there may not even be that many bats left on Oahu) seems as obvious an example of a permit that would "jeopardize the continued existence of the species" as you might ever, in your career, consider.

NEPA Comments (Summary: Supplemental PEIS must be prepared):
Comment on alternatives not considered further (pages 52 and 53), low wind speed curtailment of 8.0 m/s – as mentioned in DEIS Appendix D, p 11-12, Gorresen 2015 – the point (which I think the wind developer already understands) is there are high wind speeds, rainfall, and humidity conditions when the endangered bats are not flying around the turbines so there would be zero bat take (no permit would be needed to operate under those conditions) (whether that's 8 m/s or 12 m/s etc) – so this does not require an EoA analysis (it would be zero – and the thorough analysis in Appendix D indicates the wind farm is already assessing what these conditions will be because these will be the only conditions when their turbines will spin going forward).

The HCP and EA "proposed alternative" should be re-written to reflect the proposed alternative as it's been presented – with the implementation of the deterrents and the reduced bat take levels associated

with deterrent implementation. It seems odd these take tiers don't seem tied to the actions – these same numbers of bat kills remain unchanged, when there are significant changes to the proposed action. The take assessments should be grounded in the action, rather than using these same static take numbers that appear to be arbitrarily assigned to various alternatives as the project has changed over time.

Increased Electricity Costs for HECO Ratepayers, Turbine Noise, Wind Turbine Wake Turbulence Effects to Offshore Surfing Winds, and Increased Temperatures in Residential Neighborhoods, and: The EIS analyzes the effect of the proposed action, no-action alternative, and increased curtailment alternatives to "geology", "hydrology/flooding/wildfire", and vegetation (which seems odd because one wouldn't expect night-time shutdown to significantly affect these things) while failing to disclose the very significant effects of night-time noise, air turbulence disturbance to offshore winds on the North Shore (see enclosed North Shore surfer letter), and increased night-time temperatures to residents of downwind Haleiwa and Waialua under the proposed alternative.

Night time shut down will save HECO ratepayers, and Oahu's economy, $8 Million/year: Beyond its benefits to the vulnerable endangered bats, night-time shut down will also benefit HECO ratepayers bilked out of $0.22/kwh for every kwh the wind turbines pump into the transmission line, whether the power is used or it dissipates. Year-round night-time shutdown would save HECO ratepayers an estimated $7 Million/year (according to HECO data, Kawailoa Wind Farm receives $34 Million/year for power fed into the transmission line; night-time shutdown would reduce Kawailoa Wind Farm's gross income by 45% ($15.3 Million/year), solar with battery storage or other energy sources, costing $0.4 to $0.10/kwh would cost less than $7 Million/year, leaving $8 Million in ratepayers' pockets). This is a major savings to ratepayers – this is not insignificant difference among the alternatives addressed – the no action alternative, where no bat deaths are authorized and year-round turbine shutdown is forced, has major financial benefits to ratepayers and this difference between the proposed alternative, Alternative 3, and the no action alternatives must be disclosed in a SPEIS.

Noisy Turbines Waking Pupukea Residents over 1,200 meters from Kawailoa Wind Farm: A supplemental EIS must be prepared to disclose the effect of night-time wind turbine operation of the proposed action, increased curtailment, and no-action alternatives on the sleep disturbance of residents in the adjacent Pupukea neighborhood. Maybe because the Pupukea homes are on a hill, up at the elevation of the turbine nacelles – or for whatever reason, these homes, that are more than 1,200 meters from the wind farm, are awakened at night by the noise of the turbines. This significant adverse impact would be dramatically reduced under the increased curtailment and no-action alternatives – the difference would be very significant. In my scoping comments I provided you with contact information for residents who experience sleep disturbance due to the Kawailoa Wind Farm and I invited you to contact me for additional information and to my knowledge, you did not attempt to study the effect of night-time noise to Pupukea. In addition, the literature is full of published information about wind turbine noise – particularly low-frequency sound, which does not attenuate as readily as higher-frequency noise (as you presumably know from your bat acoustics work). There are noise engineers on the mainland who specialize in assessing project noise – military, wind turbine, highway – these firms are easy to find – please contact me if you would like a referral to a noise specialist. The Kawailoa Wind Farm is particularly easy to complete a noise assessment on because the turbines are operating and noise monitoring equipment will capture sound levels in the environment rather than needing to rely on modeling – even if the turbines are shut down during the night to conserve bats, day-time operation would continue to provide noise data to inform the noise analysis. The sleep disturbance is particularly

prevalent when the residences are downwind from the wind turbines (when wind direction is southwest, west, and northwest, as opposed to under normal tradewind conditions). As the federal action agency, it is your responsibility to assess and disclose adverse effects your actions would have to the human environment.

Year-round night time shut down will reduce sleeping temperatures in Haleiwa and Waialua: The increased curtailment alternative would only allow night-time operation of the turbines in the winter when currently, ambient air temperatures are comfortable for sleeping. Because wind turbine wake turbulence causes increased rainfall at the wind farm due to wind turbine wake turbulence when the air is near its dew point (more often at night) and, because the adiabatic lapse rate of dry air exceeds that of moist air, the dried air hitting Haleiwa and Waialua, having lost more moisture than it would have if the turbines had been shut down at night, would be warmer at night under the proposed action than it would be under the no-action and increased curtailment alternatives. Night-time temperature is crucially important to sleeping residents of Waialua and Haleiwa, many who live in single-wall construction homes with jalousie windows without air conditioning. The wind farm night-time operation would result in an increased number of uncomfortable night-time sleeping temperatures and this significant difference between the proposed alternative and the no-action alternative must be disclosed in a Supplemental Draft EIS.

Kawailoa Wind Farm Desecration of Native Hawaiian Cultural Sites: The Kawailoa Wind Farm adversely affects Native Hawaiian cultural sites and practices in Waimea Valley. Kawailoa Wind Farm promised the community they would fund community projects and that program seems to have not occurred. All I know of Kawailoa Wind Farm's cultural resource mitigation is they gave Waimea Valley OHA $50,000 dollars to build a hut for tourist visitor interpretive use. Kawailoa Wind Farm should fund a $1 million/year grant program to fund Native Hawaiian cultural projects via an application process. Because night-time shut down will cost Kawailoa Wind Farm an estimated $15 million/year – if Kawailoa were to commit to provide the $1Million/year grants to Native Hawaiians, it may be financially unable to shut down every hour of every night of the year like it currently is. The Kawailoa Wind Farm's failures to conserve the community are among the reasons this wind farm is so financially able to shut down every night of the year.

Wind Turbine Wake Turbulence Disturbance to Offshore Surfing Winds: As a surfer at Sunset Point, I'm grateful every east-wind-trade-wind-day that your Kahuku Wind Farm is shut down because on those days I notice I'm not buffeted by the wake turbulence from your wind turbines. At my Backyards surf break, 3.4 miles downwind from the Kahuku Wind Farm, the air is noticeably gusty and disturbed by the Kahuku Wind Farm wake turbulence when wind direction is 86 to 95 degrees and winds are stronger than 12 mph. Your shutdown is particularly important to me when surf swells exceed 8-feet, 14-second period because these big wave days (with wave faces exceeding 15 feet), with ideal offshore (east) winds, are very precious to us. I am a tow surfer, wind surfer, surfer, and stand up paddleboard surfer – I am in the water at Backyards a significant percentage of days year-round; I have lived on Sunset Point for 35 years. I usually don't surf further down the coast at Waimea and Haleiwa, but on big wave days, when your Kawailoa turbines are upwind from their surf breaks, the surfers down there would sure appreciate your turbine shut-down to avoid adversely affecting their surf session and, by reducing gusty wind conditions, help them minimize the risk of injury. Please see additional details in Appendix B North Shore Surfer Letter enclosure signed by 90 North Shore surfers.

It seems odd the USFWS did not disclose these four significant impacts to the human environment in this Draft PEIS while instead analyzing of effects to **geology, hydrology, and vegetation** which no one

would expect a night-time wind turbine shut down to affect. The differences in adverse effect, between the proposed action and the no action alternative, to HECO ratepayers, sleeping Pupukea, Haleiwa, and Waialua residents, and surf conditions are significant. Furthermore, these concerns were specifically raised in public scoping comments including mine (Enclosed herein in Appendix B). Because these significant impacts to the human environment were not disclosed in this draft EIS, a Supplemental Draft EIS must be published. This drags on the permit decision date – there should be no prosecutorial discretion for a wind farm that presumably dodged your recommendation to complete the noise study and write up the adverse effects of their proposed action versus Alternative 3 and the no action alternative of noise, temperature, and wind turbulence when the scoping comments came in. From the public's perspective, it seems like the applicant is enjoying prosecutorial discretion because they are supposedly, in good faith, cooperating with you to obtain a permit – their failure to address the significant night-time noise effect to the human environment gives the appearance that they are purposefully leaving important disclosures out of the DEIS to forestall your permit decision (presumably, your denial of their request to kill more endangered bats) while the noise study and SEIS are completed. Whether or not their failure to complete these assessments was purposefully to force the SEIS process and forestall your decision, you have enough information to write a letter to Kawailoa Wind Farm to inform them they have exceeded their authorized level of bat take and telling them to shut their turbines down at night except under those very high wind conditions when bats are not flying. Kawailoa Wind Farm's turbines should be shut down at night to avoid killing any bats until such time (if there ever is a time) it becomes lawfully possible for them kill another Hawaiian hoary bat.

It's worth mentioning the Kawailoa Wind Farm could have amended their permit in 2015 or 2016, before much was known about the bats and it was reasonable to conclude proposed habitat conservation would benefit the animals. Did they not seek the permit because they wanted to wait until the six-year statute of limitations had passed so the EA and FONSI and the wind farm's failure to disclose (to the wildlife agencies and the public) the adverse effects to the human environment had passed so their initial license wouldn't be litigated? They could have just have fully disclosed worst-case impacts in an EIS and have been honest, and done with it. Kawailoa Wind Farm's inability to secure the take authorization now, because of the timing of this unanticipated new information, is poetic justice in light of this apparent purposeful stalling.

In Summary, the Kawailoa Wind Farm's application to kill additional bats (even Tier 4, 55 bats) does not meet requirements of the endangered species act so it can't be authorized:

1. All of the wind farm's available resources must go toward night-time shut down to avoid bat take - deterrents will only reduce bat take - but bat take must be avoided because compensatory mitigation is now known to be ineffective. When the wind farms were initially permitted eight years ago, it was reasonable to believe native forest conservation benefitted the endangered bats and it was thought the core area of a bat territory was 20-40 acres. Unfortunately, at the January ESRC meeting, we learned the average core area used by a male Hawaiian hoary bat (the 50% kernel where the male bat spent 50% of the time) is 2,967.5 acres, and the bats actually prefer grazed, low-density developed land and fly over native forest to preferentially forage in these more disturbed areas of the landscape. Additionally, bat feeding detections decline when grazed areas are cordoned off for forest restoration. Proposed "bat mitigation" would not help even one bat, let alone 55 bats (Tier 4) 85 bats (Tier 5) or 65 more bats (Tier 6). Are there even 55 total bats on Oahu left to kill? **The DLNR and US Fish and Wildlife Service must stop using the wind farms as their cash cow to fund pet projects for the**

benefit of forest birds and plants while the future existence of the Hawaiian hoary bat is put in jeopardy by these wind farm permits. Kawailoa Wind Farm's irreversible irretrievable commitment of funding for purchase of 1/6th of 3,000 acres at Halemano to purportedly offset take of 55 bats can't be undone – that $2.75M dollars should have gone toward additional hours of night-time shutdown. A permit for take of even 55 bats by a lucrative Hawaii wind farm would be unlawful, in the absence of effective bat mitigation, so bat take can't be approved.

2. Because there is no known effective compensatory mitigation for the endangered bat, the proposed, and "Alternative 3, increased curtailment" projects at these lucrative Hawaii wind farms do not meet Endangered Species Act incidental take permit issuance criteria to "minimize and mitigate to the maximum extent practicable". Kawailoa and Kaheawa II Wind Farms were both purchased for pennies on the dollar in a nationwide bankruptcy approved by a court in NY, which (along with their bilking electric utilities and ratepayers at a rate of $0.22/kwh for every kw they pump into the grid) makes these among the most profitable wind farms in the country. By contrast, the Auwahi Wind Farm was expensive to construct and their community benefit agreements are costly. Because they can afford to, Kawailoa and Kaheawa II Wind Farms must shut down at night (forgoing 45% of their revenue) year-round to avoid take of even one bat, until such time as compensatory mitigation for the endangered bat is developed. The wind developers must fund a US Fish and Wildlife Service-supervised audit of the wind farms' financial books – each wind farm's financial ability to shut down at night will differ (the Alternative 3 April 15 – September 15 night-time shut down will certainly extend to year-round most wind farms including Kawailoa and Kaheawa II, whereas the April 15-September 15 may or may not be financially affordable to Auwahi Wind Farm because their cost outlays are so much greater than the bankruptcy reorganized, do virtually nothing they promised to help the local communities "First Wind" wind farm owners).

3. **Kawailoa and Kaheawa II Wind Farms, if not the other two wind farms also, must immediately shut down their wind turbines at night to avoid killing even one more bat until effective compensatory mitigation for the bat is developed.** There are huge public costs associated with Kawailoa Wind Farm and Kaheawa II pumping $0.22/kwh power into the grid – it's among the most expensive sources of power on Oahu and it's caused our utility bills to increase. Every moment this wind farm is shut down – day or night – saves ratepayers. Night-time shut down also allows residents in Pupukea to get uninterrupted sleep in the absence of noise from the operating turbines (which your PDEIS fails to address).

4. Approval of an incidental take permit to a lucrative Hawaii wind farm to kill even one bat would do a disservice to Hawaii's alternative energy future because this 'lack of bat mitigation' problem won't just go away for future wind developers. By rejecting the incidental take permit request, you will motivate the efficient completion of bat research needed to illucidate an effective mitigation strategy. **By adhering to the Endangered Species Act, you'll, in the end, remove the bat-related licensing uncertainty and end up boosting the future investor interest in Hawaii wind development.**

Please refer to attached Change.org petition (Appendix C) with over 1,200 signatures and 52 comments from the public sharing my opposition to authorizing Kawailoa Wind Farm's request to kill additional endangered Hawaiian hoary bats.

Appendices:

Appendix A: My Letter to ESRC – Kawailoa Wind Farm Incidental Take License Application
- Attached Excel Spreadsheet – Wind Farm Financial Information compiled from HECO to inform Maximum Extent Practicable assessment;

Appendix B: My PEIS Scoping Comments
Attachments: North Shore Surfers Letter – Wind Turbine Wake Turbulence Disturbance of Offshore Winds, and Excel Spreadsheet with North Shore Surf Swell and Wind Speed/Direction Data;

Appendix C: Change.org Petition with over 1,200 signatures opposing authorizing Kawailoa Wind Farm's request to kill additional endangered bats.

Thank you,

[redacted]

North Shore Oahu Member of the Public Draft HCP and PEIS Public Comments

Appendix A:

My letter to ESRC on Kawailoa Wind Farm reqeust for Amendment to Bat Incidental Take License, including finaicial spreadsheet (which is also attached herein as an Excel spreadsheet for your use).

February 20, 2019

From: [redacted] Member of the Public, Sunset Beach Resident, North Shore, Oahu

To: Mr. Glen Metzler, Endangered Species Recovery Committee, Hawaii Department of Land and Natural Resources Division of Forestry and Wildlife via email at Glenn.M.Metzler@hawaii.gov

Subject: ESRC Public Comment - Kawailoa Proposed HCP Amendment to increase bat take by 55 bats (Tier 4) (in addition to Tier 5 (85 bats) and Tier 6 (65 bats)).

Dear Mr. Metzler,

The Kawailoa Wind Farm's application to take an additional 140 (plus) endangered Hawaiian hoary bats should be denied because the proposed mitigation and minimization fail to meet numerous foundational requirements of HRS § 195D as follows:

HCP Fails to Meet Bat Mitigation Requirements of HRS § 195D-21(b)(1)(B) and HRS § 19521(b)(2(C): Approval of HCP Tier 4 take of 55 more bats would be unlawful because it cannot be concluded that the proposed mitigation of land title transfer at Helemano will increase the likelihood of recovery of the Hawaiian hoary bat as required by HRS § 195D-21(b)(1)(B), and it does not identify the steps that will be taken to minimize and mitigate all negative impacts, including without limitation, the impact of any authorized incidental take pursuant to HRS § 19521(b)(2(C). Tier 5 and 6 mitigation are not described in enough detail to assess what, if any, benefit to one or more endangered bats the project would have (Tier 5 (85 bats) and Tier 6 (65 bats)). The ESRC should not have sent this HCP out for public review with Tiers 5 and 6 mitigation lacking any real information to even comment on. Regarding Tier 5 bat take:

1.) The applicant proposes that their contribution of $2,750,000 toward Trust for Public Land-orchestrated purchase of four parcels valued at $13 million should somehow count as offsetting the wind farm's take of 55 endangered bats. The wind farm's contribution to the overall purchase constitutes approximately 521 acres. There are many reasons this proposed mitigation does not offset take of a single bat, let alone 55 bats. Kahuku Wind Farm's radio telemetry bat tracking indicates the average core area used by a male Hawaiian hoary bat (the 50% kernel where the male bat spent 50% of the time) is 2,967.5 acres. To constitute mitigation benefit, an explanation of the anticipated benefits would need to be provided. The HCP claims the land is threatened by development, but the two preservation-zoned parcels are not threatened with development because they are preservation-zoned. Two fallow agricultural-zoned parcels are zoned agricultural and if there were any agricultural subdivision the lot size would be large and the radio telemetry studies done to date indicate the endangered bats spend most of their time feeding in grazed grassland, gulches, macadamia nut

orchards, and low-density developed areas. This land transfer does not increase the grazed grassland, gulches, or low density developed land, so there really doesn't seem to be any benefit to a bat from this land transfer. At the Helemano ESRC site visit, many of the ESRC members voiced their concerns the Applicant failed to connect the dots between the land purchase and assessment of benefit to the bat.

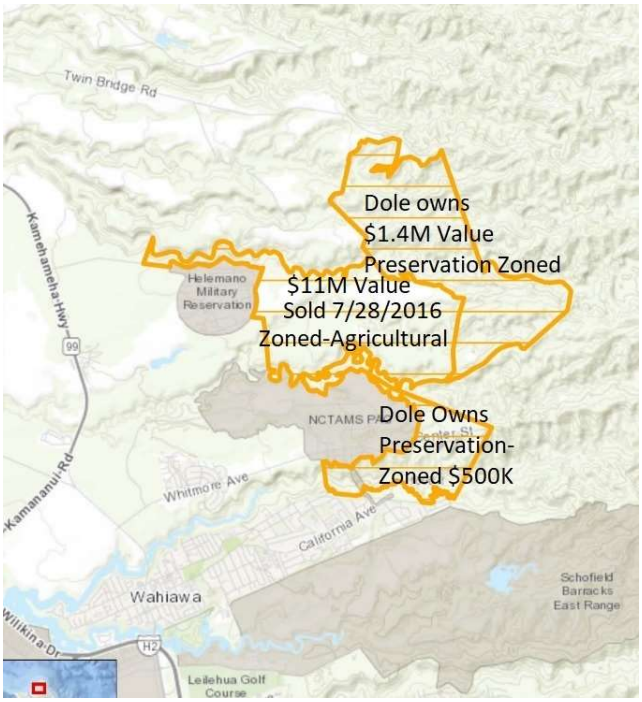


Figure 1. Helemano mitigation site property values recorded by County.

2.) The spinning blades of five of the Kawailoa Wind Farm's turbines are visible just across the slope from the mitigation site – the territory of a bat living at the mitigation site would likely span to the wind turbine locations where it would be killed at night by a spinning turbine blade. The wind farm is three miles from the mitigation site – the bat biologist said it's nothing for the Hawaiian hoary bat to fly 10 miles to skim fresh water ponds to drink water. The proposal to "improve" habitat in Waimea Valley (immediately adjacent to the wind farm makes no sense for two reasons – first, take approval could not be made until the habitat improvement method is elucidated – second, if there was an insect host plant that could be outplanted to produce so much insect food it would boost bat reproduction so they produce more pups to offset the effect of the taking to the Oahu bat population, it would make no sense to plant it in Waimea Valley – because you would be attracting bats from far and wide to come forage where they too would be killed by the wind farm.

3.) Not that the applicant has proposed to do any active management known to help the bat at Helemano (because no one seems to know what can be done to boost bat

numbers to offset take), but it's worth noting the removal of ungulates from the preservation-zoned Helemano land, if it were done (to benefit forest birds for example), could reduce bat occurrence because ungulates are associated with increased abundance of bat insect food such as dung beetles, and a reduction in the mosquito population (though not a primary food source for the bat) would not be expected to help the bat.

4.) The HCP fails to include meaningful measures of success with respect to Hawaiian hoary bat mitigation, and in this respect is not compliant with **HRS § 195D-21(b)(2)(G).**

5.) Most of the measurements of success in the HCP cannot be said, when achieved, to contribute to the survival or recovery of the Hawaiian hoary bat. There should be meaningful measures to determine whether the mitigation measures are successful in contributing to the survival and recovery of the Covered Species.

6.) Incidental Take License decisions are based on the best available information – in this case, information needed by the ESRC to confirm the benefits of the mitigation to the endangered bat, so that a license can be granted, is not available. Since the wind farm will not receive an incidental take license without the missing information, it makes sense that the wind farm would fund the necessary research needed to support an HCP that will meet the various requirements of **HRS § 195D**. At the site visit, one of the wind farm's consultants asked the DLNR staff if section 6 (USFWS Habitat Conservation Planning Assistance Grant?) funding was available to do this needed research. Because it sounds like that funding is not readily available, it seems like the wind farms would want to move forward as quickly as possible funding the research themselves.

The Kahuku Wind Farm's bat researcher presenting at the January ESRC meeting indicated new technology (microphones, longer-lasting tracking devices with smaller batteries) had been created by DOE and was being put to use for bat research on the mainland – so the answers about whether predators are causing bat mortality, and more refined answers about bat habitat use and feeding location and frequency could be obtained by funding implementation of the new DOE device technology in Hawaii. Additionally, bat guano collected by the Kahuku Wind Farm by their bat research team, could be analyzed to ascertain the composition of the bat's insect food (to elucidate whether outplanting food plants or otherwise supporting populations of certain insect species (for example supporting ungulate populations because their dung feeds the insects bats eat) could boost bat reproduction to increase bat numbers commensurate with bat take at the wind farm. According to the bat presentation at the January ESRC meeting, some bat species are known to fly over big areas to forage in a tiny food-rich area and not defend the big area but defend the food area fiercely. Tracking bats outfitted with microphones will tell you when and where the bats are feeding so you can figure out what's important and make more of it for the bats. If bat survival or

reproduction is food-limited this type of research could yield a mitigation method. If bat survival and reproductive success are driven by predator impacts, presumably the microphone would capture the sounds of the predator capturing and killing the bat. It does seem odd bat feeding frequency is so high after pups fledge and then it seems to decline until pups fledge again – are the pups being killed by something?

7.) The applicant vaguely proposes ungulate removal, native forest management, and research to offset take of the bats but the evidence does not support concluding these actions will help bats. Monitoring indicates removal of ungulates and native forest restoration harms bats more than it helps them (Todd et al 2016: USGS Technical Report HCSU-078 ACOUSTIC SURVEYS OF HAWAIIAN HOARY BATS IN KAHIKINUI FOREST RESERVE AND NAKULA NATURAL AREA RESERVE ON THE ISLAND OF MAUI Christopher M. Todd, Corinna A. Pinzari, and Frank J. Bonaccorso). Granted, forest birds are helped by ungulate removal because the birds prefer native forest habitat without mosquitoes – but bats don't seem to favor hunting in forested areas (though the albizzia forest at Helemano looked like it had such an open canopy structure it could be suited to bat feeding) - maybe the bat population is supported by the ungulate population and the related dung beetles and mosquito food and maybe erosion increases creation of gulches preferred by bats. Research will only help bats if the wind farm implements the results of the research – research in and of itself does not benefit even one bat. Capturing bats in nets, which is often a component of research, injures them (comments concerning the injury caused by the current tagging method by the Kahuku Wind Farm's bat biologist at the January 24, 2019 ESRC meeting are troubling – why is the safer method favored by this biologist not being used).

Take Avoidance Incidental Take License Requirements Not Met HRS § 195D-4(g)(1), HRS § 195D-21(b)(1)(A), and HRS § 195D-21(b)(2)(F): Because we now know (as of 2016) it's not reasonable to conclude that bat mitigation is helping bats – and it may hurt them further (as noted above), the bat take must be avoided to the maximum extent practicable. (IF mitigation were effective at replacing lost bats, the wind farms could take as many bats as they wanted to mitigate for (plus one)). To avoid bat take, the wind farm must immediately increase low wind speed curtailment at night from its current 5.0 m/s to 8 meters/second until such time as a mitigation method is developed so an incidental take license can lawfully be approved (or deterrents become fully successful at preventing bat take).

1.) By providing for night-time low wind speed curtailment (LWSC) at 5.0 - 5.2 m/s), instead of 8 m/s (18 mph), the HCP fails to minimize impacts to the Hawaiian hoary bat to the maximum extent practicable as required under HRS § 1954(g)(1). Increasing low wind speed curtailment to approximately 8 m/s, rather than 5 m/s, would minimize impacts to the maximum extent (Figure 2). It is clear as day that increasing the curtailment wind speed to 8 m/s, rather than 5 m/s would significantly reduce bat take. This conclusion is self-evident.

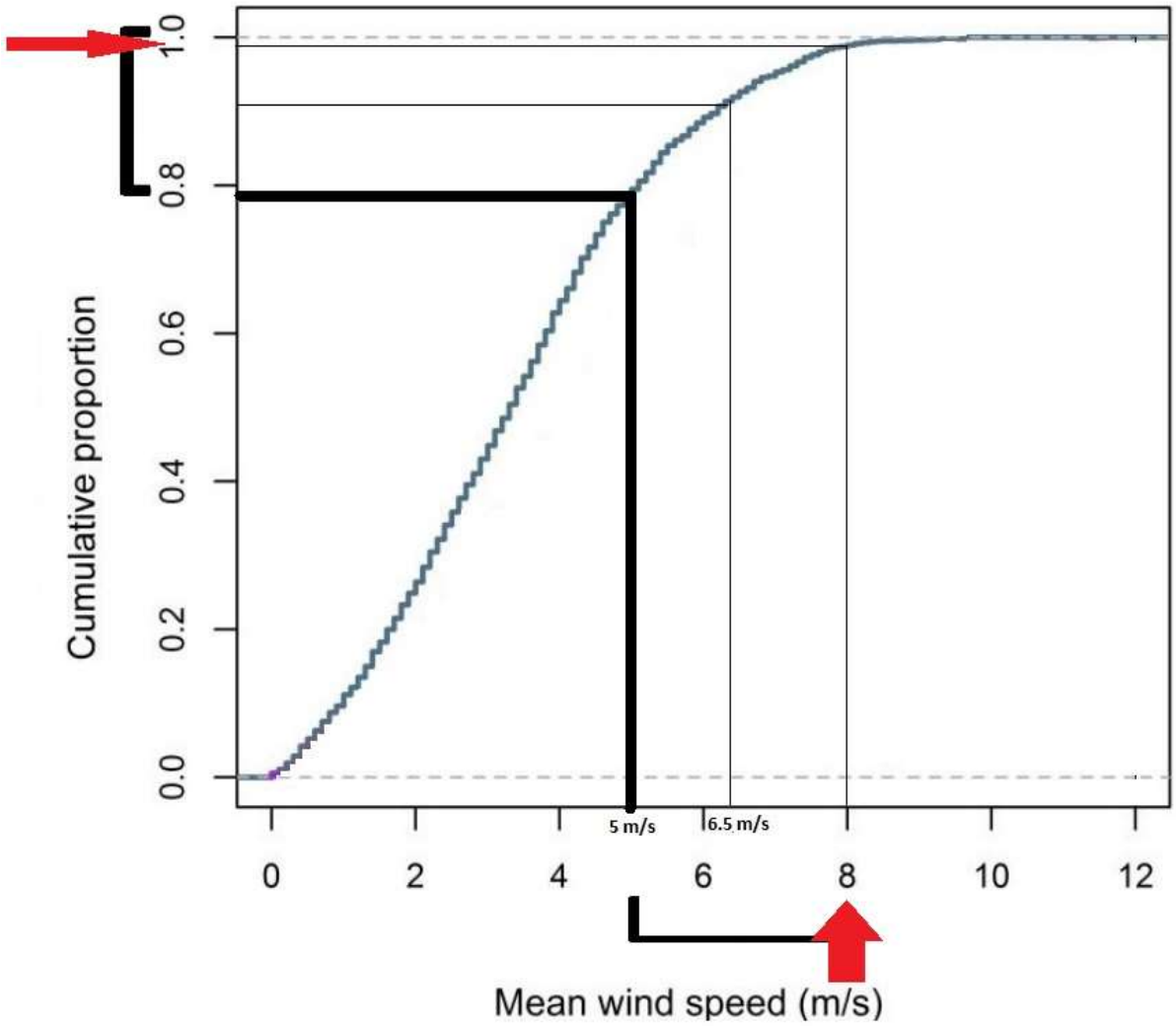


Figure 2. The relatively large, strong-flighted Hawaiian hoary bats are detected flying around wind turbines at Kawailoa Wind Farm at average wind speeds up to 12 meters/second. And it looks like more than 99% of bat detections at the nacelle were when winds were approximately 8 m/s or lighter (red arrows). By implementing low wind speed curtailment of approximately 8 m/s instead of the proposed 5 m/s, Kawailoa Wind Farm would reduce bat take to the maximum extent during this interim period when research is elucidating an effective mitigation method. Graph adapted from Gorresen et al 2015, Figure 19 https://dspace.lib.hawaii.edu/bitstream/10790/2585/1/TR64_Gorresen_Bats_Final.pdf.

2.) The facts do not support the developer's assertion the wind farm would not be financially viable if it had to shut down at night. A recognized method used to assess financial viability in relation to the maximum extent practicable standard is the independent audit (supervised by the wildlife agency; funded by the developer). I know of no other way to assess maximum extent practicable in a professional, durable,

reliable way. Unless the ESRC rejects the license application on the "net benefit" to the bat standard on its own, the decision would be based on this "maximum extent practicable" standard. DLNR ESRC staff or the ESRC's economist member need to oversee a formal audit of Kawailoa Wind Farm's financial information to independently assess the profits the wind farm would have under a night-time shut down scenario. Because of their bankruptcy reorganization and their $0.22/kwh power purchase agreement, it would seem there would be no wind farms in the State MORE financially able to shut down at night than Kawailoa, Kahuku, KWPI, and KWPII. Maximum extent practicable is a financial assessment in which the wind farm is compared to other wind farms in relation to profit. The audit will inform the ESRC that the Kawailoa Wind Farm is the most profitable wind farm in the US (other than Kahuku, KWPI, and KWPII) and this wind farm can afford to shut down at night (and then some). If the applicant is making a financial case, they need to demonstrate they cannot afford more mitigation by substantiating the following: 1. Demonstrating that they can't increase the night curtailment to further minimize or avoid bat take), 2. Showing their books, which includes disclosing profits: A. currently; B. projected profits if the proposed HCP is approved/take license granted; C. projected profits with increased minimization (this would also apply in future amendments if a mitigation method is discovered and it's unaffordable to completely offset take); and 3. Demonstrating why additional mitigation or minimization measures would impair their ability to sustain a reasonably profitable business or put them at a significant competitive disadvantage to other similarly situated businesses. I believe these standards can't be met by Kawailoa Wind Farm – they can afford to shut down at night to avoid bat kills:

According to CNBC, Houston-based NRG Energy won an auction for bankrupt renewable power plant developer SunEdison's wind and solar projects in Texas and other states with a $144 million bid (http://www.cnbc.com/2016/09/13/nrg-energy-wins-auction-for-sunedison-wind-and-solar-projects.html). At an average rate of $120,000 per nameplate MW, the four Hawaii wind farms portion of that purchased portfolio (Kahuku Wind Farm and Kawailoa Wind Farm on Oahu and KWPI and KWPII Wind Farms on Maui) would have cost a total of $18 million (FOR FOUR WIND FARMS) and Kawailoa Wind Farm (alone) grosses an estimated $34 million annually (Kurt Tsue, HECO, 2018) (not including feed in tariff money received by the wind farm for each kwh fed into the grid). The applicant just went through a nationwide Chapter 11 bankruptcy reorganization to shed its debt obligations (we understand the wind farm's principal investor is the same – we understand he essentially bought the wind farms from himself for pennies on the dollar –Kawailoa's portion (69 MW nameplate at $120,000/MW) would have been comparable to an approximately $8 Million purchase price). The cost basis should be closely scrutinized because these wind farm investors seem to change the names of the companies holding the wind farm and "sell" or go through bankruptcy while the actual investor remains the same person the whole time. Operation and

construction of a wind farm on the mainland costs less than $0.06/kwh so to think an existing wind developer with a $0.22/kwh payment for each kwh fed into the grid, in addition to feed in tariff tax incentives, who has no debt can't possibly say they can't afford to shut down ½ the time. The Auwahi Wind Farm's representative told us at the Sunset Rec Center public scoping meeting that Auwahi Wind Farm's cost was $50,000 (in comparison to $8M for Kawailoa) and that construction of a new wind farm in Hawaii would make money with a Power Purchase Agreement of only $0.10/kwh (and Auwahi seems more familiar with community compensation and mitigation costs). The new wind farm proposed in Waianae also has a power purchase agreement of approximately $0.10/kwh.

Power purchase agreements are complex (as production increases, payments drop off), as are turbine energy production curves and the distribution of night-time wind speeds. Much of the data that will inform the independent audit, is probably proprietary information held by the wind farm. One would anticipate that if the wind developer were cooperative, an auditor would be able to spend two to four weeks in-house with the wind developer's wind data specialist, turbine manufacturer, and accountants, and those of the other wind farms (such as Auwahi Wind Farm, who spends much more money on mitigation and community compensation, for whom it would presumably be much less financially practicable to shut down at night) (presumably you are doing this audit of all wind farms at this point, now that mitigation benefits don't offset take, so maximum extent practicable becomes a financial assessment. If bat take were offset with mitigation (as you believed it was when these initial wind farm licenses were granted), this financial assessment of feasibility of take avoidance would not be needed).

3.) The applicant says the night-time shut down was not carried forward for consideration by Kawailoa Wind because full nighttime curtailment would reduce power generation such that Kawailoa Wind would not be able to meet the contractual obligations under the Project's Power Purchase Agreement (PPA) with the Hawaiian Electric Company (HECO), jeopardizing its continued operation. Page 20 of the HCP says "Even under its current LWSC regime of 5.0 m/s, Kawailoa Wind does not consistently meet minimum production requirements for its PPA in individual years. Therefore, this alternative would increase the risk that Kawailoa Wind would not meet the requirements under its PPA." **Response:** According to Kurt Tsue at HECO, the power generation in the PPA represents the Seller's estimate of expected annual average energy deliveries to Hawaiian Electric over the term of the Contract rather than a minimum requirement. Additionally, when the Public Utility Commission approved this power purchase agreement, they did not know (nor did you or anyone at that time) that the estimated production levels would conflict with state endangered species law – the power purchase agreement can certainly be modified – the power purchase agreements are

amended so frequently it's hard for me to keep track of them. If either HECO or the PUC fails to agree to modify the PPA, then HECO or the PUC would be responsible for the take – and they would need an HCP and ITL to avoid unlawful bat take and prosecution. When the initial incidental take license was authorized, the wildlife agencies had every reason to believe the bat mitigation would offset the bat take and, in any case, take of bats would be unlikely at this site. Kawailoa Wind Farm got their initial incidental take license based on the best available information and they're not going to get their requested amended license because they can afford to shut down at night to prevent further impacts to the Oahu bat population. Already because of climate change reductions in trade wind strength you're anticipating future declines in production. And, because you're already not meeting your power purchase agreement minimum PPA production (what you call) "requirements", this bat shut down just means you'll continue to not meet these initial estimates (protecting endangered bats is just one part of the reason).

4.) The applicant calculates night shut down would reduce annual energy production by approximately 45 percent, resulting in an annual power generation loss on the order of 61,000 megawatt hours per year. The applicant claims revenue losses under full nighttime curtailment would render the Project commercially unviable, forcing Kawailoa Wind to cease operation. **Response:** The ESRC or DLNR staff must supervise an independent audit to elucidate just how much profit this wind farm will continue to rake in, even with the shut down at night to prevent bat kills, in relation to the Auwahi Wind Farm (which may set the standard for maximum extent practicable with their hefty price tag). A spreadsheet, populated with the readily available publicly available information, is attached to give you a sense for the vast profits this wind farm is raking in at the expense of Hawaii's endangered species. Unless the UH economist on the ESRC has a lot of time on her hands to do the audit, the wind farm would fund the DLNR-staff-supervised financial audit regarding maximum extent practicable. Base your decision on data and comparisons among wind farms.

5.) Additionally, **HRS § 195D-21(b)(1)(A)** requires that the HCP further the purpose of HRS Chapter 195D by protecting, maintaining, restoring, or enhancing identified ecosystems, natural communities, or habitat types upon which endangered, threatened proposed or candidate species depend within the area covered by the plan. The HCP fails to minimize impacts to the Hawaiian hoary bat to the maximum extent practicable, and, therefore, is failing to protect and maintain the habitat used by Hawaiian hoary bat (i.e., the Project area) as required by law.

6.) The ESRC and Board's failure to conduct an audit for Na Pua Makani Wind Farm and to instead rule the wind farm was minimizing take to the maximum extent practicable by implementing 5 m/s curtailment because shut down at a higher wind speed would pose a "significant economic problem for the applicant" (even though the Power Purchase

Agreement could be renegotiated) and took the applicant's word for it that "the project needs to generate close to the anticipated power output to be economically viable" and assertions that many of the wind facilities in Hawaii are "at the edge of being profitable". The Board of Land and Natural Resources itself admitted that "without more information this statement cannot be given great weight". Ridiculous that any weight is given to this hand-waiving. There are huge public costs associated with Kawailoa Wind Farm pumping $0.22/kwh power into the grid – it's among the most expensive sources of power on Oahu and it's caused our utility bills to increase. Every moment this wind farm is shut down – day or night – saves ratepayers. We are pro-solar and pro-battery storage. Not that this affects your decision, but we are close friends with two families with homes on the rim of Waimea Valley in Pupukea who are awakened at night by these noisy turbines. Night-time shut down these next few years while bat mitigation is researched will not just protect the endangered bats (as required by law), it will benefit ratepayers island-wide and it will give our friends a few years of restful sleep.

Because of the less than robust analysis combined with the limited information available about Hawaiian hoary bat populations on Oahu and statewide, it cannot be determined with confidence the Project will not jeopardize the continued existence of the bat pursuant to HRS § 195D-21(c)(1). The DLNR must complete a jeopardy assessment and make a determination based on the best available information (including information that is available to the ESRC that is not yet publicly available). Because the requested take level is so high in relation to what the presumably low population of bats on Oahu and on nearby islands, without mitigation, the proposed taking presumably jeopardizes the continued existence of the endangered bat species. **The minimization and mitigation measures proposed in the HCP do not increase the likelihood of survival and recovery of the Hawaiian hoary bat HRS § 195D-4(g)(4).**

Given the recent realization that mitigation that was expected to benefit the endangered bat may be hurting them more than it is helping them, and the limited information available about Hawaiian hoary bat populations on Oahu and statewide, the ESRC is unable to adequately assess the cumulative impact of the requested take of the Hawaiian hoary bat as required by HRS § 195D-4(g)(5).

The HCP is non-compliant with HRS § 195D-21(b)(2)H) because the HCP fails to provide an enforceable adaptive management strategy for revising mitigation measures when new information supports alternative mitigation measures.

Post-Construction Monitoring: The ESRC members appear to already realize the ballistics model does not support post-construction monitoring plots that have a smaller diameter than the turbine blade length. This point is moot, because night-time operation and bat take will cease because the wind farm will not receive this requested incidental take license to kill bats, but when the applicant returns after a mitigation method is developed, one assumes the mitigation will be very expensive to implement to offset take of even one bat, so it will be cost-

effective to reduce uncertainty associated with post-construction monitoring. If the applicant did a better job of monitoring for dead bats (for example by searching more frequently, searching the full rotor-swept area diameter), the level of assessed take wouldn't be so high. Along the same lines, presumably use of the deterrent, to reduce bat kills, will also be a cost-effective method to reduce take but it's worth noting there is no reason to implement the deterrent this summer because the turbines will be shut down at night until bat mitigation is devised/proposed so bat take can be authorized.

Best Available Science HRS § 195D-21(c): The Applicant failed to use the best scientific and reliable data in assessing impacts and mitigation as required under HRS § 195D-21(c) by failing to recognize the validity of the Kahuku Wind Farm's bat research regarding the bat's 2,967.5-acre core area and instead, in Draft HCP section 7.6.3.3 asserting protection of 7 to 20.3 acres offsets take of one bat by limiting data to a study that apparently had limited radio telemetry line of sight "visibility" in a rain forest area of Hawaii Island. Setting aside the problem that transferring land title ownership does nothing to help the bat, it's blatantly evident to the casual observer that if there were one bat per seven or 20.3 acres, Oahu would be choke full of bats – the bat wouldn't be rare and endangered. I've never seen a bat on Oahu and my wife who commutes home in the early evening, has only once seen a bat. Bat densities may be high in some areas of Hawaii Island, but no one in their right mind would ignore the Kahuku Wind Farm's bat research findings regarding bat home range size.

HRS 195D doesn't seem to have mechanisms for approval of endangered species killing because some political leader or appointee received financial backing from the developer or the will of green energy advocates (who don't realize you're considering authorizing killing more bats than it seems populate Oahu – for what - for less than 1% of Oahu's energy production). When you deny the bat take license application, you know the wind farms will scramble to do the research so in a few short years you'll be able to have the wind energy your boss or political supervisor want with the benefit that the wind energy production will be consistent with endangered species law. The financial audit will open your eyes to how little the research cost is in relation to the profits they'll lose in a night-time shut down and, importantly, denial of the license to kill bats will bring a shift in research from whatever the ESRC and bat committee happens to approve… to actual concerted effort motivated by massive profit to find a bat mitigation method. The wind developers (since there are several currently in the same boat) will closely coordinate to get the research done efficiently rather than wasting millions of dollars on studies that have little potential to inform mitigation. Approval of the permit would do a disservice to Hawaii's alternative energy future because this 'lack of bat mitigation' problem won't just go away for future wind developers. **By following the law in this manner, you'll remove the bat-related licensing uncertainty and end up boosting the future investor interest in Hawaii wind development.**

Require Kawailoa Wind Farm to shut down at night when winds are 8 m/s (18 mph) or lower to avoid killing bats until research by the wind farms or other funders enables development of a

method to measurably boost bat survival or reproduction to offset bat take. Absent information supporting the benefits of a mitigation proposal, no bat take license can be granted. The applicant can return for a bat take license when they're able to update their HCP to meet the standards of HRS 195D. Until then, no bats may be killed because it is practicable, as outlined above, for Kawailoa Wind Farm to shut down at night to avoid bat kills.

Thank you,

[redacted]

Maximum Extent Practicable Spreadsheet for Financial Audit of Wind Farm Profits in Relation to Night Curtailment to Avoid Killing Endangered Bats Until Mitigation Method is Confirmed

							Auditor needs to Refine/confirm	Auditor needs to Refine/confirm			Auditor needs to Refine/confirm						
	Nameplate MW	nameplate annual MWH	MWH/Yr (based on information from (from kurt.tsue@hawaianelectric.com)) (Auwahi based on draft EA: page 1-5 https://ecos.fws.gov/docs/plan_documents/neas/neas_1009.pdf)	% of nameplate	kWH/yr	MWH/MW nameplate	PPA / KWH (from kurt.tsue@hawaianelectric.com), Auwahi from : https://energy.ehawaii.gov/epd/public/energy-project-details.html?rid=5b--586505c8e79c390 but it's more nuanced: page 8	**Gross Receipts/Year**	Gross/Turbine/yr	20 yrs - Gross receipts 20 years	Wind Farm Total Costs (An independent Auditor needs to be supervised by DLNR, funded by the wind farms, to populate this column): Construction/Purchase Price (bankruptcy for first wind ones) + operations costs (turbines are leased - is lease pre-poaid or still due for the First Wind ones?)	Calculated: Number of Years to Pay For Wind Farm Construction/Operation	Result of calculation: profit/mwh/20 years	% of profit needs to forego to be same profit as Auwahi	% of profit wind farm could forego to be same profitability as mainland wind farms, even when there is no take of endangered species.	The Audit must include an assessment of how much of the income occurs at each wind speed - like in tab 2 of this spreadsheet) to populate this column - What this means - re. maximum extent practicable	# years remaining with night-shut down
Kahuku (higher wind area)	30	262800	82,974	0.316	82,974,000	2765.8	0.20704	**$ 17,178,937**	$ 572,631.23	$ 343,578,739	$ 14,000,000	0.81	$0.199	42%	80%	shut down at 12 m/s	13
Kawailoa (lighter wind area)	69	604440	154,590	0.256	154,590,000	2240.434783	0.22064	**$ 34,108,738**	$ 494,329.53	$ 682,174,752	$ 24,000,000	0.70	$0.213	45%	81%	shut down at 12 m/s	13
Na Pua (estimated) (higher wind	25	219000	69145	0.316	69,145,000	2765.8	0.15	**$ 10,371,750**	$ 414,870.00	$ 207,435,000	$ 24,000,000	2.31	$0.133	13%	70%	shut down at 8 m/s	20
Auwahi	21	183960	78,500	0.427	78,500,000	3738.095238	0.21158	**$ 16,609,030**	$ 790,906.19	$ 332,180,600	$ 150,000,000	9.03	$0.116	0%	66%	no shutdown	13
Waianae																	
Mainland Wind Farms												Estimated	$0.04				
82,974 MWh for Kahuku Wind and 154,590 MWh for Kawailoa Wind.																	
Both Kahuku Wind and Kawailoa Wind have annual contract energy amounts specified in their PPAs that represents the Seller's estimate of expected annual average energy deliveries to Hawaiian Electric over the term of the Contract. Those figures are 82,974 MWh for Kahuku Wind and 154,590 MWh for Kawailoa Wind.																	

North Shore Oahu Member of the Public Draft HCP and PEIS Public Comments

Appendix B:

My 2018 PEIS Scoping Comments to USFWS for Amendment to Wind Farm Bat Incidental Take License, Letter from North Shore Surfers asking for Turbine Shut Down when swells is 8-ft, 14-seconds or higher to conserve off-shore wind conditions

Wind Energy HCPs and PEIS Scoping - comment from the public

[redacted]

Fri 6/29/2018 7:16 AM

[redacted]

3 attachments (15 MB)

North Shore Surf Wind Farm Letter March 2017.pdf; Wind Farm Wake Turbulence Number of Hours Swell and Wind Data June 2018.xlsx; North Shore Wind Farm Carbon Offset Math June 28 2018.xlsx;

Thank you for the opportunity to contribute to EIS "scoping" for the Kawailoa Wind Farm in addition to three other Hawaii wind farms with high levels of proposed take of endangered bats and other endangered species. Your public comment period was announced in the Federal Register, with comments due July 2 to hiwindpeis@fws.gov.

1. 1.) Please include a solar PV alternative to the Kawailoa Wind Farm – disclose the number of acres of solar with battery or hydrogen storage (for night-time energy generation), situated where rainfall exceeds 20 inches of rain per year so guinea grass could grow under the PV and be grazed by livestock (also beneficial to the Hawaiian hoary bat) that could be implemented to produce power instead of these harmful wind turbines.

2.) 2.) Please disclose the opportunity cost of getting energy from wind farms instead of burning liquefied natural gas or coal and using the excess money that would be left over to pay for planting trees like Koa (that live a long time and that the products made from them last 100 years) to sequester carbon. The math done by my wife indicates the carbon offsets would be 20- to 36-times more carbon sequestered than burned if we were not throwing our money away by giving it to these wind farms. Kawailoa Wind Farm grosses $34 million dollars (and electricity from conventional sources would only cost $7.7 million; the excess $26.3 million per year is enough to offset the carbon from the conventional energy 27 times over (at a rate of $0.6 to $1.2 million per year). Or that $26.3 million would almost double DLNR's $33 million current statewide annual budget. You can get cost and power production data from Kurt Tsue at HECO and there are links to data at https://hawaiiwindfarminfo.com/2018/06/17/better-off-burning-coal/.

2. 3.) Please disclose the adverse effect of night-time noise Kawailoa Wind Farm to the residents along the rim of Waimea Valley at Pupukea and require the adverse noise effects be eliminated by shutting the wind turbines down when the conditions for causing the adverse noise occur. Don't discount the noise by saying it meets Health Department L10 45 decibel requirements – because a noise environment of L10 45 decibels is still a sleep disturbance, even if it is legal. Install a noise meter at a resident's house to correlate the resident's noise concern with data and wind and other weather conditions occurring when the noise is a problem for the residents (at Kawailoa Wind Farm is sounds like it's a problem when the wind shifts and the turbines are upwind from the residential area). Then either disclose the adverse noise effect or require the wind turbines be shut down to avoid the adverse effect. John Amundson and his wife offered their yard for installation of the noise monitoring equipment john@amundsoncustoms.com.

3. 4.) The Kawailoa Wind Farm adversely affects Native Hawaiian cultural sites and practices in Waimea Valley. Kawailoa Wind Farm promised the community they would fund community projects and that program seems to have not occurred – Kawailoa Wind Farm should fund a $1 million/year grant program to fund Native Hawaiian cultural projects via an application process.

5. 5.) Please shut the turbines down at night at all of the Hawaii wind farms until either A.) a deterrent is implemented that prevents endangered Hawaiian hoary bats from being struck by the spinning blades or B.) the applicant proposes to implement mitigation that will offset the effect the bat deaths would have to the bat population. Currently, the greatest threat to these bats appears to be Hawaii wind farms, removal of ungulates from bird conservation areas, and use of insecticides on agricultural crops. Purchasing land to conserve a species that will be extirpated by wind development is hardly helpful to the bats. Wind farms can propose to conduct research first, and then if the research elucidates a method that would increase the bat population to offset the wind farm bat killing, then the applicant can come back to request a permit to take bats. The proposed permits would allow a level of endangered species mortality that is approximately ½ the number of endangered animals killed in the Exxon Valdez disaster – including hundreds of endangered Hawaiian hoary bats for which there is no known method to offset the take. What's imperiling the endangered bats is wind farms (and possibly rat predation and possibly agricultural pesticide spraying) - you can't authorize killing the bats and offsetting the death by conserving agricultural land where the pesticides are sprayed; all the dead bats won't benefit one iota from establishing more forest or conserving forest because there's plenty of habitat - what there's not, because in large part of your prior authorization of these wind farms, is living bats.

6. 6.) Please shut the Kawailoa Wind Farm turbines at night to avoid take of the Hawaiian hoary bat (and to save rate-payers from the exorbitant $0.22/kwh payments) until one of the above conditions (mitigation or deterrent are confirmed). Kawailoa can certainly afford to be shut down half the time because they purchased the wind farm in bankruptcy and the NY bankruptcy supervising attorneys were told about the anticipated need for the Hawaii wind turbines to be shut down to conserve the sensitive environment going forward. According to CNBC, Houston-based NRG Energy won an auction for bankrupt renewable power plant developer SunEdison's wind and solar projects in Texas and other states with a $144 million bid (http://www.cnbc.com/2016/09/13/nrg-energy-wins-auction-for-sunedison-wind-and-solar-projects.html). At an average rate of $120,000 per MW, the Hawai'i portion of that purchased portfolio (Kahuku Wind Farm and Kawailoa Wind Farm on Oahu and KWPI and KWPII Wind Farms on Maui) would have cost a total of $18 million and Kawailoa Wind Farm (alone) grosses an estimated $34 million annually (see https://hawaiiwindfarminfo.com/2018/06/17/better-off-burning-coal/
links for Kurt Tsue, HECO, contact information). In addition to the $0.22/kwh payment from ratepayers, taxpayers pay an additional production tax credit for each kwh fed into the grid from Kawailoa. For comparison, the Auwahi Wind Farm representative said it cost $150 million to build and fund mitigation for wildlife and Native Hawaiian projects for the Auwahi Wind Farm project. According to Lisa Briggs, Regional Director, Sempra, representative for the Auwahi Wind Farm, Auwahi is considering construction of an additional wind farm at the Auwahi site and because the transmission line is already constructed, a $0.10/kwh power purchase agreement price (comparable with the cost of solar PV) is not out of the question. Another wind farm that's not pulling its weight in development cost (because it is being constructed right next to existing powerline infrastructure (and right next to residences to avoid the cost of constructing the long transmission line and without meaningful mitigation to protect the town from night-time noise and no meaningful funding of community and Native Hawaiian programs (so it can afford to shut down at night)) is the Champlin Na Pua Makani project in Kahuku – at $0.15/kwh should either shut down at night to avoid bat take, provide sizable community and Native Hawaiian mitigation, or re-negotiate their power purchase agreement. It's possible the Auwahi Wind Farm may not be able to afford to shut down at night to avoid bat take (because of their sizable transmission line costs and funding of meaningful Native Hawaiian community mitigation projects) but Kawailoa and Champlin certainly can afford to shut down at night (to prevent killing bats and to protect neighbors from night-time noise).

7. 7.) The wind farm also adversely affects easement access for adjacent property owners. Contact me for contact information for my wife Dawn Bruns' friend Dave's contact information so you can obtain details of the blockage of the easement access.

8. 8.) Remove the three turbines at the front of Waimea Valley and replace them either with turbines farther up on the hill or replace them with solar PV with hydrogen or battery storage.

9. 9.) I've been studying wind turbine effects to air turbulence, and in this reading, I'm learning that when the air is near its dew point, increase condensation and precipitation are caused by wind turbines, so there is the potential for the dried out air on the leeward side of wind farms to be warmer than it would have been without the wind farm (similar to how hot it is on the leeward side of mountains after the water is removed from the air). So Haleiwa and Wailua average temperatures may actually be increased due to the Kawailoa Wind Farm. I assume Waianae is not affected because the air cooling/precipitation as it crosses the mountains would exceed that caused by the wind farm. Disclose the adverse effect the wind farm has to the downwind neighborhoods of Haleiwa and Waialua – when the air is near its dew point, the wind turbines' affect on the air increases rainfall and the dryer air is warmer – the conditions when this occurs are probably infrequent, but still, the frequency of this occurrence of increased precipitation and increased air temperature in Haleiwa and Waialua should be disclosed to the public. In addition, the turbines reduce wind speed (and cooling) for the residents of Haleiwa and Waialua – this adverse effect should be disclosed.

10. 10.) Unfortunately, First Wind's consultants appear to have misled the agencies and the public regarding the adverse effect of Kawailoa on our views. They used a wide-angle camera lens in their rendering of the Waimea Valley view. At night, the red blinking lights make the site look like an oil refinery industrial area, and during the day the turbines are visible from the ocean areas, from Pupukea neighborhoods, from Waimea Valley, and from Haleiwa, Waialua, Mokuleia, and Schofield Barracks.

11.) Please disclose the adverse effect the wake turbulence from the wind turbines has to the North Shore's offshore wind conditions and shut down the Kawailoa Wind Farm during the very few hours per year when the swell is larger than 10-feet, 14-seconds and the wind turbines are downwind from the very most critically important Waimea surf break when it is breaking. Normally, Waimea is adjacent to/upwind from the wind turbines – but when a cold front moves through and Kona wind conditions occur, the turbines are upwind from the Waimea surf break. Although Pipeline and Sunset Beach epic surf conditions occur when the swell size is 8-feet, 14-seconds, Waimea starts breaking at 10-feet, 14-second size/period.

Surfters are requesting implementation of the following wind turbine shut-down to conserve internationally-important offshore wind conditions when large swells are reaching the North Shore surf spots. The shut-down would affect the proposed Champlin (Na Pua Makani) Wind Farm 58-129 hours per year; Kahuku Wind Farm would be shut down an estimated 29-82 hours per year; and Kawailoa Wind Farm would only need to shut down approximately zero to five hours per year.

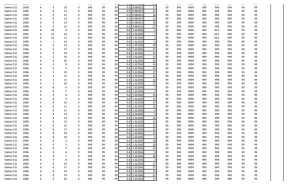
We request implementation of wind turbine shut down under the following conditions: "Feather wind turbine blades so the blades are oriented parallel to the wind, free-wheeling, not catching the wind, shut down, when the most recent NOAA reading on the Waimea buoy (Station 51201) is 8-feet, 14-seconds or higher and wind direction at the wind turbine is (see wind directions below) between sunrise and sunset when 10-minute average wind speed is higher than five mph. This action will conserve the clean offshore wind conditions for surfers at the Velzyland to Waimea Bay surf breaks. If the Waimea buoy is not operational, use the swell registered on the Kauai buoy (Station 51101) from five hours ago (because it takes approximately five hours for the swell to travel from the Kauai buoy to the North Shore surf breaks). To minimize the need for the wind farm to monitor surf buoy data until an automated system can be developed, an agreed upon designated representative from the surf community would email or text a designated wind farm representative to inform the wind farm at the beginning of periods when swell conditions reach 8-feet, 14-seconds or higher and at the end of the swell event."
Based on wave swell data downloaded from the buoy http://www.ndbc.noaa.gov/station_page.php?station=51201 and the wind direction data from James Campbell Refuge's weather station https://wrcc.dri.edu/wraws/hiF.html we've assessed the number of hours this North Shore wind farm shutdown would have been for four years (2004, 2005, 2006, and 2015, the strongest El Nino in the data (when we get big surf more often)). The proposed wind turbine shut down would have resulted in this many hours of wind turbine curtailment:

Champlin (Na Pua Makani): shut down during the day when wind direction is 86 to 111-degrees, over 5 mph, to conserve V-Land to Pipeline when swell is 8-ft, 14-seconds or larger): **Oct 2004-Sept 2005:** shutdown would have been 69 total hours; **Oct 2005-Sept 2006:** shutdown would have been 58 total hours; **Oct 2006-Sept 2007:** shutdown would have been 60 total hours; **Oct 2015-Sept 2016:** shutdown would be 129 hours.

Kahuku Wind Farm: shut down during the day when wind direction 86-100-degrees, over 5 mph, to conserve V-Land to Sunset Beach when swell is 8-ft, 14-seconds or larger): **Oct 2004-Sept 2005:** 29 total hours; **Oct 2005-Sept 2006:** shutdown would have been 49 total hours; **Oct 2006-Sept 2007:** shutdown would have been 45 total hours; **Oct 2015-Sept 2016** (strongest El Nino in the data, when we get big surf): shutdown would have been 82 hours (a very important 82 hours – we would have been so grateful if these turbines had not been affecting our winds these hours).

Kawailoa Wind Farm: shut down daytime when wind direction 130-155-degrees to conserve Waimea Bay offshore Winds when swell is 10-feet, 14-seconds or larger (Waimea is not breaking at 8-feet, 14-seconds) and winds are stronger than 5 mph (because Kona winds are often light): **Oct 2004-Sept 2005:** shutdown would have been five total hours; **Oct 2005-Sept 2006:** shutdown would have been zero total hours; **Oct 2006-Sept 2007:** shutdown would have been one hour; **Oct 2015-Sept 2016** (strongest El Nino in the data, when we get big surf): shutdown would have been two hours.

Raw data for swell period and wind direction are attached and available online here:
https://drive.google.com/file/d/1SCXFF5SIcwG6A6gRIrkYim3F_if1ukdT/view?usp=sharing



Wind Farm Wake Turbulence Number of Hours Swell and Wind Data June 2018.xlsx

drive.google.com

This information is online: https://surfers4solar.org/wind_farm_shutdown_hours_per_year/ . More information including literature citations are available in the attached letter and online: www.surfers4solar.org. The wind turbulence is a greater problem for big wave surfers because they are exposing themselves to

dangerous conditions and wind consistency can be an important factor. Gusty winds can produce dangerous conditions. The wind turbulence from the Kahuku Wind Farm directly affects my surfing, tow surfing, and windsurfing at Phantoms and Backyards surf breaks where I have regularly surfed for 40 years. Please feel free to contact me for additional information about the wake turbulence effect. Wind turbulence sensors such as the https://www.vaisala.com/en/products/instruments-sensors-and-other-measurement-devices/weather-stations-and-sensors/wmt700 are also readily available - if you don't believe the wind turbine wake turbulence is occurring at North Shore surf breaks, establish wind sensors or consult the literature to enable your full disclosure of the effect. Regarding air temperature and onshore wind development, I feel the installation of solar PV is likely to reduce the temperature of the land and therefore reduce the development of afternoon onshore wind flow (which very adversely affects the wave face surf conditions) whereas the wind turbines exacerbate the development of onshore winds.

Thank you

[redacted]Sunset Beach North Shore Oahu Resident

North Shore Surfers

P.O. Box 704; Haleiwa, Hawai'i 96712
March 25, 2017

TO: Governor Ige, Hawai'i State Senate, Hawai'i House of Representatives, Hawai'i' PUC, Hawai'i DBEDT, Mayor Kirk Caldwell, Honolulu City Council, HECO, Senator Brian Schatz, Representative Tulsi Gabbard, Save the Waves Coalition and Other Surf Conservation Partners, and Federal and State Agencies Responsible for Environmental Analysis and Compliance of Wind Farms
CC: Na Pua Makani Wind Farm, Kahuku Wind Farm, and Kawailoa Wind Farm

Subject: Please Conserve North Shore Surf: Adverse Wind Farm Effects to Swells and Offshore Surfing Wind Conditions on the North Shore of O'ahu

Please employ your available means to minimize wind farm harm to North Shore O'ahu's surf conditions. Although our letter addresses adverse effects of wind farms to surf, the social and environmental injustices of BOEM's proposed Ka'ena Point (O'ahu North) and the proposed Na Pua Makani Wind Farm in Kahuku are of even graver concern than effects of those wind farms to surf. The North Shore's September 20 to April 20 surf season is internationally-renowned because our tropical waters receive ocean swells 80 percent of days and on 60 percent of those days, wave faces are groomed by offshore, easterly winds. Large floating wind platforms should not be permitted in North Shore waters (Figure 1) during surf season where they would diffract incoming ocean swells. Since 2005, engineering literature has documented turbulence in the air and increased ground temperatures extending more than 10 miles downwind from wind turbines; the air disturbances of the proposed, relatively inefficient, turbines far exceeds the relatively small amount of energy the turbine harvests. Wind turbine wake turbulence is a double-whammy to our offshore wind flow: it disrupts our prevailing east winds, and, by contributing to warmer land temperature, exacerbates development of upslope onshore winds that are extremely detrimental to surf conditions. To minimize these adverse wake turbulence effects to important offshore winds, any wind turbine situated upwind from a North Shore surf break should be required to shut down when ocean swells are reaching the North Shore (see Figure 1).

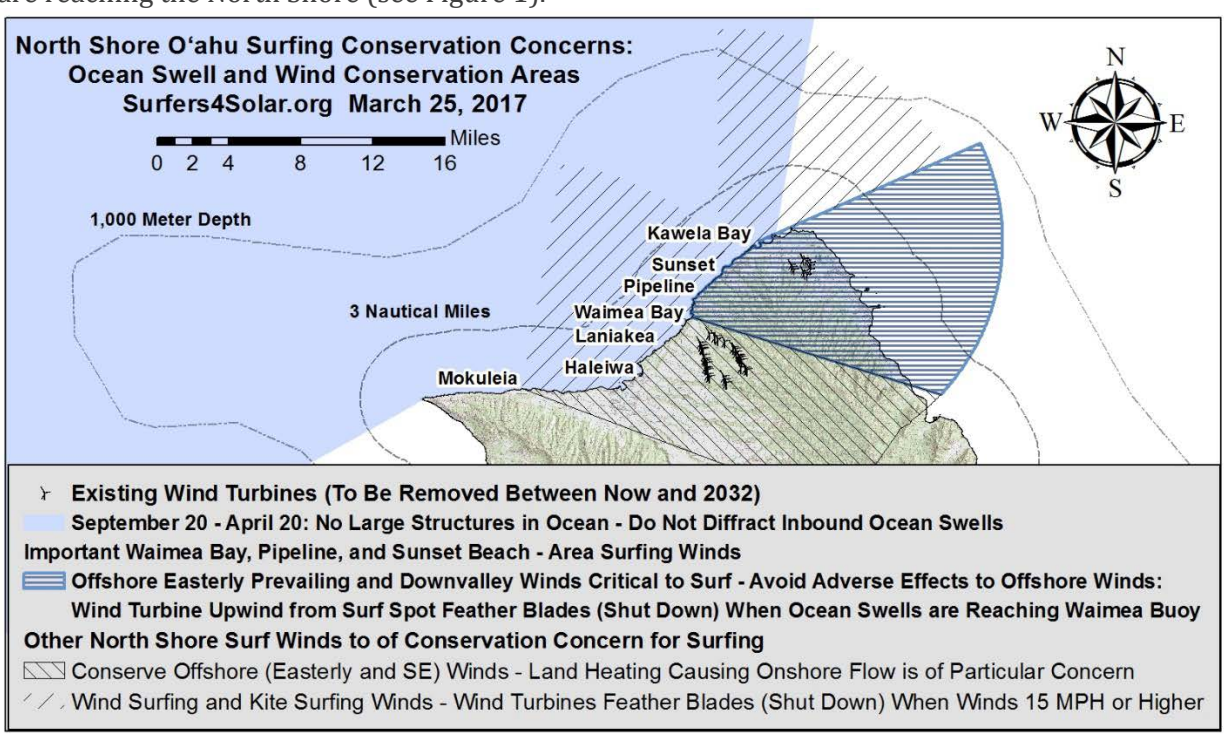


Figure 1. North Shore O'ahu areas of ocean swell and wind conservation needs.

Wave Disruption: In May 2016, the Bureau of Ocean Energy Management (BOEM) concluded North Shore waters are suitable for wind development and in July 2016, they offered "Oahu North" for wind farm lease development (Figure 2). The offshore wind farm leases under consideration would entail complex floating structures that would diffract waves (Figure 3, See Figure 1).

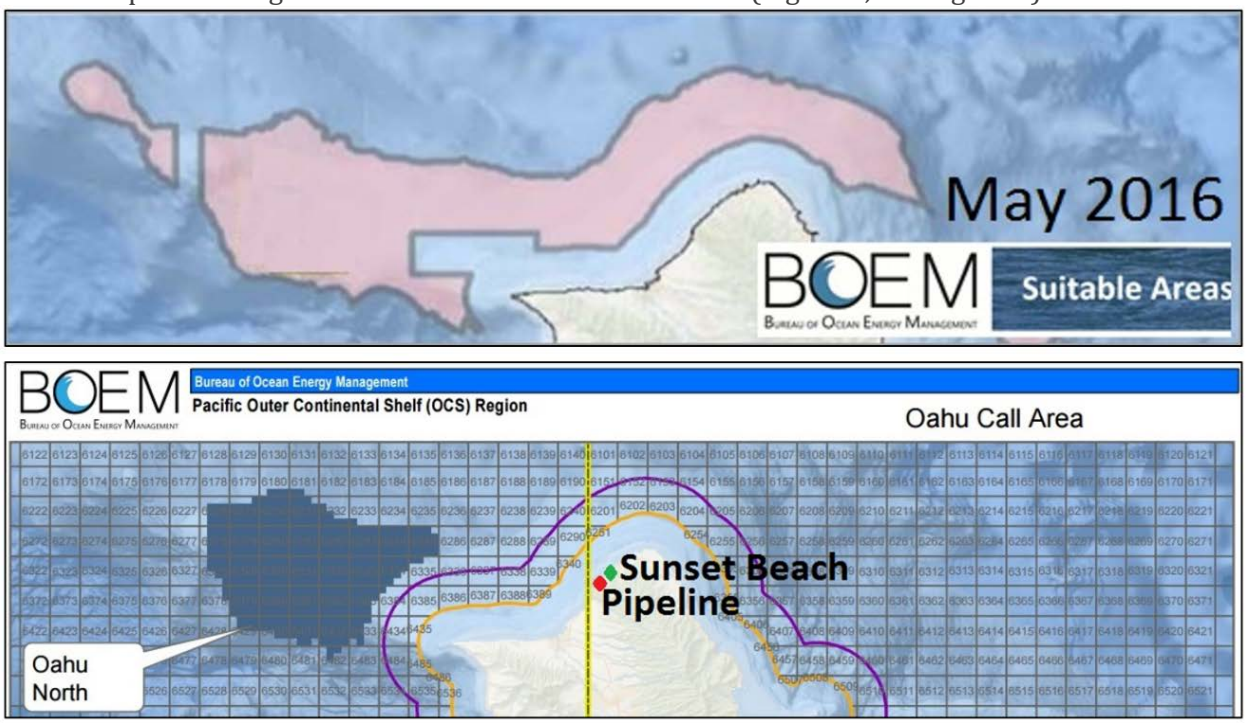


Figure 2. Ocean areas under consideration for BOEM wind farm development.

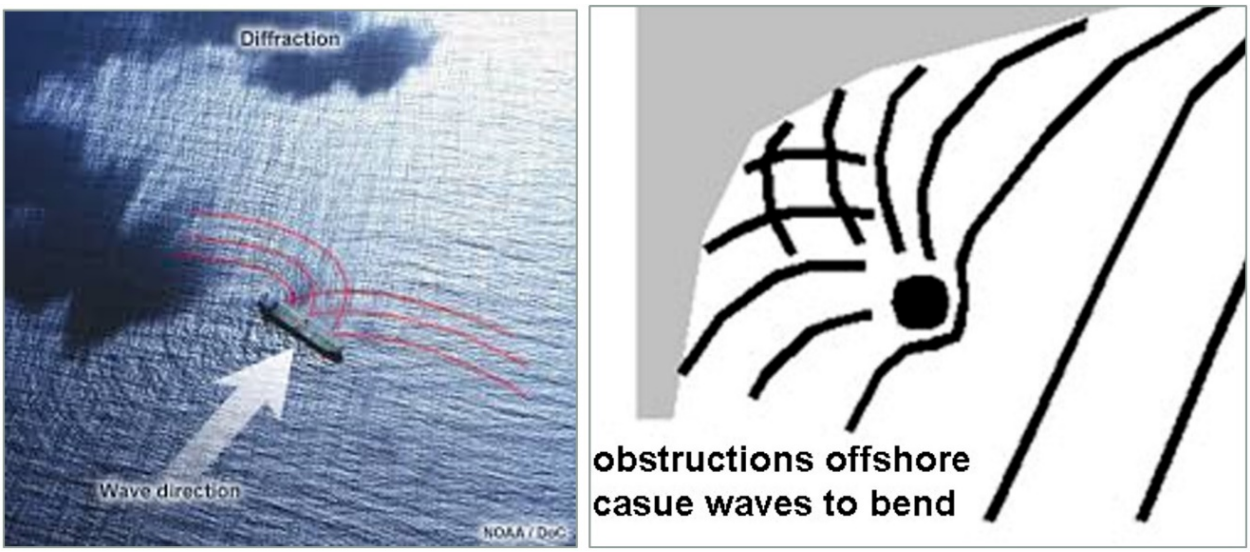


Figure 3. Large structures in the water would diffract incoming ocean swells.

Wind Farm Disruption of Offshore Winds: Downwind wake air turbulence of conventional, inefficient, wind turbines results in significant disturbance to downstream winds. Their air disturbance far exceeds the small amount of energy extracted by the wind turbine (Figures 4 and 5). Since at least 2005, scientific engineering journals have documented significant changes in wind speed and direction, increased air turbulence, and increases in on-land air temperature 12 miles and farther downwind from wind farms.

Figure 4. Wake turbulence, far exceeding the relatively small amount of energy harvested from these very inefficient wind turbines, extends more than 10 miles downwind from the wind farm.

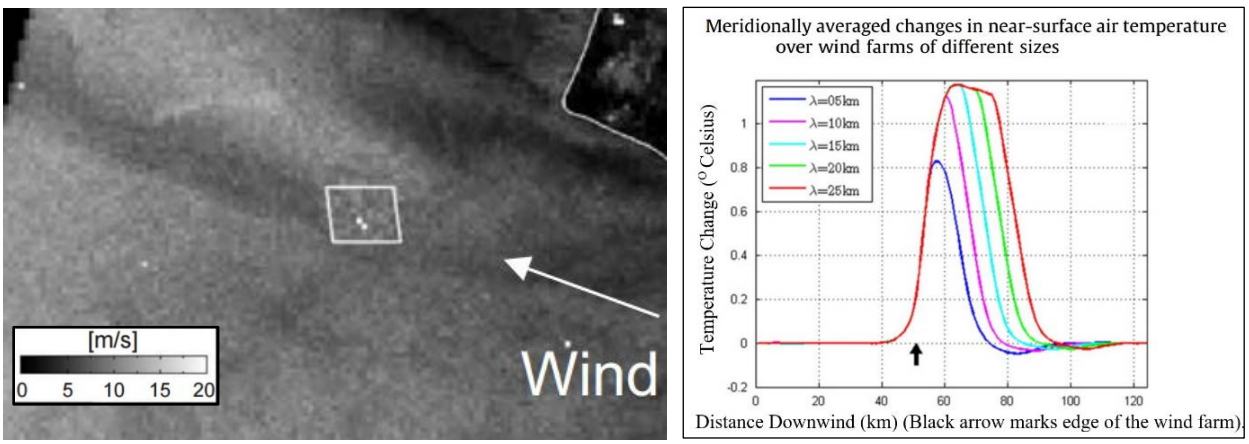


Figure 5. (Left) Wind speed [meters/second] map based on the ERS-2 satellite. The Horns Rev wind farm, Denmark is indicated (white trapezoid) and a wind wake is seen as dark pixels downstream of the turbines, 25 February 2003, wind direction = 110^0, wind speed 6.0 meters/second (m/s) (13 mph) (Christiansen and Hasager, Remote Sensing of Environment, October 2005). And (Right) "The typical length-scale of the wind farm wakes is approximately 20 km (12.4 miles) that is independent of the size of the wind farms as well as background meteorology." (Baidya, J. of Wind Engineering and Industrial Aerodynamics. In Press).

Offshore winds are important on the North Shore because they groom wave faces, hold wave faces up to allow them to build taller and steeper before they break, and contribute to hollow larger longer barrels. Onshore winds ruin surf conditions because they result in bumpy wave faces. The four year-old Kahuku Wind Farm (in full-time operation since February 2014) is disturbing the prevailing east (offshore) winds and increasing the prevalence of onshore winds at Sunset Point surf spots situated 3.4 miles downwind from the wind farm. Winds from 90^0, when the wind moves "behind the wind farm", are inconsistent, less filled-in, gustier, and more onshore when the wind turbines are operating. Sunset Point winds from 95 and 100 degrees directions are normal, unaffected, not "blocked" or disturbed by the Kahuku Wind Farm and cool down-valley air is not affected because wake turbulence stays offshore from surf spots. Review of data from the Federal, scientific-grade weather station located one mile east (upwind) from the wind farm (http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?hiHKII) confirms the east (90^0) winds are still there during periods they're disturbed at Sunset Point; therefore the degradation of the 90^0winds at Sunset Point can't be attributed to natural variability or climate change. The Kawailoa Wind Farm is having the same direct effect to offshore wind flow at Chuns Reef and Laniakea surf breaks

and the double-whammy is the wind farm's exacerbation of land heating in the development of onshore winds. The proposed Na Pua Makani Wind Farm would be five miles directly upwind from Pipeline (Figure 6), 58% taller than the largest Hawai'i wind farm, and with each rotor sweeping an area 1.8x (almost 2x) those of the existing Kahuku Wind Farm. Offshore winds are of critical importance to Pipeline, which is among the most important waves in the world. When we expressed concern regarding the adverse effects the Na Pua Makani Wind Farm would have to Pipeline's offshore winds, the wind developer refuted our concerns (March 7, 2017 Pacific Business News). Since these direct wind farm effects to wind flow and indirect effects to wind direction due to land heating have been documented in the literature since 2005, these adverse effects of Na Pua Makani to Pipeline's surf conditions would be expected even in the absence of local observations.

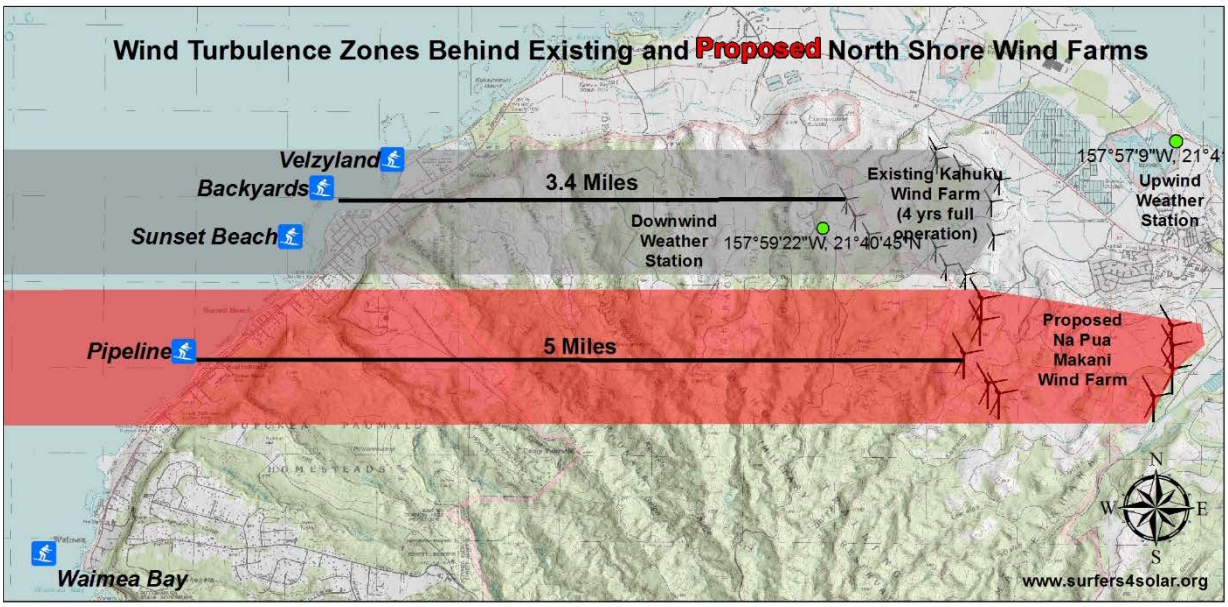


Figure 6. Surf breaks in relation to existing Kahuku Wind Farm and proposed Na Pua Makani Wind Farm wake turbulence and increased air temperature zones under prevailing east, 90^0, wind.

On March 15, 2017, Sunset Beach Community Association unanimously agreed to ask for a county law requiring wind turbines situated upwind from the Velzyland to Waimea Bay surf breaks (see Figure 6) to feather their blades so the blades are oriented parallel to the wind, not catching the wind, shut down, during the day, when the most recent swell reading on the NOAA Waimea buoy (Station 51201) is 8-feet, 14-seconds or higher. These are large barrel conditions with wave faces breaking double-overhead, 12-feet (Hawaiian). These swells occur approximately six percent of year-round hours (day and night). When daylight and wind direction are accounted for, this North Shore wind farm shut-down for surf winds would affect fewer than three percent of the hours of the year. To reduce the adverse effect of wind farm wake air turbulence to North Shore surf conditions, it should be illegal, at a bare minimum, for a wind turbine to be operating upwind from a North Shore surf break when these largest, internationally-important, swells occur. To avoid the adverse effect completely, turbine shutdown would need to extend to swells 4-feet, 11-seconds and larger.

Please don't allow bulky in-water structures to diffract incoming North Shore swells, please require wind farms upwind from the North Shore's important surf breaks to shut down when swells are reaching the North Shore, and please discontinue use of North Shore wind farms by utilizing less harmful clean energy alternatives as quickly as possible. Ua mau ke ea o ka 'āina i ka pono. For additional information please contact Carol Philipps, Tamayo Perry, Chris Bruns, Eddie or Makauakai Rothman, Dan Moore, Shane Weldon, or Mike Takahashi via surfers4solar@gmail.com (808) 927-4602 and for wind data, please see www.surfers4solar.org.

Sincerely [90 North Shore Surfers, Signatures Attached]

[redacted]

[redacted]

[redacted]

[redacted]

North Shore Surf Conservation Needs Relating to On- and Off-Shore Wind Farms

[redacted]

[redacted]

[redacted]

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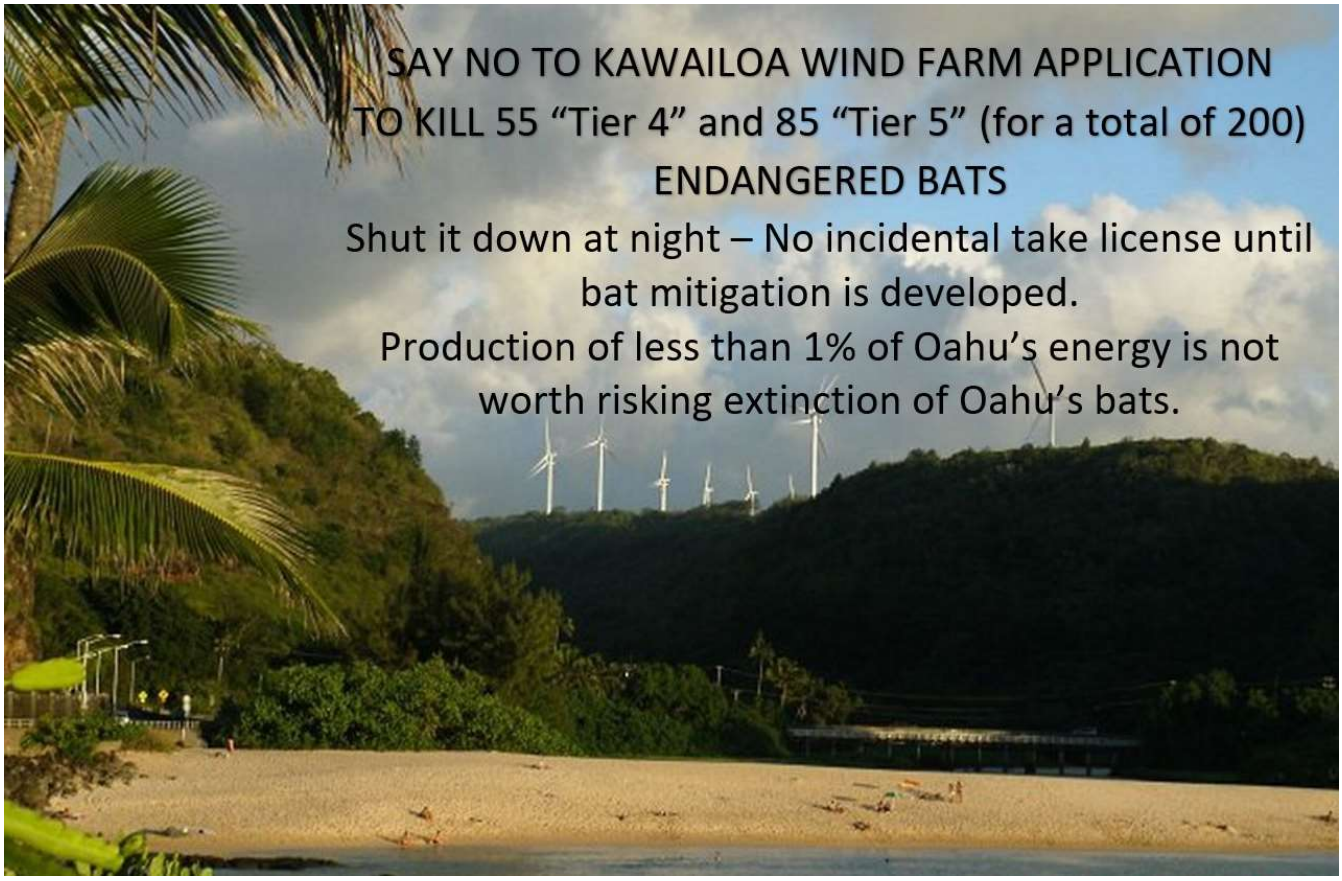
North Shore Oahu Member of the Public Draft HCP and PEIS Public Comments

Appendix C:

Change.org Petition with over 1,200 signatures and more than 50 comments from the public addressing concern that your authorization of take of more endangered bats at Kawailoa Wind Farm would not meet permit issuance criteria pursuant to the Endangered Species Act (and State HRS 195D).

Subject: Proposed Kawailoa Wind Farm application to kill 140 MORE endangered Hawaiian hoary bats (and other endangered animals, https://dlnr.hawaii.gov/wildlife/files/2018/10/Kawailoa-Wind-Power-Draft-HCP-Amendment.pdf and https://www.fws.gov/pacificislands/articles.cfm?id=149489649); written comments to State DLNR were due February 21, 2019, to Glenn.M.Metzler@hawaii.gov and written comments to US Fish and Wildlife Service due June 10, 2019 to HIwindPEIS@fws.gov.



Dear Endangered Species Recovery Committee and US Fish and Wildlife Service,

Approval of Kawailoa Wind Farm's application to continue to operate at night and kill 55 (Tier 4) plus an additional 85 (Tier 5) nocturnal endangered bats (in addition to the 60 bats this wind farm has already killed without mitigation) would not be lawful (not to mention the additional 65 (Tier 6) the applicant requested). The wildlife agencies must require the wind farm to shut down at night when wind speeds are 8 meters/second or lower (when bats are flying near the turbines) until mitigation to offset the bat deaths at the wind farm is developed and included in the incidental take license application. The wind farm must shut down at night because it is practicable for them to do so (because they can afford to). Your staff must oversee an independent auditor's assessment of maximum extent practicable.

Kawailoa Wind Farm generates less than 2% of Oahu's energy - operation of this wind farm at night (less than 1% of Oahu's energy) is not worth risking the loss of Oahu's endangered bat population.

During only six years of operation, Kawailoa Wind Farm's take of more than 80 bats far exceeds the 60-bat limit anticipated when you authorized the wind farm's construction in 2012. In your 2011 and 2012 incidental take licenses to Hawaii wind farms, we were led to believe the wind farms would offset their bat kills with mitigation projects that would increase bat populations. The wind farms said they would help bats by removing feral ungulates and restoring native forest and wetland areas. Unfortunately, bats did not increase when ungulates were removed and habitat was restored, and even worse, bat occurrence declined at some mitigation sites.

Kawailoa Wind Farm now requests a permit to kill an additional 55 bats "Tier 4" and they want the wildlife agencies to agree they are offsetting take of 55 bats by helping purchase 3,000 acres of agricultural and preservation above Whitmore Village and Halemano. The HCP does not meet the requirements of endangered species laws because it does not explain how the transfer of title for land that's already zoned agricultural and preservation would benefit a bat, let alone offset the take of 55 bats at the wind farm. The best available science by HT Harvey, funded by Kahuku Wind Farm, indicates the core area territory size for each male bat is approximately 2,900 acres and the bats prefer feeding in grazing land, gulches, and low density developed areas. How would title transfer for 3,000 acres increase the endangered bat population by 55? And if it did increase bat numbers - the spinning blades of five of the wind turbines are visible just across the slope from the mitigation site - the bat's territory would span from the mitigation site to the wind farm where it would be killed at night by a spinning turbine blade.

Kawailoa proposes tiers "four", "five" and "six" levels of endangered bat take. None of these "tiers" of take should be authorized until a proven mitigation method is developed. The wind farm must shut down at night to avoid bat take until the mitigation method is developed. The wind farm has the option to conduct research to inform development of a mitigation method - this research in itself is not mitigation. Once a mitigation method is confirmed, the wind farm can resubmit their application for the license to kill the bats. To avoid uncertainty, mitigation benefits should be required to accrue prior to the taking.

Even IF there were a large number of endangered bats on Oahu and take of 200 of them without effective mitigation would not jeopardize the continued existence of the species on the island, the proposal does not meet the minimize and mitigate take to the "maximum extent practicable" license requirement. If take of endangered species is not offset with mitigation, state endangered species law requires that the take be avoided "to the maximum extent practicable". "Maximum extent practicable" determinations include a financial assessment of what's affordable to the developer. You don't have to be an accountant to see Kawailoa Wind Farm can afford to shut down at night and forego that 45% of their income. First, Kawailoa Wind Farm just "reorganized" their debt in Chapter 11 bankruptcy and essentially bought the wind farm from themselves for pennies on the dollar and shed their debt. Second, Kawailoa Wind Farm's gross receipts from HECO ratepayers is over $34 million/year because Kawailoa has one of the outdated HECO power purchase agreements raking in $0.22/kwh (whereas today, wind farm power purchase agreements will be approximately $0.10/kwh). In addition, Kawailoa Wind Farm receives a feed in tariff from taxpayers for each kwh it feeds into the grid.

Please do not authorize Kawailoa Wind Farm to operate at night – production of less than 1% of Oahu's energy is not worth risking extinction of Oahu's endangered bats.

May 25, 2019, Petition Update: Save our bats - Shut the turbines down at night now!

We oppose the proposed unmitigated killing of even one more endangered Hawaiian hoary bat by the Kawailoa Wind Farm. Tell one of the most profitable wind farms in the country to shut their turbines down at night until effective mitigation to offset bat kills is developed. Shut the turbines down at night NOW - stop killing the endangered bats - it's the law.

This petition has so far received over 1,200 signatures and 52 comments from the public (see below).

Comments from Change.org Petition: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats (> 1,200 signatures)						
Name	***City***	***State***	***Postal Cod***	***Country***	***Date***	***Comment***
[redacted]	Kahuku	HI	96731	US	11/22/2018	I oppose this move by Kawailoa Wind Power to kill more of Hawaiʻi's native bats, ʻōpeʻapeʻa. Hawaiʻi's native bats, ʻōpeʻapeʻa, have been in Hawaiʻi for 10,000 years. The Kumulipo, Hawaiian Creation chant, identifies the birth of bats in the 7th Wā, Period. Bats are also kinolau (body forms) of Kanaloa (Tangaloa).
[redacted]	haleiwa	HI	96712	US	11/23/2018	I feel any endangered species allotted kill limit should be 0
[redacted]	Zdroisko			Poland	11/23/2018	Getekend
[redacted]	Luxembourg			Luxembou	11/23/2018	C'es notre devoir de respectez et protegez les animaux et la nature! Eux, aussi on une âme. Eux, aussi on le droit d'avoirs une vie saine sur ce planéte. En a que une nature. Vous, le savez? Vous, êtes des humains, soyez humaines. Prenez, votre responsabiltée, s.v.p. Ârrêtez, cette suffrance envers les animaux et la nature! C' es bien triste, de signez des pétitions. Merci.
[redacted]	Denver	CO	80228	US	11/23/2018	TERRIBLE!
[redacted]	Hartland	VT	5048	US	11/23/2018	It was already appalling to let them kill 60. Now that they are approaching that (documented) number, it would be an insult and a mockery to increase the limit by any amount, let alone more than fourfold.
[redacted]	Ayrshire	IA	50515	US	11/23/2018	Industrial wind is not just killing wildlife in Hawaii but all over the world. Yet with all the excess power lines and industrial turbines they still only produce 1.1% of not the world's energy but of their electricity. Ridiculous.
[redacted]	muğla			Turkey	11/24/2018	lütfen imza ve paylaşım can dostlarımPlease sign and share my friends
[redacted]	detroit	MI	48224	US	11/24/2018	BATS ARE VERY IMPORTANT TO THE ECOLOGY.
[redacted]	Mililani	HI	96789	US	11/24/2018	Enough already
[redacted]	Or Yehuda			Israel	11/24/2018	SIGNED
[redacted]	Haleiwa	HI	96712	US	11/24/2018	I believe in the cause.

Comments from Change.org Petition: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats (> 1,200 signatures)						
Name	***City***	***State***	***Postal Cod***	***Country***	***Date***	***Comment***
[redacted]	Guilford	VT	5301	US	11/25/2018	Have the powers that be in Oahu gone crazy or just forgotten that people are not the center of the universe? Imagine if someone suggested killing 265 humans for convenience and we are definitely not an endangered species. This is an abhorrent and dangerously human centric plan which should never happen. The blades must be turned off at night. I am a huge fan of alternative energy but animals should not be dying for it. It seems hypocritical to kill bats who do so much for ecosystems (and people) in order to produce clean energy. Stop this cruel and dangerous plan now and figure something else out.
[redacted]	Haleiwa	HI	96712	US	11/25/2018	Biological diversity, or biodiversity, is the scientific term for the variety of life on Earth. It refers not just to species but also to ecosystems and differences in genes within a single species. Everywhere on the planet, species live together and depend on one another. Every living thing, including man, is involved in these complex networks of interdependent relationships, which are called ecosystems.Healthy ecosystems clean our water, purify our air, maintain our soil, regulate the climate, recycle nutrients and provide us with food. They provide raw materials and resources for medicines and other purposes. They are at the foundation of all civilization and sustain our economies. It's that simple: we could not live without these “ecosystem services”. They are what we call our natural capital and are ,most likely, our only real capital.
[redacted]	Haleiwa	HI	96712-081	US	11/25/2018	The wind developer committed not to exceed the "take" limits and this was already a forgone conclusion that it would be exceeded. Now the community must compel the state to do the right thing and stop generation until it is proven that a REAL solution can stop the killing of sensitive species. I am hoping that the wind developer and land owner will VOLUNTARILY implement mitigation to stop destruction of endangered species. and if this does NOT happen then the state must enforce protection by ending the PPA and removing the HAWT turbines and possibly consider VAWT turbines which are safe because all species will not enter a VAWT or add more PV capacity and storage to replace lost generation capacity.

Comments from Change.org Petition: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats (> 1,200 signatures)						
Name	***City***	***State***	***Postal Cod***	***Country***	***Date***	***Comment***
[redacted]	Grand Haven	MI	49417	US	11/25/2018	No one cares about anything anymore. lol this and kill that. No worries about the future.
[redacted]	Boulder	CO	80304	US	11/25/2018	Protect Hawaii!
[redacted]	Reno	NV	89433	US	11/25/2018	We need to stop the killing
[redacted]	Mende		48000	France	11/25/2018	Signez et partagez svp
[redacted]	Haleiwa	HI	96712	US	11/25/2018	Solar, instead.
[redacted]	jupiter	FL	33469	US	11/26/2018	I can
[redacted]	Fallbrook	CA	92028	US	11/29/2018	Wind turbines have been proven to kill bats, and the only bats found in Hawaii are already endangered. These turbines should be feathered or turned off at night when bats are active, until effective deterrents can be implemented in the future.
[redacted]	Haleiwa	HI	96712	US	11/30/2018	Too early to make assumptions on new kill number. Need more data. What are the specific habitate enhancements to attract the bats to another area? What plants nourish the bats food chain/web? How many have been planted? How many acres? Any right of entry agreements with property owners? What detergents [sight &/or sound] have been implemented to keep the bats away from the wind turbines. What operational/procedural modifications can be made to reduce bat kills [rpm reduction and timing]?
[redacted]	Haleiwa	HI	96712	US	11/30/2018	We must malama what is significant & indigenous to our beautiful Hawaiian islands
[redacted]	Kailua	HI	96734	US	11/30/2018	We need to protect our endangered species in Hawai'i.
[redacted]	Kailua	HI	96734	US	12/11/2018	Wind farms suck
[redacted]	Wailuku	HI	96793	US	12/12/2018	Windmills are not worth keeping if they only produce more dead bats than energy.
[redacted]	Wailuku	HI	96793	US	12/12/2018	To the windmill owners, you need to understand that us kids have feelings and we care for our ʻāina and our own Hawaiian species.. although windmills produce energy it is continuously killing more and more bats. #ALLFORKALANI
[redacted]	Kula	HI	96790	US	12/12/2018	#allforKalani The Hawaiian hoary bat is the premiere night time insect predator. If there are no ʻŌpeʻapeʻa, the impact on our ecosystem is unknown. 60 bat deaths is already too much! If the windfarms are willing to wipeout Hawaii's only native land mammal to make a dollar, what's next...
[redacted]	Honolulu	HI	96822	US	12/20/2018	Preserved our culture

Comments from Change.org Petition: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats (> 1,200 signatures)						
Name	***City***	***State***	***Postal Cod***	***Country***	***Date***	***Comment***
[redacted]	Waipahu	HI	96797	US	12/20/2018	Patrick James
[redacted]	Honolulu	HI	96825	US	1/23/2019	well said, mahalo
[redacted]	Honolulu	HI	96825	US	1/23/2019	Not all technology is suitable for Hawaii, especially when it 'takes' while giving. We can do better.
[redacted]	Kaneohe	HI	96744	US	1/23/2019	Why allow any deaths if they are endangered in the first place?
[redacted]	Haleiwa	HI	96712	US	2/6/2019	I'm signing this petition because these wind farms need to be accountable for the original contracts that they sign. They didn't do proper research which created false reports and decisions were made based on these false reports. Why does Hawaii have to pay for their mistakes with irreplaceable live assets? We need to to stop these types of mistakes by not approving this request to kill more irreplaceable live assets so they can make money...
[redacted]	Kaunakakai	HI	96748	US	3/17/2019	Paul Cullen Kaunakakai, HI, United States
[redacted]	Kihei	HI	96753	US	3/17/2019	I Oppose your intentions to kill more of our native bats and nēnē goose and I will forever Oppose your efforts to drive our indigenous animals to extinction.
[redacted]	Hakalau	HI	96710	US	3/17/2019	'Ope'ape'a have appeared to me as ho'ailona more than once in my life so far. We need to do more to protect them and this is the least i can do.
[redacted]	Kahului	HI	96732	US	3/17/2019	Protect our Aumakua
[redacted]	Auckland		632	New Zeal	3/18/2019	We need to stand in solidarity and protect our kupuna!
[redacted]	Lahaina	HI	96761	US	3/18/2019	I care about our fragile environment and almost extinct resources. The State of Hawaii really needs to wake the hell up before we lose more of our na means makamae. (Treasures).
[redacted]	Kihei	HI	96753	US	3/18/2019	I disagree with giving these windmills more rights then our kanaka species and our people. We are the people of the land and should not be moved or evicted from our homelands. I feel that our kanaka species should have all rights to fly all over these mountain for they were their first and should hold a main priority to protect and not destroy these Ope’ape’a for they hold a big part of our ecosystem in Hawaii. Save our Ope’ape’a. Eo Kanaka, Eo Ope’ape’a
[redacted]	Hilo	HI	96720	US	3/18/2019	Ope'ape'a are endangered native bats.. They must be saved now!
[redacted]	Aiea	HI	96701	US	3/18/2019	I am one voice that matters
[redacted]	Lanai City	HI	96763	US	3/18/2019	I want to stop the killing of bats

Comments from Change.org Petition: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats (> 1,200 signatures)						
Name	***City***	***State***	***Postal Cod***	***Country***	***Date***	***Comment***
[redacted]	Ewa Beach	HI	96706	US	3/18/2019	A'ole !! These endanger species not harming anyone or the aina. They have the right to live like you and I. You need to find other resources in a respectful manner to the Hawaiian People.
[redacted]	Broomfield	CO	80021	US	3/19/2019	These bats are endangered. That alone should be enough. Say no to death, and reject this application.
[redacted]	Wailuku	HI	96793	US	3/20/2019	NO PERMIT TO KILL!!! STOP! Now...⍰⍰
[redacted]	Kamuela	HI	96743	US	5/22/2019	I believe that the initial permit to build was based on deception and "intentional" lo-balling - with the present excuse of "its original 60-death limit was based on the best available, but relatively poor, information leading up to when it began operating in November 2012." DLNR's poor excuse to rubber stamp these kinds of fake claims is an obvious indication of governmental mis-management and complicity. This kind of blame extend all the way to the Attorney General and Governor. Allowing these kinds of detrimental decisions in the name of economic development is totally imprudent and unacceptable!
[redacted]	Sunset Beac	HI	95063	US	5/25/2019	Sacred Lands should be respected. We need green power however not thru desecrating Sacred Lands.
[redacted]	Seattle	WA	98117	US	5/26/2019	The preservation of endemic species.
[redacted]	Honolulu	HI	96814	US	5/26/2019	Wind farming is not a Hawaiian Culture. And serves no purpose of sustainability.
[redacted]	Haleiwa	HI	96712	US	5/27/2019	Please do not authorize Kawailoa Wind Farm to operate at night – production of less than 1% of Oahu's energy is not worth risking extinction of Oahu's endangered bats.

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Sunset Beach	HI	96712	US	11/22/2018
	Kahuku	HI	96731	US	11/22/2018
	Brooklyn	NY	11230	US	11/23/2018
	haleiwa	HI	96712	US	11/23/2018
	Haleiwa	HI	96712	US	11/23/2018
	Madrid		28019	Spain	11/23/2018
	Wittenbach		9300	Switzerland	11/23/2018
	Bremen		28239	Germany	11/23/2018
	Zdroisko			Poland	11/23/2018
			53881	Germany	11/23/2018
er			51399	Germany	11/23/2018
	Twijzelerheide		9287NB	Netherlands	11/23/2018
	Hanover		30627	Germany	11/23/2018
	Wolfratshausen		82515	Germany	11/23/2018
			74544	Germany	11/23/2018
	Essen		45131	Germany	11/23/2018
		SCT	AB21 0ET	UK	11/23/2018
	Hamburg		20095	Germany	11/23/2018
	Lanaken		3620	Belgium	11/23/2018
	sabine.stiker@web.de		87839	Germany	11/23/2018
	Linz		4020	Austria	11/23/2018
	Eppenbrunn		66957	Germany	11/23/2018
	Hanoi			Vietnam	11/23/2018
	via xx settembre 11	Corsico r	20094	Italy	11/23/2018
	Stockport		sk13jd	UK	11/23/2018
	München		81673	Germany	11/23/2018
	Erlinsbach			Switzerland	11/23/2018
	Stockbridge		30281	US	11/23/2018
			27474	Germany	11/23/2018
	Leeuwarden		8922EA	Netherlands	11/23/2018
	Spruce Grove		t7x3x9	Canada	11/23/2018
	Hessle	ENG	Hu13 9DS	UK	11/23/2018
	bridgetown , w.a		6255	Australia	11/23/2018
	56220		56220koblenz	Germany	11/23/2018
	canoas	IL	rs	US	11/23/2018
	Aschaffenburg		63743	Germany	11/23/2018
	Jeannette	PA	15644	US	11/23/2018
	Hamoir			Belgium	11/23/2018
	Vienna			Austria	11/23/2018
	Sainte-Tulle		4220	France	11/23/2018
	Poortvliet	NE	4693EG	US	11/23/2018
	Szatymaz			Hungary	11/23/2018
			1540002	Japan	11/23/2018
	Roodt/Eisch		4222	Luxembourg	11/23/2018

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Landsberg am Lech		86899	Germany	11/23/2018
	phoenix	AZ	85029	US	11/23/2018
	Ulm		89077	Germany	11/23/2018
				Netherlands	11/23/2018
	Hannover		30173	Germany	11/23/2018
	Lugo		27002	Spain	11/23/2018
	Mannheim		33106	Germany	11/23/2018
	Mechelen		2800	Belgium	11/23/2018
			7800	Spain	11/23/2018
	Hoogezand		9603	Netherlands	11/23/2018
	Burlington	MA	1803	US	11/23/2018
	Atwood	IL	61913	US	11/23/2018
	Vlissingen		4381	Netherlands	11/23/2018
	Bredestraat		9920	Belgium	11/23/2018
			36433	Germany	11/23/2018
	torino		10020	Italy	11/23/2018
	Redford	MI	48240	US	11/23/2018
	Muttenz			Switzerland	11/23/2018
	Pomona	MI	10970	US	11/23/2018
	Edinburgh	SCT	EH15 1LE	UK	11/23/2018
			13349	Germany	11/23/2018
	Ha Noi			Vietnam	11/23/2018
	Horley		RH6 7DA	UK	11/23/2018
			44649	Germany	11/23/2018
	Tujunga	CA	91042	US	11/23/2018
				Spain	11/23/2018
	Garland	TX	75043	US	11/23/2018
	Helsingborg		250 02	Sweden	11/23/2018
	Ventnor	ENG	PO38 1BH	UK	11/23/2018
	Barlaston	ENG	st12 9bh	UK	11/23/2018
	Riedbach		97519	Germany	11/23/2018
	Rotterdam		3192 tj	Netherlands	11/23/2018
	monterotondo scalo		15	Italy	11/23/2018
	Montréal		H2J	Canada	11/23/2018
	Hoogezand		9602vd	Netherlands	11/23/2018
	Delhi			India	11/23/2018
	Shobdon	ENG	HR6 9NL	UK	11/23/2018
	RI ANGOULEME		16000	France	11/23/2018
	Düsseldorf		40545	Germany	11/23/2018
	Vaison-la-Romaine		84110	France	11/23/2018
	ee rekem			Belgium	11/23/2018
	Berg			Austria	11/23/2018
	Erlensee		63526	Germany	11/23/2018
	Philadelphia	PA	19145	US	11/23/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	East Sussex	ENG	TN40 2SH	UK	11/23/2018
	München		81539	Germany	11/23/2018
	Berlin	DE	12163	US	11/23/2018
	IRELAND			Ireland	11/23/2018
	Bourg des comptes		35890	France	11/23/2018
	Odda		5750	Norway	11/23/2018
	Weiden		92637	Germany	11/23/2018
	Terrebonne	CA	j6w0b5	US	11/23/2018
	Belgrade			Serbia	11/23/2018
	Rio de Janeiro			Brazil	11/23/2018
	Belton	TX	76513	US	11/23/2018
	Mumbai		400101	India	11/23/2018
	Kielce			Poland	11/23/2018
	Paisley		PA28AF	UK	11/23/2018
	Lancaster	PA	17603	US	11/23/2018
	kingston	NY	12401	US	11/23/2018
	Schoondijke		4507CG	Netherlands	11/23/2018
	Devon		Ex363bl	UK	11/23/2018
	Feldkirchen		94351	Germany	11/23/2018
	87452 Altusriedc		87452	Germany	11/23/2018
	Hennebont		56700	France	11/23/2018
	Kirchdorf an der Krems		4560	Austria	11/23/2018
	Palm Harbor		34685	US	11/23/2018
	C.A.B.A		1084	Argentina	11/23/2018
			37441	Germany	11/23/2018
	Hamilton		L8N1M2	Canada	11/23/2018
	Belfast		BT148NP	UK	11/23/2018
	Shasta Lake	CA	96089	US	11/23/2018
	Denver	CO	80228	US	11/23/2018
	Málaga		29570	Spain	11/23/2018
			24534	Germany	11/23/2018
	Hartland	VT	5048	US	11/23/2018
	Carrollton	TX	75007	US	11/23/2018
	Reno	PA	16343	US	11/23/2018
	Bexley		2207	Australia	11/23/2018
	Chatham	ENG	ME5 9LJ	UK	11/23/2018
	Gardena	CA	90247	US	11/23/2018
	East Hampton	CT	6424	US	11/23/2018
	Orange City	FL	32763	US	11/23/2018
	San Miguel		1663	Argentina	11/23/2018
	Diever		7981BK	Netherlands	11/23/2018
	Waikoloa	HI	96738	US	11/23/2018
	Beuvry		62660	France	11/23/2018
	Ayrshire	IA	50515	US	11/23/2018

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Kahuku	HI	96731	US	11/23/2018
	Karratha		6714	Australia	11/23/2018
ed N	Kuala Lumpur			Malaysia	11/23/2018
	Bradford		Bd3 8nh	UK	11/23/2018
	Peru	IN	46970	US	11/24/2018
	st-cruiz		50309	Costa Rica	11/24/2018
	Heerlen		6416AZ	Netherlands	11/24/2018
	Covington	WA	98042	US	11/24/2018
	Edgerton	MN	56128	US	11/24/2018
	Kailua	HI	96734	US	11/24/2018
	Guntersdorf		2042	Austria	11/24/2018
	Republic	OH	44867	US	11/24/2018
	Brussels		4720	Belgium	11/24/2018
	Broomfield		80020	US	11/24/2018
	Mayfield Heights	OH	44124	US	11/24/2018
	Giddings	TX	78942	US	11/24/2018
			97855	Germany	11/24/2018
	North Bangor	NY	12966	US	11/24/2018
	Emmetsburg	IA	50536	US	11/24/2018
	Tempe	AZ	85283	US	11/24/2018
	Hilpoltstein		91161	Germany	11/24/2018
ez			38730	Spain	11/24/2018
	Cortes		no tengo	Honduras	11/24/2018
		CA		US	11/24/2018
	Paris		75011	France	11/24/2018
Diet	Nürnberg		90443	Germany	11/24/2018
	Adelaide		5523	Australia	11/24/2018
	Linden	CA	95236	US	11/24/2018
	Pierrelatte		26700	France	11/24/2018
	Singapore			Singapore	11/24/2018
	ITALY	AL	43039	US	11/24/2018
	Oslo		1	Norway	11/24/2018
	Paris		95110	France	11/24/2018
				US	11/24/2018
			22303	Germany	11/24/2018
	indanapolis	IN	46219	US	11/24/2018
			56070	Germany	11/24/2018
	R'veer		4941JT	Netherlands	11/24/2018
	muğla			Turkey	11/24/2018
s	Saint Helier			Jersey	11/24/2018
	Calamba,Laguna		4026	Philippines	11/24/2018
	Ploiesti			Romania	11/24/2018
	Castelloli		8719	Spain	11/24/2018
	Puerto Lumbreras/Murcia		30891	Spain	11/24/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Eberbach / seltz		64470	France	11/24/2018
	Vienna		1040	Austria	11/24/2018
			16200	France	11/24/2018
	Breda		4817MA	Netherlands	11/24/2018
	Morgantown	WV	26508	US	11/24/2018
			2300	Belgium	11/24/2018
			9200069	Japan	11/24/2018
	LYON		73000	France	11/24/2018
l	Geneva		1214	Switzerland	11/24/2018
	Edinburgh	SCT	eh5 2pt	UK	11/24/2018
	Nünchritz		1612	Germany	11/24/2018
	Edinburgh		Eh52pt	UK	11/24/2018
	Milan		20121	Italy	11/24/2018
	Wijk Bij Duurstede		3961	Netherlands	11/24/2018
	Newcastle	ENG	NE1 0FA	UK	11/24/2018
n			5270	Spain	11/24/2018
	hong kong		kowloon	Hong Kong	11/24/2018
	Gaighat, Nepal		56300	Nepal	11/24/2018
	Hebburn		NE31	UK	11/24/2018
rg	Middelburg		zuidsingel59	Netherlands	11/24/2018
				Finland	11/24/2018
	Bredene		8450	Belgium	11/24/2018
	Hedrick	IN	47993	US	11/24/2018
	heraklion city creta		71305	Greece	11/24/2018
	Oulens-Echallens			Switzerland	11/24/2018
	Liège			Belgium	11/24/2018
	Saint-nicolas-de-port		54210	France	11/24/2018
	Brunoy		91800	France	11/24/2018
	Blois		41000	France	11/24/2018
	Penthalaz			Switzerland	11/24/2018
	San-pédro			Ivory Coast	11/24/2018
tis	Waterbury		6704	US	11/24/2018
	Zülpich		53909	Germany	11/24/2018
	Kirchbach		8082	Austria	11/24/2018
			30625	Germany	11/24/2018
	Düsseldorf		40479	Germany	11/24/2018
	Dagenham	ENG	rm95ht	UK	11/24/2018
	Nancy		54000	France	11/24/2018
	Saint-Jean-de-Braye		45800	France	11/24/2018
			9400	France	11/24/2018
	Kenitra			Morocco	11/24/2018
	大阪		5810836	Japan	11/24/2018
	Slough		SL1 6JR	UK	11/24/2018
	Ichtershausen		99334	Germany	11/24/2018

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Crestview	FL	32539	US	11/24/2018
	detroit	MI	48224	US	11/24/2018
	Haleiwa	HI	96712	US	11/24/2018
	Bagnan		711303	India	11/24/2018
	Haleiwa	HI	96712	US	11/24/2018
	Mililani	HI	96789	US	11/24/2018
			22880	Germany	11/24/2018
	Fortaleza			Brazil	11/24/2018
	Laie	HI	96762	US	11/24/2018
	Or Yehuda			Israel	11/24/2018
			13014	France	11/24/2018
	Pont de Chéruy		38230	France	11/24/2018
	Haleiwa	HI	96712	US	11/24/2018
	etterbeek		1040	Belgium	11/24/2018
	Sao Paulo			Brazil	11/24/2018
	Haleiwa	HI	96712	US	11/24/2018
	Namur			Belgium	11/24/2018
	Wahiawa	HI	96786	US	11/24/2018
			44410	France	11/24/2018
			77176	France	11/24/2018
	Sunset Beach	HI	96712	US	11/24/2018
	Santiago			Chile	11/24/2018
	5310 leuze		5310	Belgium	11/24/2018
	Marbella		29601	Spain	11/24/2018
	Annapolis	MD	21403	US	11/24/2018
	Pont-Audemer		27500	France	11/24/2018
	Columbus	OH	43230	US	11/24/2018
	Kaneohe	HI	96744	US	11/24/2018
			O6800	Spain	11/24/2018
	Thuin		6530	Belgium	11/24/2018
	Vallentigny		10500	France	11/24/2018
	Polten		3100	Austria	11/24/2018
	Dublin			Ireland	11/24/2018
	Sankt Pölten		3100	Austria	11/24/2018
				France	11/24/2018
	Hastings		3915	Australia	11/24/2018
	seraing			Belgium	11/24/2018
	Honolulu	HI	96817	US	11/24/2018
	Colomiers		31770	France	11/24/2018
	Thornliebank	SCT	G46 8 QQ	UK	11/24/2018
	Aberdeen	SCT	AB140LD	UK	11/24/2018
	Mayen		56727	Germany	11/24/2018
	Dudley		dy1 3rs	UK	11/24/2018
	Arnedo		26580	Spain	11/24/2018

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Little Rock		72205	US	11/24/2018
	Buenos Aires		1663	Argentina	11/24/2018
			28100	Spain	11/24/2018
	Hamm		59077	Germany	11/24/2018
	TORRES		95300000	UK	11/24/2018
	los angeles	CA	91601	US	11/24/2018
	Altlichtenwarth			Austria	11/24/2018
	Geneve		1208	Switzerland	11/24/2018
	Toowoomba		4350	Australia	11/25/2018
	Calcutta		700023	India	11/25/2018
	Longview		75604	US	11/25/2018
	Guilford	VT	5301	US	11/25/2018
	Belgrade			Serbia	11/25/2018
				France	11/25/2018
			4838279	Japan	11/25/2018
	Porto		4000-000	Portugal	11/25/2018
	Marshfield		2050	US	11/25/2018
	Porto		4000-000	Portugal	11/25/2018
	Porto		4000-000	Portugal	11/25/2018
	Koné		98807	New Caledo	11/25/2018
	San Juan		5400	Argentina	11/25/2018
zel	Fürth		90768	Germany	11/25/2018
	Montreal		H8N 2T6	Canada	11/25/2018
	Zagreb		10000	Croatia	11/25/2018
	Asperg		71679	Germany	11/25/2018
	ESTEIO	PR	93265100	US	11/25/2018
	Twickenham		TW1	UK	11/25/2018
	Americana		13478260	Brazil	11/25/2018
	San Francisco	CA	94945	US	11/25/2018
	Hattiesburg	MS	39402	US	11/25/2018
	Kaneohe	HI	96744	US	11/25/2018
	Minneapolis	MN	55442	US	11/25/2018
	Bovenden		37120	Germany	11/25/2018
	Kosice		040 23	Slovakia	11/25/2018
	Haleiwa	HI	96712	US	11/25/2018
	Tokyo		190-0031	Japan	11/25/2018
			28028	Spain	11/25/2018
	Saint quentin		O2100	France	11/25/2018
	Draveil		91210	France	11/25/2018
	Waipahu Waipahu	HI	94345	US	11/25/2018
	Besançon		25000	France	11/25/2018
	Geldrop		5665PT	Netherlands	11/25/2018
	Somewhere		BN99	UK	11/25/2018
	Grenoble		38000	France	11/25/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	liège			Belgium	11/25/2018
	Haleiwa	HI	96712-0818	US	11/25/2018
			77640	France	11/25/2018
	Oshawa		L1G8B3	Canada	11/25/2018
	Casablanca			Morocco	11/25/2018
	Haleiwa	HI	96712	US	11/25/2018
	Wahiawa		96786	US	11/25/2018
	paris		75012	France	11/25/2018
	Akron		44310	US	11/25/2018
	charmes sur rhone		7800	France	11/25/2018
	Grand Haven	MI	49417	US	11/25/2018
	cumbria		CA14 3DL	UK	11/25/2018
	Санкт-Петербург		198215	Russia	11/25/2018
	Santa Barbara	HI	96789	US	11/25/2018
	Reno	NV	89502	US	11/25/2018
	Boulder	CO	80304	US	11/25/2018
	Rio De Janeiro			Brazil	11/25/2018
	Evergreen Park	IL	60805	US	11/25/2018
	Reno	NV	89433	US	11/25/2018
	Mokuleia	HI	96791	US	11/25/2018
	Honolulu	HI	96819	US	11/25/2018
	Arnhem		6811hl	Netherlands	11/25/2018
	lisboa		1700	Portugal	11/25/2018
	Paris		75019	France	11/25/2018
	HALEIWA	HI	96712	US	11/25/2018
	Mililani	HI	96789	US	11/25/2018
	Raleigh	NC	27606	US	11/25/2018
	Round Lake	IL	60073	US	11/25/2018
	Jumièges		76480	France	11/25/2018
	Mende		48000	France	11/25/2018
	Strasbourg		17240	France	11/25/2018
	NYC	NY	10128	US	11/25/2018
			90402	Germany	11/25/2018
	Haleiwa	HI	96712	US	11/25/2018
	Reading		RG30	UK	11/25/2018
	Annapolis	MD	21401	US	11/25/2018
	Kurtistown	HI	96760	US	11/25/2018
	Sussex	WI	53089	US	11/26/2018
	Lafayette Hill		19444	US	11/26/2018
	Gabés		97450	Tunisia	11/26/2018
	Waipahu	HI	96797	US	11/26/2018
	Munich		80333	Germany	11/26/2018
	Makawao	HI	96768	US	11/26/2018
			6496314	Japan	11/26/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Michelstadt		64720	Germany	11/26/2018
	jupiter	FL	33469	US	11/26/2018
	Cheonan		80920	South Korea	11/26/2018
			91217	Germany	11/26/2018
	Ridderkerk		2984 AC	Netherlands	11/26/2018
			7003	Spain	11/26/2018
	Porto Alegre		91060-140	Brazil	11/26/2018
			83500	France	11/27/2018
	Haleiwa	HI	96712	US	11/27/2018
	Sydney		2204	Australia	11/27/2018
	Barcelona		8001	Spain	11/27/2018
	Anchorage		99501	US	11/27/2018
	Kihei	HI	96753	US	11/27/2018
	Haleiwa	HI	96712	US	11/27/2018
	Honolulu	HI	96805	US	11/28/2018
	Haleiwa	HI	96712	US	11/28/2018
	Sao Paulo		4110	Brazil	11/28/2018
			1874	Argentina	11/28/2018
	49316	MI	48316	US	11/28/2018
	Horsham		RH12 3JY	UK	11/28/2018
	Mililani	HI	96789	US	11/28/2018
	Asso		22033	Italy	11/28/2018
	Gloucester		Gl1 5AN	UK	11/28/2018
	Lahaina	HI	96761	US	11/29/2018
	Waialua	HI	96791	US	11/29/2018
	Makawao	HI	96768	US	11/29/2018
	Fallbrook	CA	92028	US	11/29/2018
	Fallbrook	CA	92028	US	11/29/2018
	San Antonio Oeste		8520	Argentina	11/29/2018
	murrieta	CA	92562	US	11/29/2018
	San Diego	CA	92122	US	11/29/2018
	Escondido	CA	92029	US	11/29/2018
	Amadora		2610-001	Portugal	11/29/2018
	Kula	HI	96790	US	11/29/2018
	Pukalani	HI	96768	US	11/29/2018
	Waialua	HI	96791	US	11/29/2018
	Haleiwa	HI	96712	US	11/30/2018
	Waipahu	HI	96797	US	11/30/2018
	Haleiwa	HI	96712	US	11/30/2018
	Honolulu	HI	96819	US	11/30/2018
	Kailua	HI	96734	US	11/30/2018
	Eschweiler		52249	Germany	11/30/2018
	Harbor City	CA	90710	US	11/30/2018
	St. Peter		56082	US	12/1/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	alicante		3010	Spain	12/1/2018
			57000	Mexico	12/1/2018
	Hebburn		NE31	UK	12/1/2018
	Lebanon		4027	US	12/2/2018
	Haiku	HI	96708	US	12/2/2018
	Roselle		60172	US	12/2/2018
	Silver Spring		20904	US	12/2/2018
	Vienna		1180	Austria	12/2/2018
	Blacksburg		24060	US	12/3/2018
	Blacksburg		24060	US	12/3/2018
	Blacksburg		24060	US	12/3/2018
	Toronto		M6G	Canada	12/3/2018
	Sunnyvale		94087	US	12/3/2018
	Jackson		49201	US	12/3/2018
			40625	Germany	12/3/2018
	Weslaco		78596	US	12/4/2018
	Anaheim		92808	US	12/4/2018
	Grand Rapids		49504	US	12/4/2018
	Eureka		63025	US	12/5/2018
	la plata		1900	Argentina	12/5/2018
Zal	Guadalupe		67192	Mexico	12/6/2018
	Montoursville		17754	US	12/7/2018
	Florida	FL	89077	US	12/8/2018
	Smyrna		37167	US	12/9/2018
	New York		10009	US	12/9/2018
	Reston		20191	US	12/9/2018
	Sanford		27330	US	12/9/2018
	Santa Rosa	CA	95409	US	12/10/2018
	Honolulu	HI	96813	US	12/10/2018
	Buena Park		90620	US	12/10/2018
	Pitman		8071	US	12/10/2018
	Phoenix	AZ	85086	US	12/10/2018
	Chicago		60618	US	12/10/2018
	Oakland		94605	US	12/10/2018
	Los Angeles		90009	US	12/10/2018
	Holtville		92250	US	12/11/2018
	Saratoga Springs		12866	US	12/11/2018
	Honolulu	HI	96822	US	12/11/2018
	Methuen		1844	US	12/11/2018
	Kailua	HI	96734	US	12/11/2018
	Edison		8837	US	12/11/2018
	Kailua	HI	96734	US	12/11/2018
	Makawao		96768	US	12/11/2018
	Mesa		85201	US	12/11/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Delaware	OH	43015	US	12/11/2018
	Atlanta		30341	US	12/11/2018
	Keansburg		7734	US	12/11/2018
	Pacoima		91331	US	12/11/2018
	Port Orange		32129	US	12/11/2018
	Pompano Beach		33064	US	12/11/2018
	Jupiter		33478	US	12/11/2018
	Port Republic		20676	US	12/11/2018
	Wailuku	HI	96793	US	12/11/2018
a	San Diego		92131	US	12/11/2018
	Kula	HI	96790	US	12/11/2018
	Wailuku	HI	96793	US	12/11/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
n	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Hayden		83835	US	12/12/2018
	Superior		54880	US	12/12/2018
	Shippensburg		17257	US	12/12/2018
	Honolulu	HI	96818	US	12/12/2018
	Columbia	CA	95310	US	12/12/2018
	Seattle		98101	US	12/12/2018
	Satellite Beach		32937	US	12/12/2018
	Loch Arbour		7711	US	12/12/2018
	Pittsburgh		15213	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
e	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Napili	HI	96761	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Wailuku	HI	96793	US	12/12/2018
	Encinitas		92023	US	12/13/2018
	New Rochelle		10805	US	12/13/2018
	Houston		77095	US	12/13/2018
	Draper		84020	US	12/14/2018
	Tucson		85743	US	12/14/2018
	Bristol		6010	US	12/14/2018
	Phoenix		85053	US	12/14/2018
	Falmouth		4105	US	12/14/2018

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Waianae	HI	96792	US	12/15/2018
	Wailuku	HI	96793	US	12/15/2018
	Wailuku	HI	96793	US	12/15/2018
	Honolulu	HI	96815	US	12/15/2018
	Malverne		11565	US	12/15/2018
AMIL	Ringlet		39000	Malaysia	12/15/2018
	Bronx		10463	US	12/16/2018
	Winnipeg		R2M	Canada	12/16/2018
	Winnipeg		R2M	Canada	12/17/2018
	Augusta		67010	US	12/17/2018
				Italy	12/17/2018
	Wailuku	HI	96793	US	12/18/2018
	Wailuku	HI	96793	US	12/18/2018
	Smithtown		11787	US	12/18/2018
	Vancouver			US	12/19/2018
	Ayer		1432	US	12/20/2018
	Honolulu	HI	96822	US	12/20/2018
	Waipahu	HI	96797	US	12/20/2018
	Chambersburg		17201	US	12/21/2018
	Stanford	CA		US	12/22/2018
	Makawao	HI	96768	US	12/24/2018
	Kihei	HI	96753	US	12/25/2018
	Deltona		32725	US	12/27/2018
		CA		US	12/27/2018
	Paia	HI	96779	US	12/29/2018
	Honolulu	VT	96822	US	12/30/2018
	Portsmouth		23704	US	12/31/2018
	Albuquerque		87110	US	1/10/2019
	Glenside		19038	US	1/10/2019
	Honolulu		96822	US	1/11/2019
	Columbia		38401	US	1/11/2019
	Sunbury		17870	US	1/12/2019
	Portland		97217	US	1/12/2019
	Cottonwood Heights		84121	US	1/12/2019
	Buffalo		14207	US	1/12/2019
	Washington		29011	US	1/12/2019
	Springfield		65807	US	1/12/2019
	Orlando		32821	US	1/12/2019
	Gardena		90247	US	1/13/2019
	Gretna		70056	US	1/14/2019
	Palm Harbor		34685	US	1/15/2019
	Hope Mills		28348	US	1/15/2019
	Lindsay		93247	US	1/15/2019
	Baton Rouge		70816	US	1/15/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]				US	1/16/2019
	Spring		77379	US	1/16/2019
	Kings Park		11754	US	1/16/2019
	San Jose		95128	US	1/17/2019
	Kaaawa	HI	96730	US	1/22/2019
	kealakekua	HI	96750	US	1/22/2019
	Santa Ana	CA	92712	US	1/23/2019
	Honolulu	HI	96815	US	1/23/2019
	Honolulu	HI	96825	US	1/23/2019
	Honolulu	HI	96821	US	1/23/2019
	Honolulu	HI	96825	US	1/23/2019
	Haleiwa	HI	96712	US	1/23/2019
	Kaneohe	HI	96744	US	1/23/2019
	Ewa Beach	HI	96706	US	1/25/2019
	lemmer		8531nx	US	1/25/2019
	Kahului	HI	96732	US	1/28/2019
	Fort Worth		76118	US	1/28/2019
	Wisconsin Rapids		54494	US	1/28/2019
	Fort Myers		33913	US	1/28/2019
	Corvallis		97330	US	1/28/2019
	New Albany		47150	US	1/28/2019
	Pharr		78577	US	1/28/2019
	Park City		84098	US	1/28/2019
	Mount Arlington		7856	US	1/28/2019
	Marco Island		34145	US	1/28/2019
	R.p.v		90275	US	1/28/2019
	Teaneck		7666	US	1/28/2019
	Minneapolis		55418	US	1/28/2019
	Hollywood		33021	US	1/28/2019
	Manhattan			US	1/28/2019
	Gibsonia		15044	US	1/28/2019
	Sarasota		34234	US	1/28/2019
	Miami		33183	US	1/28/2019
	Hixson		37343	US	1/28/2019
	Trenton		8690	US	1/28/2019
				US	1/28/2019
	Sherwood		72120	US	1/28/2019
	The Colony		75056	US	1/28/2019
	Seattle		98060	US	1/28/2019
	east haven		6512	US	1/28/2019
	Hawley		18428	US	1/28/2019
	Avondale		85323	US	1/28/2019
	Portland		97008	US	1/28/2019
	Smithtown		11787	US	1/28/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Mckinney		75070	US	1/28/2019
[redacted]	Waldorf		20601	US	1/28/2019
[redacted]deo	Boston		2117	US	1/28/2019
[redacted]	San Diego		92122	US	1/28/2019
[redacted]	Cynthiana		41031	US	1/28/2019
[redacted]	Bloomington		47405	US	1/28/2019
[redacted]	Bloomington		47406	US	1/28/2019
[redacted]	Albertville		35951	US	1/28/2019
[redacted]	Port byron		13140	US	1/28/2019
[redacted]	Minnesota		56258	US	1/28/2019
[redacted]	Suffolk		23434	US	1/28/2019
[redacted]	Miami		33193	US	1/28/2019
[redacted]	Bloomington		47408	US	1/28/2019
[redacted]	Lehigh Acres		33976	US	1/28/2019
[redacted]	Clearwater		33756	US	1/28/2019
[redacted]	Saint Paul		55105	US	1/28/2019
[redacted]	Las Vegas		89156	US	1/28/2019
[redacted]	Enfield		6082	US	1/28/2019
[redacted]	San Jose		95132	US	1/28/2019
[redacted]	Monroe		98019	US	1/28/2019
[redacted]	New York		11106	US	1/28/2019
[redacted]	Little Rock		72211	US	1/28/2019
[redacted]	Tarzana		91356	US	1/29/2019
[redacted]	North Wales		19454	US	1/29/2019
[redacted]	Beachwood		44122	US	1/29/2019
[redacted]	Cerritos		90703	US	1/29/2019
[redacted]	Union City		94587	US	1/29/2019
[redacted]	Medway		2053	US	1/29/2019
[redacted]	Glendora		91740	US	1/29/2019
[redacted]	Marietta		30067	US	1/29/2019
[redacted]	Brooklyn		11209	US	1/29/2019
[redacted]	Wyckoff		7481	US	1/29/2019
[redacted]d	Lapeer		48446	US	1/29/2019
[redacted]	okc		73120	US	1/29/2019
[redacted]	Yuba City		95991	US	1/29/2019
[redacted]	Las Vegas		89107	US	1/29/2019
[redacted]	Hollywood		33027	US	1/29/2019
[redacted]tts	DeWitt		48820	US	1/29/2019
[redacted]	Newark Valley		13811	US	1/29/2019
[redacted]	Palo Alto		94306	US	1/29/2019
[redacted]	Ballston Spa		12020	US	1/29/2019
[redacted]	Richlands		28574	US	1/29/2019
[redacted]	Columbus		43210	US	1/29/2019
[redacted]	Davenport		33837	US	1/29/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	PHOENIX		85020	US	1/29/2019
	State College		16801	US	1/29/2019
	Newport		41099	US	1/29/2019
	Richmond		23221	US	1/29/2019
	Chula Vista		91913	US	1/29/2019
	Chicago		60602	US	1/29/2019
	Westerville		43081	US	1/30/2019
	Glen Ellyn		60137	US	1/30/2019
	East Amherst		14051	US	1/30/2019
	Pueblo		81001	US	1/31/2019
	Lomita		90717	US	1/31/2019
	Troy		48084	US	1/31/2019
	Indianapolis		46250	US	1/31/2019
	Uitikon		5502	Switzerland	1/31/2019
	Livermore		94551	US	1/31/2019
	Pearl City		96782	US	1/31/2019
	San Pedro		90732	US	2/1/2019
	Crown Point		46307	US	2/1/2019
	Gardnerville		89460	US	2/2/2019
	burlington		1803	US	2/2/2019
	Ewa Beach	HI	96706	US	2/4/2019
	Sanford		32771	US	2/4/2019
	Kailua	HI	96734	US	2/5/2019
	Boston		2115	US	2/6/2019
	Haleiwa	HI	96712	US	2/6/2019
	Los Angeles		91423	US	2/7/2019
				US	2/9/2019
	Aurora		60505	US	2/10/2019
	Webster		14580	US	2/12/2019
				US	2/15/2019
	Columbia		65201	US	2/16/2019
	San Diego		92102-1380	US	2/17/2019
	denver		80260	US	2/17/2019
	Boulder		80302	US	2/18/2019
	Sun Valley		89433	US	2/18/2019
	Portland		97266	US	2/18/2019
	Richmond		23235	US	2/18/2019
e				US	2/18/2019
	Richmond		40475	US	2/19/2019
	West Long Branch		6000	US	2/22/2019
	Maple Ridge		V2W 2B5	Canada	2/23/2019
		HI		US	2/25/2019
	Honolulu	HI	96817	US	2/25/2019
	Corpus Christi		78412	US	3/2/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	West Pittston		18643	US	3/2/2019
	Lafayette Hill		19444	US	3/4/2019
	Minneapolis		55422	US	3/5/2019
	Pickerington		43147	US	3/6/2019
	Canal Winchester		43110	US	3/7/2019
	Columbus		43004	US	3/7/2019
	Pickerington		43147	US	3/7/2019
				US	3/7/2019
	Rockport		78382	US	3/8/2019
	Rockport		78382	US	3/8/2019
	Austin		78734	US	3/8/2019
	Austin		78738	US	3/8/2019
	Granite Shoals		78654	US	3/8/2019
	Austin		78738	US	3/8/2019
	San Antonio		78250	US	3/8/2019
	Wailuku		96793	US	3/8/2019
	Mountain Home		72653	US	3/9/2019
	Streetsboro		44241	US	3/10/2019
	grants pass		97527	US	3/10/2019
	Greer		29650	US	3/10/2019
	Jersey City		7304	US	3/10/2019
	Monee		60449	US	3/12/2019
	Euless		76040	US	3/12/2019
	Honolulu	HI	96817	US	3/12/2019
	Cypress		90630	US	3/13/2019
	Davie		33317	US	3/15/2019
	Pickerington		43147	US	3/16/2019
	Cambridge		2138	US	3/16/2019
	Herndon		20171	US	3/17/2019
	Caseyville		62232	US	3/17/2019
	Makawao	HI	96768	US	3/17/2019
	Hāna	HI	96713	US	3/17/2019
	Makawao	HI	96768	US	3/17/2019
	Kaneohe	HI	96757	US	3/17/2019
	Makawao	HI	96768	US	3/17/2019
	Kihei	HI	96753	US	3/17/2019
	Lakeland	FL	33813	US	3/17/2019
	Wailuku	HI	96793	US	3/17/2019
	Kaunakakai	HI	96748	US	3/17/2019
	Kihei	HI	96753	US	3/17/2019
	Honolulu	HI	96805	US	3/17/2019
	Kapolei	HI	96707	US	3/17/2019
	Wailuku	HI	96793	US	3/17/2019
	Kihei	HI	96753	US	3/17/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	kihei	HI	96753	US	3/17/2019
	Kaunakakai	HI	96748	US	3/17/2019
	Hakalau	HI	96710	US	3/17/2019
	Haiku	HI	96708	US	3/17/2019
	Kahului	HI	96732	US	3/17/2019
	Makawao	HI	96768	US	3/17/2019
	Fernley	NV	89408	US	3/17/2019
	La Habra	CA	90633	US	3/17/2019
	Auckland		632	New Zealand	3/18/2019
	Wailuku	HI	96793	US	3/18/2019
	Lahaina	HI	96761	US	3/18/2019
	Waianae	HI	96792	US	3/18/2019
	Lahaina	HI	96761	US	3/18/2019
	Waipahu	HI	96797	US	3/18/2019
	Hana	HI	96713	US	3/18/2019
	Lahaina	HI	967161	US	3/18/2019
	Honolulu	HI	96805	US	3/18/2019
	HAUULA	HI	96717	US	3/18/2019
	Kihei	HI	96753	US	3/18/2019
	Lahaina	HI	96761	US	3/18/2019
	Wailuku	HI	96793	US	3/18/2019
	Albemarle	NC	28001	US	3/18/2019
	Greeley		80634	US	3/18/2019
	Tempe		85287	US	3/18/2019
	Hollywood		33027	US	3/18/2019
	Maple Grove		55311	US	3/18/2019
	Kailua Kona	HI	96740	US	3/18/2019
	Seattle		98109	US	3/18/2019
	Wahiawa	HI	96786	US	3/18/2019
	Honolulu	HI	96805	US	3/18/2019
	Honolulu	HI	96823	US	3/18/2019
	Mount Horeb	WI	53572	US	3/18/2019
	San Angelo		76904	US	3/18/2019
	Spokane	WA	99203	US	3/18/2019
	Wailuku	HI	96793	US	3/18/2019
	Wahiawā	HI	96786	US	3/18/2019
	Waikapu	HI	96793	US	3/18/2019
	Hilo	HI	96720	US	3/18/2019
	Honolulu	HI	96817	US	3/18/2019
	Fresno		93727	US	3/18/2019
	Wailuku	HI	96793	US	3/18/2019
	Aiea	HI	96701	US	3/18/2019
	SPRINGFIELD		97477	US	3/18/2019
	Lanai City	HI	96763	US	3/18/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Mount Clemens		48043	US	3/18/2019
	Haiku	HI	96708	US	3/18/2019
	Broken Arrow		74014	US	3/18/2019
	Schoharie		12157	US	3/18/2019
	Makawao	HI	96768	US	3/18/2019
	Aptos		95003	US	3/18/2019
	Jamaica		11435	US	3/18/2019
	Lahaina	HI	96761	US	3/18/2019
	Troup		75789	US	3/18/2019
	Seattle		98115	US	3/18/2019
	Los Angeles		90025	US	3/18/2019
	Charleston		29492	US	3/18/2019
	Cherry Hill	NJ	8034	US	3/18/2019
	Kahului	HI	96732	US	3/18/2019
	San Francisco		94114	US	3/18/2019
	Milwaukee		53213-4066	US	3/18/2019
	Islip Terrace		11752	US	3/18/2019
	Lahaina	HI	96761	US	3/18/2019
	Brooklyn		11204	US	3/18/2019
	lebanon	OR	97321	US	3/18/2019
	Garden Grove		92841	US	3/18/2019
				US	3/18/2019
	Honolulu	HI	96817	US	3/18/2019
	Toa Alta		953	US	3/18/2019
				US	3/18/2019
	Sevierville		37862	US	3/18/2019
	Ewa Beach	HI	96706	US	3/18/2019
	Salt Lake City		84128	US	3/19/2019
	Cheswick		15024	US	3/19/2019
	Concord		94520	US	3/19/2019
	kahului	HI	96732	US	3/19/2019
	Finleyville			US	3/19/2019
	Volcano	HI	96785	US	3/19/2019
	Scottsdale		85250	US	3/19/2019
	Miami		33169	US	3/19/2019
	Garden Grove		92840	US	3/19/2019
	Cedar Rapids		52404	US	3/19/2019
	Oristano		9170	Italy	3/19/2019
	Walnut Creek		94596	US	3/19/2019
	Naalehu	HI	96772	US	3/19/2019
	Troy		48085	US	3/19/2019
	Willows		95988	US	3/19/2019
	Buena Park		90620	US	3/19/2019
	Wailuku	HI	96793	US	3/19/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Lawrence		66049	US	3/19/2019
	Perrysburg		43551	US	3/19/2019
	Greenwich		6878	US	3/19/2019
	saint petersburg		33701	US	3/19/2019
	Newport		PO30	UK	3/19/2019
	Salisbury		28146	US	3/19/2019
	Apopka		32712	US	3/19/2019
	Seattle	WA	98122	US	3/19/2019
	Kaneohe	HI	96744	US	3/19/2019
	Broomfield	CO	80021	US	3/19/2019
	Reston		20191	US	3/19/2019
	Clarksville		21029	US	3/19/2019
	Ridley Park		19078	US	3/19/2019
	Bristol		19007	US	3/19/2019
	Portland		97201	US	3/19/2019
	Margate	FL	33068-2917	US	3/19/2019
	Bellwood		60104	US	3/19/2019
	Spokane		99205	US	3/19/2019
	Lancaster	PA	17603	US	3/19/2019
	Fullerton		92834	US	3/19/2019
	Denver		80210	US	3/19/2019
	Fremont		94555	US	3/20/2019
	Albuquerque		87110	US	3/20/2019
	Browns Mills		8015	US	3/20/2019
	Haiku	HI	96708	US	3/20/2019
	Westmont		60559	US	3/20/2019
	Livingston		7039	US	3/20/2019
	Honolulu	HI	96826	US	3/20/2019
	Georgetown		78626	US	3/20/2019
	Ahmedabad		380007	India	3/20/2019
	Wailuku	HI	96793	US	3/20/2019
	Makawao	HI	96768	US	3/20/2019
	Benicia		94510	US	3/20/2019
ri	San Jose		95112	US	3/20/2019
	Zelienople		16063	US	3/20/2019
	Florence		1062	US	3/20/2019
	Denver		n/a	US	3/20/2019
	Huntersville		28078	US	3/20/2019
	BuzzardsBay		02532-4426	US	3/20/2019
	Quarryville		17566	US	3/20/2019
	SHORELINE		98155	US	3/20/2019
	Dekalb		60115	US	3/20/2019
	Van Nuys		15014	US	3/20/2019
	San Francisco		94117	US	3/20/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	New York		10025	US	3/20/2019
	Austin		78704	US	3/20/2019
	Mechanicsville		20659	US	3/20/2019
	Atlanta		30301	US	3/20/2019
	Garden Grove		92840	US	3/20/2019
	Burlington		41005	US	3/20/2019
	Rittman		44270	US	3/20/2019
	La Verne		91750	US	3/20/2019
	Pendleton		97801	US	3/20/2019
	Bancroft		48414	US	3/21/2019
	Salt Lake City		84115	US	3/21/2019
	ferguson		63135	US	3/21/2019
	Surprise	AZ	85388	US	3/21/2019
	Cathedral City		92234-3068	US	3/21/2019
	Kahului	HI	96744	US	3/21/2019
	Honolulu	HI	96822	US	3/21/2019
	Dying ST		12345	US	3/21/2019
	Miami		33132	US	3/21/2019
				US	3/21/2019
	Pembroke		28372	US	3/21/2019
				US	3/21/2019
	Wailuku		96793	US	3/21/2019
	Palm City		34990	US	3/21/2019
	Chicago		60602	US	3/21/2019
	East Windsor		8520	US	3/21/2019
	Las Vegas		89104	US	3/21/2019
	Kaysville		84037	US	3/21/2019
	Rialto		92376	US	3/21/2019
	Round Rock		78665	US	3/21/2019
	Philadelphia		19121	US	3/21/2019
	jersey city		7304	US	3/22/2019
	Madison		53703	US	3/22/2019
	Danbury		6810	US	3/23/2019
	Atlanta		30303	US	3/24/2019
	Willemstad			Curaçao	3/24/2019
	Holbrook		2343	US	3/25/2019
	OKC		73115	US	3/26/2019
	Coral Gables		33134	US	3/27/2019
	Provo		84602	US	4/1/2019
	Altamonte Springs	FL	80233	US	4/2/2019
	aва		11111	US	4/14/2019
	Rome		13440	US	4/14/2019
	Stoughton		53589	US	4/14/2019
	Marietta		30067	US	4/15/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Santa Cruz		95062	US	4/15/2019
				US	4/16/2019
	Easton		18042	US	4/17/2019
	Franklin Square		11010	US	4/17/2019
	Watsonville		95076	US	4/18/2019
	Ellijay		30540	US	4/21/2019
	Glen Ellyn		60137	US	4/22/2019
	North Attleborough		2760	US	4/23/2019
	Jakarta		11640	Indonesia	4/24/2019
	Spotsylvania		22553	US	4/27/2019
	Thomaston		30286	US	4/27/2019
	San Juan Capistrano		92675	US	4/29/2019
	Cleveland		44192	US	4/29/2019
	Monroe		28112	US	4/30/2019
	West Hollywood		90069	US	4/30/2019
	Snohomish		98296	US	4/30/2019
	Healdsburg		95448	US	5/1/2019
	Boulder		80309	US	5/2/2019
	North Highlands		95660	US	5/3/2019
	Honolulu	HI	96816	US	5/4/2019
	Waynesboro		17268	US	5/4/2019
	Durham		27707	US	5/4/2019
	Oklahoma City		73160	US	5/4/2019
	Reno		89506	US	5/4/2019
	Norfolk		23503	US	5/4/2019
	San Diego		92126	US	5/4/2019
	Bradenton		34209	US	5/4/2019
	Springfield		22150	US	5/4/2019
	Houston		77015	US	5/4/2019
	Middle Village		11379	US	5/4/2019
	Kathleen		31069	US	5/4/2019
	Portland		97206	US	5/4/2019
	Hilliard		43026	US	5/5/2019
	Kingwood		26537	US	5/5/2019
	Honolulu	HI	96816	US	5/5/2019
	Los Angeles		90027	US	5/5/2019
	Newburgh		47630	US	5/5/2019
	St.Petersburg		33707	US	5/5/2019
	Chicago	IL	60636	US	5/5/2019
	Decatur		46733	US	5/5/2019
	Lake Charles		70605	US	5/5/2019
	Newport News		23602	US	5/5/2019
	Apex		27539	US	5/5/2019
	Virginia Beach		23456	US	5/5/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Chapel Hill		27516	US	5/5/2019
	Lawrence		66045	US	5/5/2019
	Wailuku		96793	US	5/5/2019
	Orem		84058	US	5/5/2019
	Houston		77011	US	5/5/2019
	Albuquerque		87123	US	5/5/2019
	Elizabethtown		17022	US	5/5/2019
	Riverview		33578	US	5/5/2019
	Portland		97202	US	5/5/2019
	Gainesville		32608	US	5/5/2019
	Kalamazoo		49009	US	5/5/2019
	Sun Valley		89433	US	5/6/2019
	Clayton		27520	US	5/6/2019
	Knoxville		37918	US	5/6/2019
	Ocean City		98569	US	5/6/2019
				US	5/6/2019
	Miami		33167	US	5/6/2019
	Ozone Park		11417	US	5/6/2019
	Cape Coral		33991	US	5/6/2019
	Stockton		95206	US	5/6/2019
				US	5/6/2019
	Gainesville		32611	US	5/6/2019
	Seattle		98122	US	5/6/2019
	Denver		80233	US	5/6/2019
	florence		41042	US	5/6/2019
	Saginaw		76179	US	5/6/2019
	laguna beach		92652	US	5/6/2019
	Parker		80138	US	5/6/2019
				US	5/6/2019
	St. Cloud		56303	US	5/6/2019
	Louisville		40299	US	5/6/2019
	Racine		53403	US	5/6/2019
	Burbank		60459	US	5/6/2019
	Brooklyn		11215	US	5/6/2019
i	Austin		78735	US	5/6/2019
	Salt Lake City		84119	US	5/6/2019
	Decatur		30033	US	5/6/2019
	Albuquerque		87112	US	5/6/2019
	Brunswick		31525	US	5/6/2019
	Brooklyn		10455	US	5/6/2019
	Londonderry		3053	US	5/6/2019
	San Jose		95134	US	5/6/2019
	Winter Park		32789	US	5/6/2019
	Marietta		30066	US	5/6/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Tacoma		98407	US	5/6/2019
	Scotland		72141	US	5/6/2019
	Washougal		98671	US	5/6/2019
	San Diego		92128	US	5/6/2019
	Milton		5468	US	5/6/2019
	Salt Lake City		84123	US	5/6/2019
	Denver		80227	US	5/6/2019
	Gilbert		85008	US	5/6/2019
	Brick		8724	US	5/6/2019
	Riverside		92506	US	5/6/2019
	Lake Oswego		97035	US	5/6/2019
	Buda		78610	US	5/6/2019
	El Dorado Hills		95762	US	5/6/2019
	Menlo Park		94025	US	5/6/2019
	Fairfield		6825	US	5/6/2019
	Fairview		37062	US	5/6/2019
	Waukesha		53189	US	5/6/2019
	Morisdale		16858	US	5/6/2019
	Philadelphia		19139	US	5/6/2019
	Ormond Beach		32174	US	5/6/2019
	Northborough		1532	US	5/6/2019
	San Anselmo			US	5/6/2019
	Fairfax		22030	US	5/6/2019
	Houston		77027	US	5/6/2019
	Clay City		62824	US	5/6/2019
	Houston		77035	US	5/6/2019
	Lees Summit		64063	US	5/6/2019
	Englewood		37329	US	5/6/2019
	Garfield		7026	US	5/6/2019
	Easton		18942	US	5/6/2019
	Chicago		60620	US	5/6/2019
	Fairburn		30213	US	5/6/2019
	Long Beach		90814	US	5/6/2019
	Elmhurst		11373	US	5/6/2019
	West Hills		91307	US	5/6/2019
	Fort Lauderdale		33317	US	5/6/2019
	Oceanside		92058	US	5/6/2019
	Durban			US	5/6/2019
	Hot springs		71913	US	5/6/2019
	Venice		90066	US	5/6/2019
	Pittsburgh		15206	US	5/6/2019
	Walla Walla		99362	US	5/6/2019
	Statesville		28625	US	5/6/2019
	Rockville		20853	US	5/6/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Vernon Hills		60061	US	5/6/2019
	Buffalo		14207	US	5/6/2019
	New York		10023	US	5/6/2019
	Glen Allen		23059	US	5/6/2019
	Monterey		93940	US	5/6/2019
	Lexington		40502	US	5/6/2019
	Saint Petersburg		33707	US	5/6/2019
	Brooklyn		11238	US	5/6/2019
	Tucson		85742	US	5/6/2019
	East Stroudsburg		18301	US	5/6/2019
	Durham		27705	US	5/6/2019
	Mississippi State		39762	US	5/6/2019
	Tustin		92780	US	5/6/2019
				US	5/6/2019
	Tampa		33647	US	5/6/2019
	The Dalles		97058	US	5/6/2019
	Baldwin		54002	US	5/6/2019
	Kissimmee		34746	US	5/6/2019
	Arlington Heights		60005	US	5/6/2019
	WASHINGTON		63090	US	5/6/2019
	Miami		33143	US	5/6/2019
	Newmarket		3857	US	5/6/2019
	Oregon City		97045	US	5/6/2019
	Kennewick		99338	US	5/6/2019
	Hyannis		2601	US	5/6/2019
	League City		77573	US	5/6/2019
	Baileys Harbor		54202	US	5/6/2019
	Dover		19904	US	5/6/2019
	San Clemente		92672	US	5/6/2019
	sandy		84091	US	5/7/2019
	Hillsborough		27278	US	5/7/2019
n	Cathlamet		98612	US	5/7/2019
	West Chester		19382	US	5/7/2019
	Houston		77005	US	5/7/2019
	Napa		94559	US	5/7/2019
	Lafayette		47909	US	5/7/2019
	Ponte Vedra Beach		32082	US	5/7/2019
	Charlotte		28227	US	5/7/2019
	Sacramento		95841	US	5/7/2019
	Pittsburgh		15201	US	5/7/2019
	Denton		76207	US	5/7/2019
	Owosso		48867	US	5/7/2019
	Phoenix		85034	US	5/7/2019
	Mims		32754	US	5/7/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Oliver Springs		37840	US	5/7/2019
	Merion Station		19066	US	5/7/2019
	Manchester		3104	US	5/7/2019
	Encinitas		92024	US	5/7/2019
	Petaluma		94952	US	5/7/2019
	Spring Grove		55974	US	5/7/2019
	Bayville		8721	US	5/7/2019
	New York		10003	US	5/7/2019
	Dallas		89122	US	5/7/2019
	Honolulu		96814	US	5/7/2019
	Jamestown	NY	14701	US	5/7/2019
	Peninsula		44264	US	5/7/2019
	Wachenheim		67157	Germany	5/7/2019
	Paonia		81428	US	5/7/2019
	Indianapolis		46227	US	5/7/2019
	Louisville		40299	US	5/7/2019
	Ansonia		6401	US	5/7/2019
	Baldwin		54002	US	5/7/2019
	Meigs		45761	US	5/7/2019
	Baldwin		54002	US	5/7/2019
	Wilton		6897	US	5/7/2019
	Hendersonville		28739	US	5/7/2019
	Riverside		92506	US	5/7/2019
	Manhattan		66502	US	5/7/2019
	Santa Rosa		95403	US	5/7/2019
	Broken arrow		Usa	US	5/7/2019
	lampung tengah		34158	US	5/7/2019
	Pecos		79772	US	5/7/2019
	Tupper Lake		12986	US	5/7/2019
	brussels		b-1200	US	5/7/2019
	San Pedro		90731	US	5/7/2019
	Salt Lake City		84103	US	5/7/2019
	Spring		77379	US	5/7/2019
	Dallas	TX	75211	US	5/7/2019
	Council Bluffs		51503	US	5/7/2019
	Riverton		84065	US	5/7/2019
	Тбилиси		21029	Germany	5/7/2019
	Burlington		5401	US	5/7/2019
	Wroclaw		Berlin	Germany	5/7/2019
	Henderson		89074	US	5/7/2019
	Minerva		44657	US	5/7/2019
	Silver City		88061	US	5/7/2019
	Atlanta		30309	US	5/7/2019
	San Antonio		78209	US	5/7/2019

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Name	City	State	Postal Code	Country	Signed On
[redacted]	Las Vegas		89129	US	5/7/2019
	Simsbury		6070	US	5/7/2019
	Ontario		91764	US	5/7/2019
	Cincinnati		45215	US	5/7/2019
	Nine Mile Falls		99026	US	5/7/2019
	Reading		18504	US	5/7/2019
	Fontana		92335	US	5/7/2019
	Rochester		14609	US	5/7/2019
	Minneapolis		55116	US	5/8/2019
	Boston		2115	US	5/8/2019
	Santa Rosa		95404	US	5/8/2019
	Sewell		8080	US	5/8/2019
	Simpsonville		29681	US	5/8/2019
	Houston		77080	US	5/8/2019
	Long Beach		90815	US	5/8/2019
	Shorewood		60404	US	5/8/2019
	Manhattan		66503	US	5/8/2019
	San Diego		92105	US	5/8/2019
	Richfield		44286	US	5/8/2019
	Harrisonburg		22802	US	5/8/2019
	Port Townsend		98368	US	5/8/2019
	Austin		78759	US	5/8/2019
	Encinitas		92024	US	5/8/2019
	Cheney	WA	99004	US	5/8/2019
	Pahrump		89041	US	5/8/2019
	Cobleskill	NY	12043	US	5/8/2019
	Sparks		89436	US	5/8/2019
	Homer Glen		60491	US	5/8/2019
	Plymouth		44865	US	5/8/2019
			79249	Germany	5/8/2019
	west st paul		55118	US	5/8/2019
			59387	Germany	5/8/2019
	Berlin		12529	Germany	5/8/2019
	Fort Campbell		42223	US	5/8/2019
	Logan		84321	US	5/8/2019
	Pacoima		91331	US	5/8/2019
	Superior		54880	US	5/8/2019
	New Orleans		70045	US	5/8/2019
	Sulphur		70665	US	5/8/2019
	Omaha		68144	US	5/8/2019
	Cumming		30041	US	5/8/2019
	Broken Arrow		74012	US	5/8/2019
	Philadelphia		19113	US	5/8/2019
	San Francisco		94121	US	5/8/2019

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Deadwood		97430	US	5/8/2019
	Fort Myers		33908	US	5/8/2019
	Houston		77007	US	5/8/2019
	Silver Spring		20906	US	5/8/2019
	West Hollywood		90069	US	5/8/2019
	Indianapolis		46250	US	5/9/2019
	Los Angeles		90026	US	5/9/2019
	Everett	WA	98204	US	5/9/2019
	Charlotte		28217	US	5/9/2019
	Beaverton		97006	US	5/9/2019
	Santa Cruz	CA	95060	US	5/9/2019
	Los Angeles		90036	US	5/9/2019
	Falls Church	VA	22043	US	5/9/2019
	Humble		77346	US	5/10/2019
	Tipton		46970	US	5/10/2019
	Simi Valley		93063	US	5/10/2019
	North Richland Hills		76182	US	5/11/2019
	South Charleston		25309	US	5/12/2019
	Northville		48168	US	5/12/2019
	Mesa		85203	US	5/12/2019
	Aldershot		Gu113ss	UK	5/13/2019
	Houston		77035	US	5/14/2019
	SUNNYSIDE		11104	US	5/14/2019
	Plano		75025	US	5/15/2019
	Kent City		49330	US	5/15/2019
	New Albany		43054	US	5/17/2019
	Central Islip		11722	US	5/17/2019
	new york		97612	US	5/17/2019
	Kent		98031	US	5/19/2019
	A		54409	US	5/20/2019
	waiehu		96793	US	5/21/2019
	Carbondale		81623	US	5/21/2019
	Ewa Beach	HI	96706	US	5/21/2019
	Charlotte		28203	US	5/21/2019
	Pittsburgh		15213	US	5/21/2019
	Columbia		65203	US	5/21/2019
	Gilroy		95020	US	5/21/2019
	Madison		6443	US	5/21/2019
	Kamuela	HI	96743	US	5/22/2019
	Buffalo		14221	US	5/23/2019
	Pahoa		96749	US	5/23/2019
	Boydton		23917	US	5/24/2019
	Lorain		44053	US	5/24/2019
	Port Clinton		43452	US	5/24/2019

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	Cleveland		44111	US	5/24/2019
				US	5/24/2019
	Luna Pier		48157	US	5/24/2019
	Seattle		98144	US	5/25/2019
	Hilo	HI	96720	US	5/25/2019
	Pearl City	HI	97682	US	5/25/2019
	Kahuku		96731	US	5/25/2019
	Berkeley	CA	94705	US	5/25/2019
	Haleiwa		96712	US	5/25/2019
	Sebastopol		95472	US	5/25/2019
	Kea'au	HI	96749	US	5/25/2019
	Kukuihaele	HI	96754	US	5/25/2019
	Paauilo	HI	96776	US	5/25/2019
	Hilo	HI	96721-0944	US	5/25/2019
	Honolulu	HI	96805	US	5/26/2019
	Miami		33145	US	5/26/2019
	Naalehu	HI	96772	US	5/26/2019
	Kapolei	HI	96709	US	5/26/2019
	West Haveb		6516	US	5/26/2019
	Tipp city		45371	US	5/26/2019
	Kaneohe	HI	96744	US	5/26/2019
	Torrance		90505	US	5/26/2019
	League City		77573	US	5/26/2019
	Round hill		20141	US	5/26/2019
	kealakekua	HI	96750	US	5/26/2019
	Winnipeg		R2M	Canada	5/26/2019
	Seattle	WA	98117	US	5/26/2019
	Troutdale	OR	97060	US	5/26/2019
	Honolulu	HI	96815	US	5/26/2019
	North Highlands		95660	US	5/26/2019
	Pāhoa	HI	96778	US	5/26/2019
	Honolulu	HI	96819	US	5/26/2019
	Hilo	HI	96720	US	5/26/2019
	Avon Lake		44012	US	5/26/2019
	Kaimukī		96816	US	5/26/2019
	New York		11757	US	5/26/2019
	Kindred		58021	US	5/26/2019
	Elk Grove		95758	US	5/26/2019
	Honolulu	HI	96814	US	5/26/2019
	Hilo		96720	US	5/26/2019
	Miami		33162	US	5/26/2019
	Forney		75126	US	5/26/2019
	Whitewright		75491	US	5/27/2019
	Virginia Beach		23452	US	5/27/2019

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

Name	City	State	Postal Code	Country	Signed On
[redacted]	San Juan Capistrano	Ca	92675	US	5/27/2019
	Raymond		43067	US	5/27/2019
	Palm Bay		32905	US	5/27/2019
	Cleveland		44134	US	5/27/2019
				US	5/27/2019
	Prattville		36067	US	5/27/2019
	Haleiwa	HI	96712	US	5/27/2019
	Fort Bragg		28303	US	5/27/2019
	Minneapolis		55433	US	5/27/2019
	Egg Harbor Township		8234	US	5/27/2019
	Dallas	TX	75270	US	5/27/2019
	montevideo			Uruguay	5/28/2019
	Mt. View	HI	96771	US	5/28/2019
alea	Lana'i City	HI	96763	US	5/28/2019
	Tiffin		44883	US	5/29/2019
	San Anselmo		94960	US	5/29/2019
	Hoolehua	HI	96729	US	5/29/2019
	Cuyahoga Falls		44221	US	5/30/2019
	Newark		7114	US	5/31/2019
	Chicago		60639	US	5/31/2019
	Wilton		4294	US	5/31/2019
	Miami		33173	US	5/31/2019
	Limassol			Cyprus	5/31/2019
	Paramus		7652	US	5/31/2019
	Dillonvale		43917	US	5/31/2019
	Atlanta		30328	US	5/31/2019
	Central District			Hong Kong	5/31/2019
	Rogers		72756	US	5/31/2019
	Minneapolis		55418	US	5/31/2019
	Central District			Hong Kong	5/31/2019
	Chicago		60652	US	5/31/2019
	Metuchen		8840	US	5/31/2019
	Corvallis		97333	US	5/31/2019
	Central District			Hong Kong	5/31/2019
	Albany		94706	US	5/31/2019
	Central District			Hong Kong	6/1/2019
	Port St Lucie		34957	US	6/1/2019
	Fort Lauderdale		33351	US	6/1/2019
	Portland		97233	US	6/1/2019
	Concord		1742	US	6/1/2019
	NYC			US	6/1/2019
				US	6/1/2019
	Jeannette		15644	US	6/1/2019
	Westville		74965	US	6/1/2019

Change.org Petition Signatures: Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats

[redacted]

City	State	Postal Code	Country	Signed On
berwyn		19312-1279	US	6/1/2019
Austin		78713	US	6/1/2019
Titusville		32780	US	6/1/2019
Vega Baja			US	6/1/2019
Wooster		44691	US	6/1/2019
Naperville			US	6/2/2019
Stone Mountain		30083	US	6/2/2019
Yonkers		10701	US	6/4/2019
Newark		7114	US	6/5/2019
Bethesda		20817	US	6/5/2019
Tacoma		98406	US	6/5/2019
Honolulu		96813	US	6/7/2019
Morehead City		28557	US	6/7/2019
Apache Junction		85119	US	6/8/2019

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Kawailoa Wind Farm Endangered Bat Take Permit Application - Public Comment from North Shore Oahu Resident

[redacted] Sun, Jun 9, 2019 at 1:00 PM

To: "hiwindpeis@fws.gov" <hiwindpeis@fws.gov>

[redacted]

Dear US Fish and Wildlife Service Field Supervisor,

Please find attached my public comments on the Kawailoa Wind Farm's HCP and application for an incidental take permit to kill endangered Hawaiian hoary bats. The wind farm's proposal and Alternative 3 (April - September night-time shut down of the turbines) are addressed in a Draft PEIS and Draft HCP. In keeping with the requirements of the Endangered Species Act, Kawailoa Wind Farm must shut down at night, year-round, to avoid killing any more bats. Their requested permit to kill bats (and the proposed April to September night shutdown) do not "minimize and mitigate" bat take to the maximum extent practicable, and additional bat take on Oahu would jeopardize the continued existence of the bat species on Oahu, so the incidental take permit can't be approved.

The comments in my letter apply to all four wind farms considered in the PEIS. Public comments are due June 10, 2019. My comments include a comment letter .pdf with appendices, and an Excel spreadsheet for your use assessing the maximum extent practicable aspect of the wind farm in relation to ESA permitting requirements.

Thank you,

[redacted]

2 attachments

North Shore Letter to USFWS Bat Wind Farm June 9 2019.pdf
9226K

Appendix B Attachment - Wind Farm Max Extent Practicable Spreadsheet for Auditor to Refine.xlsx
14K

June 9, 2019

Field Supervisor, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office,
300 Ala Moana Boulevard, Room 3–122
Honolulu, Hawaii 96850

Aloha United States Secretary of the Interior Mr. David Bernhardt,

In the pursuit of reaching the benchmarks that are outlined in the State of Hawaii's Clean Energy Initiative (HCEI), a conflict has emerged pitting the lives of valued species of birds and bats with the rotation of a wind turbines to generate electricity using wind energy.

To address this conflict, we have Title 16 U.S. Code § 1531; Section (c) (1) that states **"all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purpose of this chapter."** The chapter being referenced is of course from the Endangered Species Act whereby the law is not being used to challenge the intent or purpose of HCEI, but rather see to it that the types of home-grown resources used to produce energy are not detrimental to wildlife of concern.

The comment period on the draft Programmatic Environmental Impact Statement (PEIS) for four wind energy projects (herein projects) ended on June 10th to address the potential direct, indirect, and cumulative impacts the projects have on three endangered species in Hawaii.

Your department received objections on the draft PEIS that called for the USFWS to rescind the Incidental Take Permit (ITP) issued to the project. Unfortunately, the USFWS was not entertaining the revocation of the ITP but rather input on how to let the project continue with modifications to respond to the report of bat fatalities caused by the operations of the project to have increased at a rate that exceeds the ITP.

The ITP grossly underestimated the impacts of dead bats and now science is tasked to advance the narrative that killing bats in the numbers as permitted as "take" by USFWS be re-defined.

To find resolve and adhere to Title 16 U.S. Code § 1531; Section (c) (1) after the draft PEIS has been decided upon for mitigation, the USFWS should expand the scope of public comment to include another proposal- and that proposal offer the alternative of having the ITP pulled to stimulate recourse to:

1. Relocate the project to sites where endangered species would not be impacted.
2. If the relocation unattainable, then the project be rendered idle unless:
   a. Sonar technology used as a repellent renders the turbines as safe to wildlife, and or
   b. Conditions are the endangered species has been extirpated to render the ITP moot.
3. USFWS is to use its scientific protocols to establish evidence the Habitat Conservation Plan has served as an expansion of the population distribution of the endangered species in surveys and in the event the species has not relocated or inhabited the area in numbers as stated in the ITP for the project, the ITP issued for the project shall be terminated rendering operation of the project as unpermitted in violation of .

The three options as aforementioned belong in the realm of the discussions and are germane to the wellbeing of the bats in particular. These options fulfill more appropriately the intent of Title 16 U.S. Code § 1531; Section (c) (1) and as such, you have the statutory authority to consider a whole new approach that re-examines the definition of Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii) that reads: **"*What alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized.*"**

Why was the project approved to begin with knowing the wind turbines will extinguish bats for example when in operation that are inhabiting the project footprint? The answer provided by the proponents of the project was that the project will not negatively impact the recovery of the species due to the creation of a Habitat Conservation Plan.

The project has been rightfully characterized as a slaughterhouse, yet, the discussions with the Interior Department are not about whether the blades should stop turning, but rather how accurate science can mathematically conclude endangered species being taken is fundamentally sound.

Title 16 U.S. Code § 1539; Section (a) (2) B (i) states that the ITP will be "incidental," and clearly, this is a project that has demonstrated the take is perpetual. The project is in violation of this law- nothing about it is incidental.

Under Title 16 U.S. Code § 1539; Section (a) (2) C, it reads that **"the secretary shall revoke a permit issued under this paragraph if he finds that the permittee is not complying with the terms and conditions of the permit."**

Therefore, it would be justified and warranted and within your purview per U.S. Code to allow the ITP to be challenged on the basis the applicant for the ITP has abused it. And hence, the **Wind Energy HCPs and PEIS / FWS–R1–ES–2019–N032** scope of comment to address the mitigating alternatives could be amended to include that revocation alternative.

You could re-open the comment period to include my suggestion that the scientific basis used to support the project include your decision to activate Title 16 U.S. Code § 1539; Section (a) (2) C- be put into motion.

As a Native Hawaiian Cultural and Religious Practitioner, and a direct lineal descendent as recognized by the Oahu Burial Council, it gives me hope that this President continues to makes the connection between using the Green New Deal concept- meeting 100% of national power demand through renewable sources as was voted on by the 116th Congress, as a ruse.

During my years as a Native Hawaiian Religious Studies teacher at Damien Memorial in Honolulu, now since retired, I wanted my students to learn the lesson of how getting a message across needs to at times, be as simple as conveying the concept of *A plus B equals C*. And this project fits that model to a tee.

a. Hawaii's own Green New Deal has forced renewable energy projects upon the landscape in haste that are causing fatalities called "takings" of endangered species in violation of Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii) that reads: ***"What alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized."***
b. The claim that wind energy must be of party to the equation of meeting a HCEI for example and to contain a percentage of wind energy projects in that schemata, does not exist in any legislation at any level.
c. Therefore, instead of the placement of wind energy where endangered species would be impacted, the purpose and intent of Title 16 U.S. Code § 1531; Section (c) (1) could be met by the Secretary of the Interior adhering to Title 16 U.S. Code § 1539 Exceptions, Section (a) 2, (iii) by concluding that the use of alternative sources of renewable energy were not entertained to the fullest degree possible by the State of Hawaii to avert the need for a ITP for its energy goals.

Had ocean wave energy projects been deployed as an example to harvest energy as a source for generating renewable power, the wind energy project would not need to exist where they cause harm to wildlife. A plus B equals C proves that. This is where the quote by the late Russell Means comes into play- "We don't need your science to tell us about everything that is sacred and holy, including our bodies." Augustana College, Sioux Falls, South Dakota, 4/27/2011

To me, seeing these bats and others like the Hawaiian owl, a sacred being, killed for political clichés and being justified by USFWS under the guise of science to condone it, is the reason you have the law - Title 16 U.S. Code § 1539; Section (a) (2) C)) at your fingertips to end the abuse of the ill-advised, but well-intentioned pursuits of meeting our state's HCEI goals using wind energy. It's just been unfortunate the project was located in inappropriate locations- and the kills on record illustrate that.

Mahalo Nui,

[redacted]

Ewa Beach, Hawaii 96706

[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Use Title 16 U.S. Code § 1539; Section (a) (2) C)) and Revoke Wind Energy for Hawaii's Four Projects

[redacted] Sun, Jun 9, 2019 at 8:28 PM

To: "hiwindpeis@fws.gov" <hiwindpeis@fws.gov>, "feedback@ios.doi.gov" <feedback@ios.doi.gov>
Cc: Michael Lee <keakuaskahu777@yahoo.com>, "Suzanne D. Case" <suzanne.case@hawaii.gov>, All Senators <sens@capitol.hawaii.gov>, All Reps <reps@capitol.hawaii.gov>, Michael Lee <keaweaweulaokalani@gmail.com>, William Cole <wcole@staradvertiser.com>, Defenders of Wildlife Action Fund Jamie Rappaport Clark <actionfund@defenders.org>, Defenders of Wildlife <defenders@mail.defenders.org>, "David G. Smith" <david.g.smith@hawaii.gov>, "Clare E. Connors" <clare.e.connors@hawaii.gov>, Hawaii State Ethics Commission <ethics@hawaiiethics.org>, Colette Machado <colettem@oha.org>, "Esq Lance D. Collins" <lawyer@maui.net>, Kai Markell <kaim@oha.org>, Kai Markell <kmarkell@hawaii.rr.com>, "Alan S. Downer" <alan.s.downer@hawaii.gov>, Lei Ahu Isa <alvina@oha.org>, Hulu Lindsey <hulul@oha.org>, Hulu Lindsay - <kahulu@maui.net>, "hulu@oha.org" <hulu@oha.org>, "Governor. Ige" <governor.ige@hawaii.gov>, "KAHEA: The Hawaiian-Environmental Alliance" <laurelmei@gmail.com>

Aloha United States Secretary of the Interior Mr. David Bernhardt,

Hawaii's Clean Energy Initiative has abused the exemption clause regulating the protection of our endangered species- you have Title 16 U.S. Code § 1539; Section (a) (2) C)) at your discretion to revoke the Incidental Take Permit (ITP) for the four wind energy projects in Hawaii.

Please consider revoking the ITP for the wind energy projects- I have attached a letter for the Department of the Interior to use to assist you consider justifying the revocation.

I am available to testify upon your direction.

Mahalo Nui,

[redacted]
Native Hawaiian Cultural and Religious Practitioner

June 9, 2019

Field Supervisor, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office,
300 Ala Moana Boulevard, Room 3–122
Honolulu, Hawaii 96850

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Mahalo Nui,

Michael Kumukauoha Lee
91-1200 Keaunui Drive Unit 614
Ewa Beach, Hawaii 96706
Phone: 808-683-1954
Email: keakuaskahu777@yahoo.com

2 attachments

1. to SEC INT Wind Energy HCPs PEIS FWS R1 ES 2019 N032.pdf
397K

1. to SEC INT Wind Energy HCPs PEIS FWS R1 ES 2019 N032.docx
77K

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] wind comments

[redacted] Sun, Jun 9, 2019 at 10:16 PM

To: HIwindPEIS@fws.gov

comments on
Draft Programmatic Environmental Impact Statement (DPEIS)
Addressing the Issuance of Incidental Take Permits for Four Wind Energy Projects in Hawai‘i
March 2019
comments due June 10, 2019 to HIwindPEIS@fws.gov
[redacted]

For a complete analysis, include two more alternatives. For each, calculate the expected take of endangered species, the energy output, and whether companies can afford to follow the alternative.

Alternative 1 – generate the most energy possible without worrying about impacts to endangered species

Alternative 2 – operate so there is no take at all

Analyze combined impacts from all wind farms in the Hawaiian Islands.

Of the alternatives evaluated, I support # 3 since it results in the lowest mortality for endangered species.

Correct typos and missing text:

At the time of the initial proposal to construct the Pakini Nui Wind facility, compliance with State laws or regulations did not trigger, Apollo Energy requested an environmental assessment exemption from the County Of Hawai‘i for the transmission lines occurring in an easement, and did Pakini Nui Wind did not seek state or federal incidental take authorizations for the above listed species.
DPEIS p. 10

[redacted]

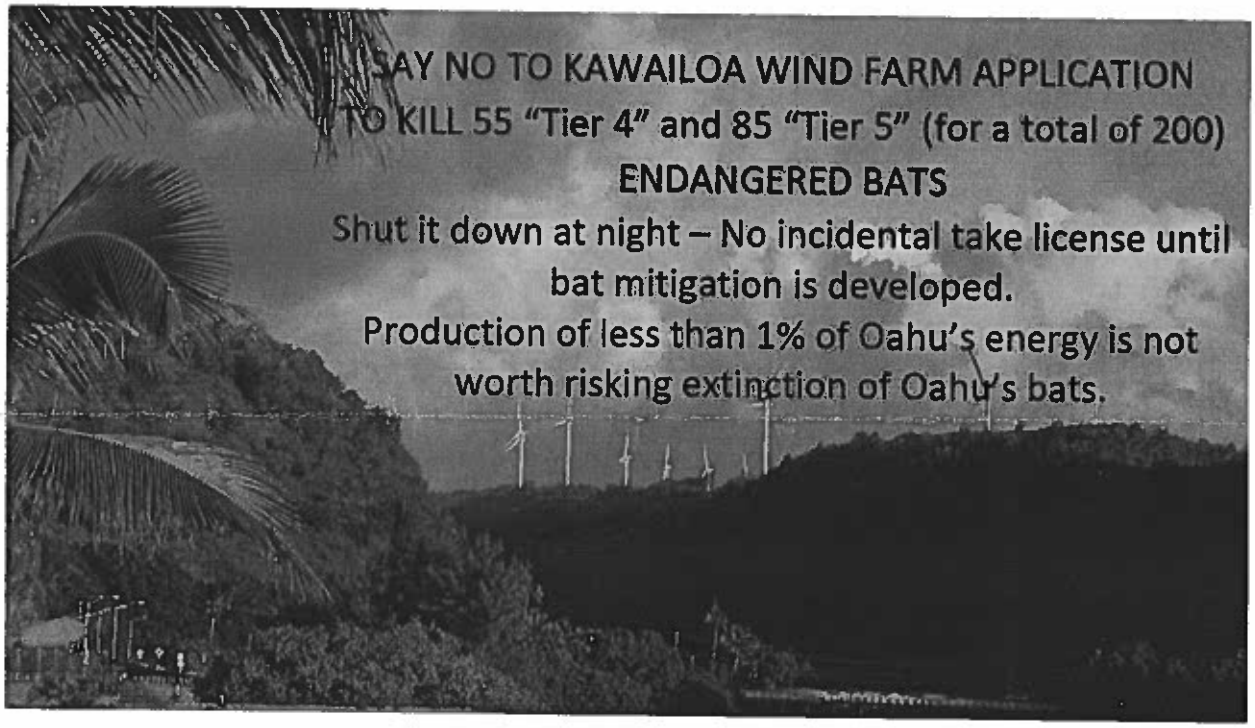
Dec 11, 2018

#allforKalani

The Hawaiian hoary bat is the premiere night time insect predator. If there are no ʻŌpeʻapeʻa, the impact on our ecosystem is unknown. 60 bat deaths is already too much! If the windfarms are willing to wipeout Hawaii's only native land mammal to make a dollar, what's next...

♡ 4

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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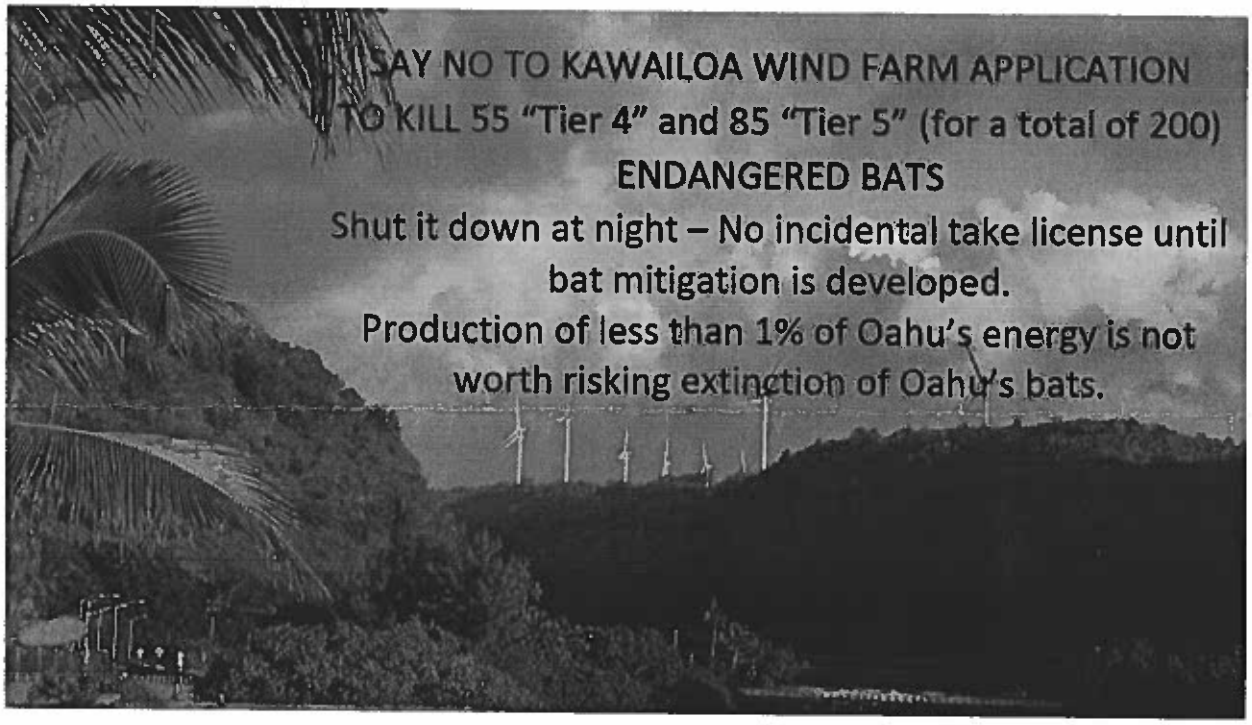
[redacted] 6 months ago

Solar, instead.

9 · Share · Tweet

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 10 2019

Ms. Michelle D. Bogardus
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
300 Ala Moana Blvd., Room 3-122
Honolulu Hawai'i 96850

Subject: Draft Programmatic Environmental Impact Statement Addressing the Issuance of Incidental Take Permits for Four Wind Energy Projects in Hawai'i. (EIS No. 20190071)

Dear Ms. Bogardus:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Programmatic Environmental Impact Statement (DPEIS) Addressing the Issuance of Incidental Take Permits (ITP) for Four Wind Energy Projects in Hawai'i pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

According to the DPEIS, the Fish and Wildlife Service (Service) will respond to ITP applications for four existing land-based wind energy facilities and may issue incidental take permits for three covered species, pursuant to Section 10 of the Endangered Species Act. Three of the projects are seeking amendments to existing ITP/Habitat Conservation Plans (HCP) while the fourth project is seeking issuance of a new an ITP and development of an HCP. The DPEIS evaluates 3 alternatives, Alternative 1 - No action, Alternative 2 - Proposed action, and Alternative 3 – Increased Curtailment - the most practicable minimization measure that would result in a lower take of the Hawaiian hoary bat.

We appreciate the opportunity to discuss the Four Wind Energy Projects in depth with the Service on May 9, 2019 and we support the many conservation measures and adaptive management strategies proposed for inclusion in the proposed amended and new HCPs. Based on our review, EPA has the following recommendations for your consideration as the Final Programmatic Environmental Impact Statement (FPEIS) is being prepared.

Rodenticide use

The DPEIS indicates that, for the Kaheawa Wind Power II Tier 3 take for the Hawaiian goose and Hawaiian hoary bat, proposed mitigation actions include predator control via broadcasting rodenticide (pgs. 26, 43). However, per our discussion with the Service, rodenticide application will not be broadcast, and will instead be implemented with bait boxes using the rodenticide diphacinone (Ramik). If rodenticides are needed, we encourage the use of the least toxic method and application, i.e. bait stations rather than broadcasting (scattering), and use of the less toxic rodenticide diphacinone over the more toxic and persistent brodifacoum.

The EPA supports an Integrated Pest Management approach where the least harmful method is considered first, such as automatic resetting of traps proposed for Kawailoa Wind Energy Project. We note that a rodent fertility-control product is now registered for actions near buildings and may be available as a mitigation for the proposed 4 wind projects. One study[1] indicates that using active liquid bait for fertility-population control in environments infested with wild rats may prove to be a feasible alternative to the use of rodenticides.

Recommendations:

- If rodenticide will be used and would be applied via hand or aerially broadcast, we recommend the Service consider assessing the impacts of rodenticide through future project-level NEPA analysis and include measures to reduce potential impacts. This is particularly important because in addition to being persistent and toxic with possible non-target mortality risks, rodenticides are cited as being one of the threats to Hawaiian hoary bat (p. 67) and "trace amounts of rodenticide residues have been detected in carcass tissues from 2/21 Hawaiian hoary bat carcasses examined" (Appendix G).

- Specify that rodenticide will be used to control rodents only. Indicate, in the FPEIS, that all applications of rodenticides would follow label requirements as approved by the U.S. Environmental Protection Agency pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Controlling non-rodents with rodenticide would be a violation of FIFRA.

EPA understands the Service's issuance criteria procedure and supports the adaptive management plan described in the HCP under Alternative 2. However, it is unclear what the impacts of the increased take from Alternative 2 will be to the Hawaiian hoary bat population because, as indicated, "there is absence of historic or current Hawaiian hoary bat population estimates" (p. 6). We note that the DPEIS states that Alternative 3 is considered the most practicable action for minimizing take, is anticipated to reduce direct Hawaiian hoary bat fatalities at each project site and is projected to wholly eliminate indirect take (morality of dependent juveniles) (p. 33).

Recommendation:

In order to reduce take of the Hawaiian hoary bat, EPA recommends either implementing Alternative 3, or refining Alternative 2 to incorporate seasonal nighttime curtailments for the specific wind turbines associated with the highest take.

Climate Adaptation

While the DPEIS discusses reasonably foreseeable and unforeseen circumstances, it is unclear whether the Service considered changes in climate and its effects on the ability of the proposed mitigation measures to offset the requested increased take. In addition, it is unclear whether the added stressor of a changing ecosystem and the ability of a covered species to adapt to these changes was considered in the increased number of authorized take.

---

[1]Using active liquid bait for fertility-population control in environments infested with wild rats may prove to be a feasible alternative to the use of rodenticides https://www.ncbi.nlm.nih.gov/pubmed/28363061

Recommendations:

- Include, in the FPEIS, a discussion of reasonably foreseeable effects from changes in the climate to covered species. Include proposed mitigation and adaptive management strategies to address these impacts.

- Describe, in the FPEIS, mitigation measures to improve the adaptability and resilience of the covered species and their ecosystems in response to changes in temperature and precipitation patterns that may affect species.

Effective October 22, 2018, EPA no longer includes ratings in our comment letters. Information about this change and EPA's continued roles and responsibilities in the review of federal actions can be found on our website at: https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act.

EPA appreciates the opportunity to review this DPEIS and we are available to discuss our comments. When the FPEIS is released for public review, please send one hard copy and one CD to the address above (mail code: TIP-2). If you have any questions, please contact me at 415-947-4161 or contact Anne Ardillo, the lead reviewer for this project. Ms. Ardillo can be reached at 415-947-4257 or ardillo.anne@epa.gov.

Sincerely,

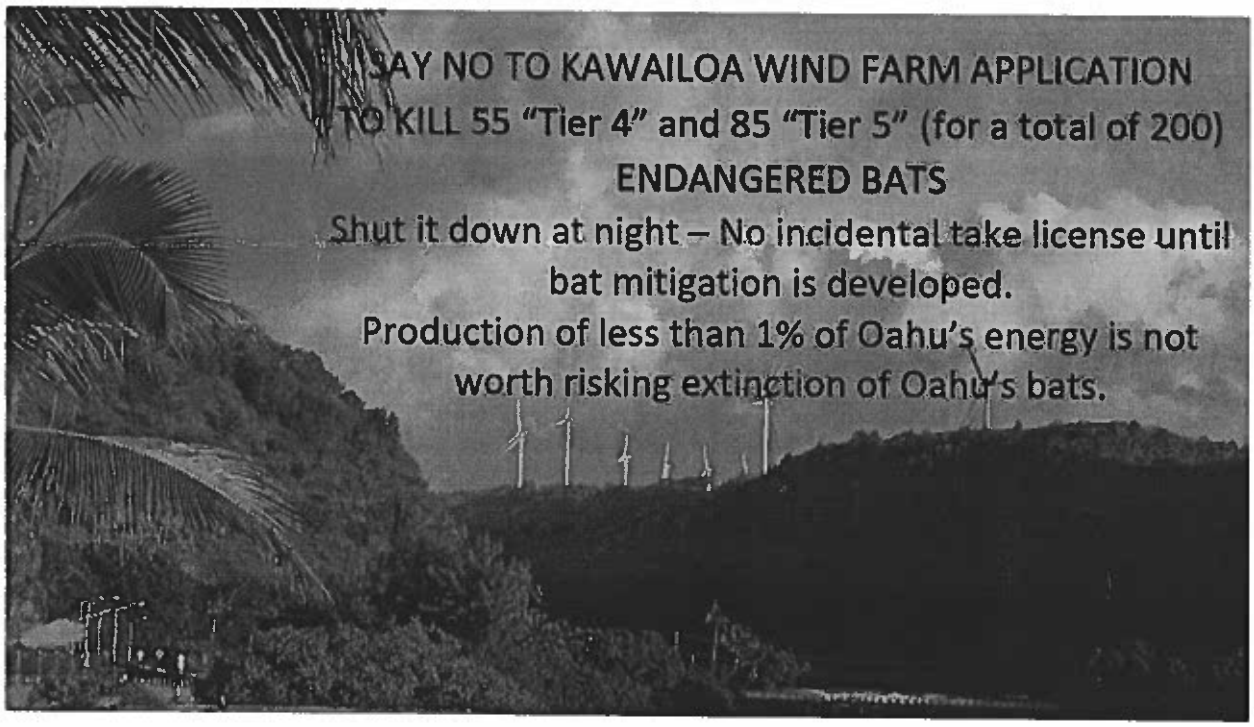
Connell Dunning

Connell Dunning, Acting Manager
Environmental Review Branch

[redacted] · 6 months ago

I oppose this move by Kawailoa Wind Power to kill more of Hawai'i's native bats, 'ōpe'ape'a. Hawai'i's native bats, 'ōpe'ape'a, have been in Hawai'i for 10,000 years. The Kumulipo, Hawaiian Creation chant, identifies the birth of bats in the 7th Wā, Period. Bats are also kinolau (body forms) of Kanaloa (Tangaloa).

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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[redacted]

Mar 17, 2019

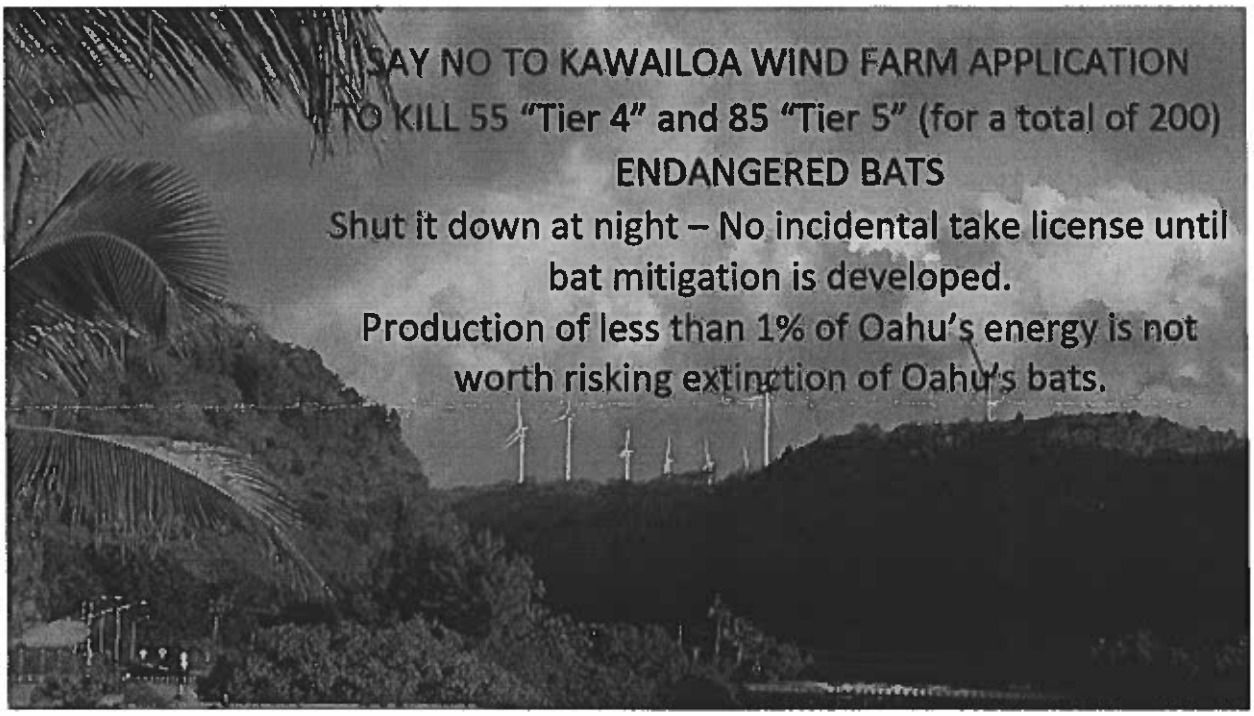
REASON FOR SIGNING

I disagree with giving these windmills more rights then our kanaka species and our people. We are the people of the land and should not be moved or evicted from our homelands. I feel that our kanaka species should have all rights to fly all over these mountain for they were their first and should hold a main priority to protect and not destroy these Ope'ape'a for they hold a big part of our ecosystem in Hawaii. Save our Ope'ape'a. Eo Kanaka, Eo Ope'ape'a

♡ 4

Report

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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[redacted]

6 days ago

REASON FOR SIGNING

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1

Report

[redacted]

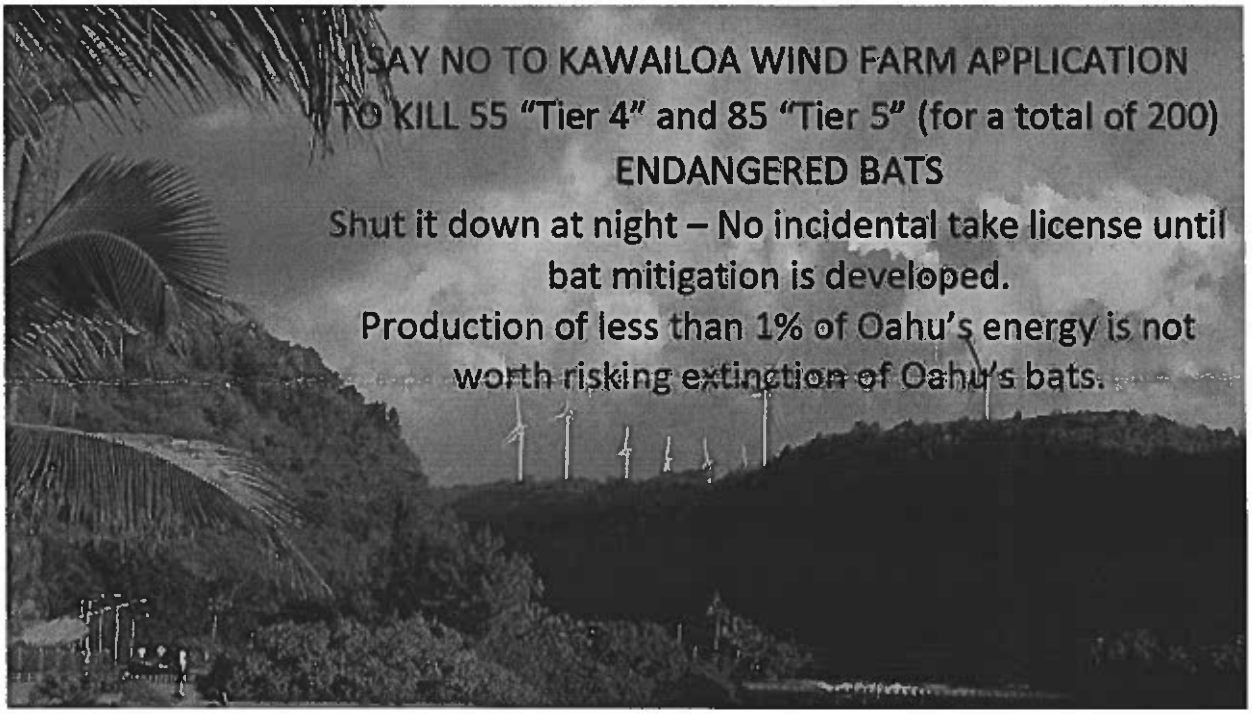
Feb 6, 2019

REASON FOR SIGNING

I'm signing this petition because these wind farms need to be accountable for the original contracts that they sign. They didn't do proper research which created false reports and decisions were made based on these false reports. Why does Hawaii have to pay for their mistakes with irreplaceable live assets? We need to to stop these types of mistakes by not approving this request to kill more irreplaceable live assets so they can make money...

♡ 6

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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[redacted]

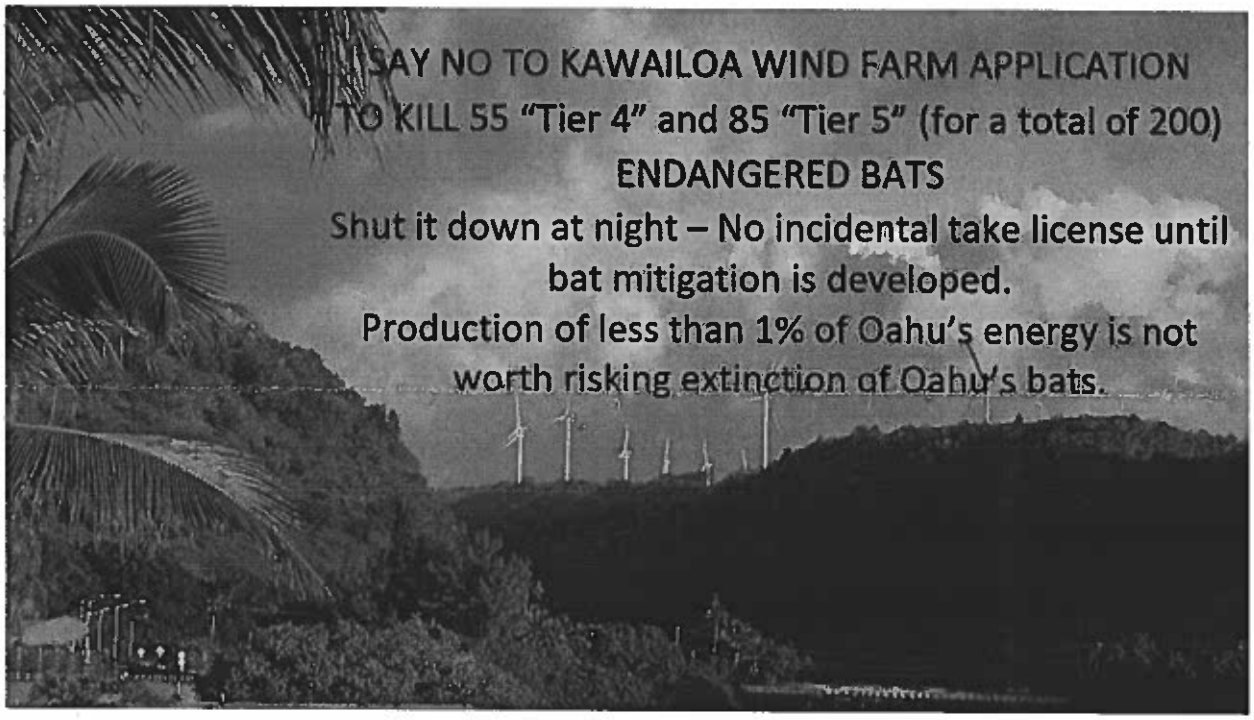
Nov 30, 2018

REASON FOR SIGNING

We must malama what is significant & indigenous to our beautiful Hawaiian islands

8

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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[redacted]

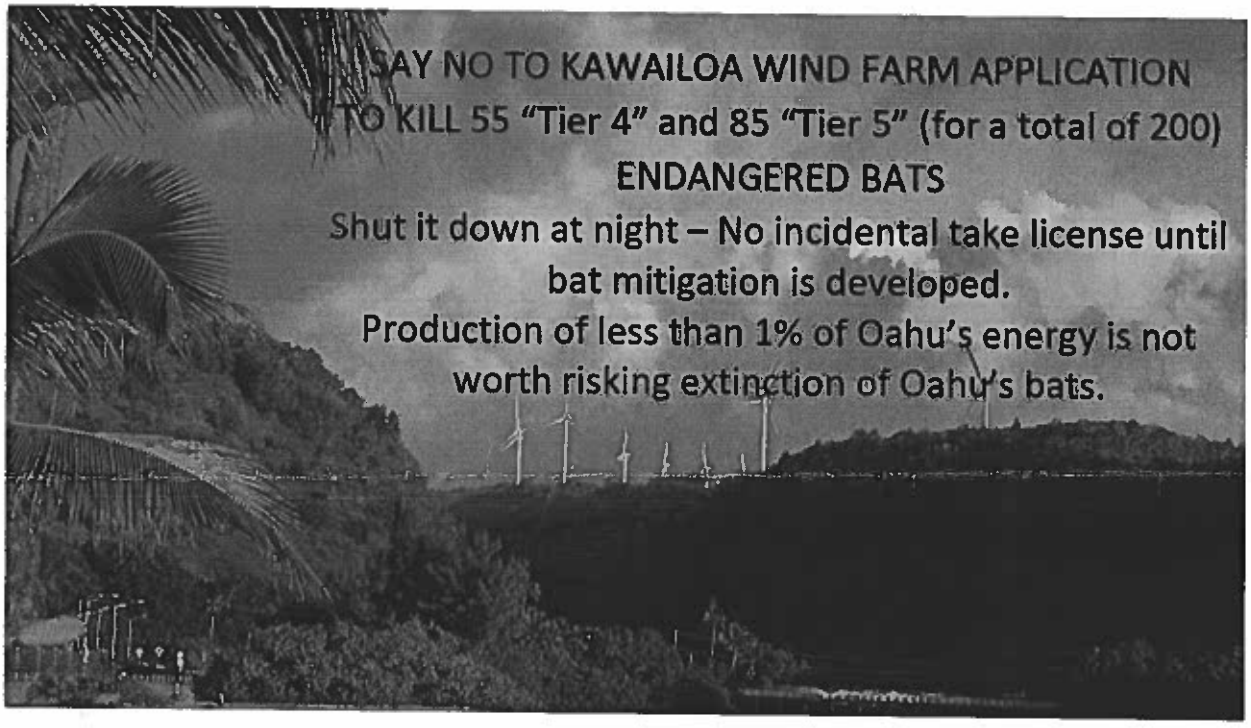
Mar 17, 2019

REASON FOR SIGNING

Protect our Aumakua

5

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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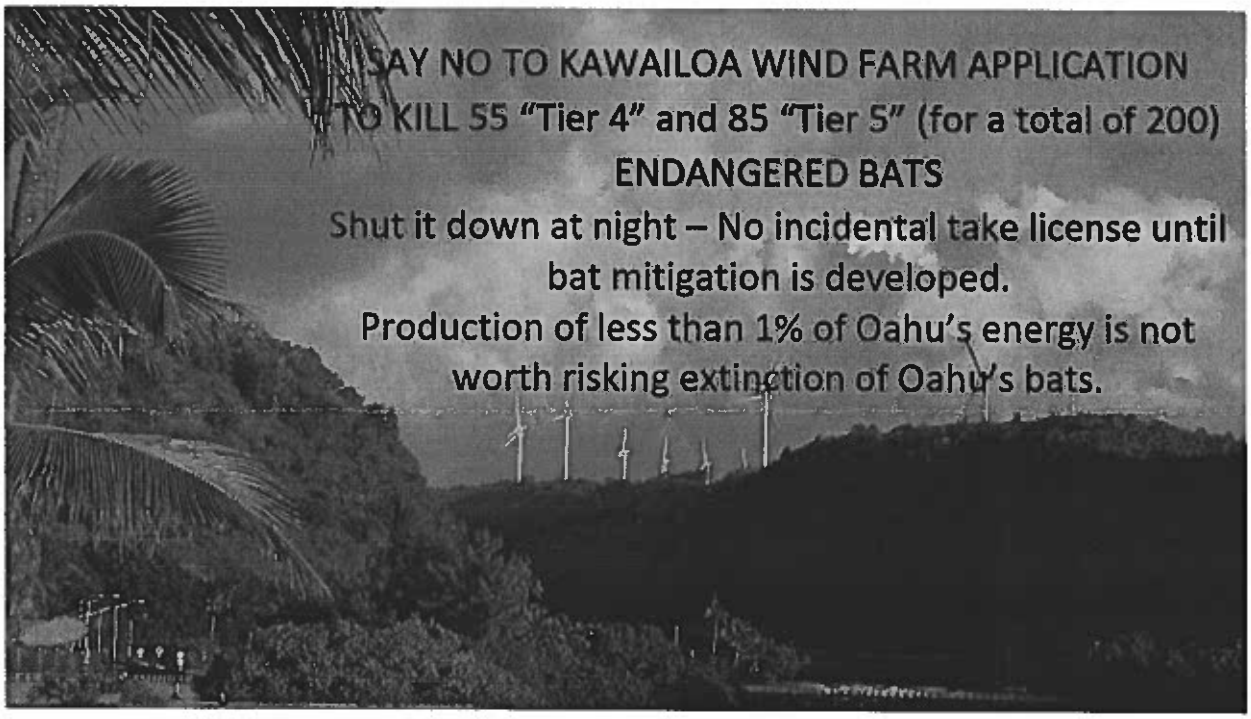
[redacted] [redacted] 6 months ago

Biological diversity, or biodiversity, is the scientific term for the variety of life on Earth. It refers not just to species but also to ecosystems and differences in genes within a single species. Everywhere on the planet, species live together and depend on one another. Every living thing, including man, is involved in these complex networks of interdependent relationships, which are called ecosystems.

Healthy ecosystems clean our water, purify our air, maintain our soil, regulate the climate, recycle nutrients and provide us with food. They provide raw materials and resources for medicines and other purposes. They are at the foundation of all civilization and sustain our economies. It's that simple: we could not live without these “ecosystem services”. They are what we call our natural capital and are ,most likely, our only real capital.

9 · Share · Tweet

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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[redacted]

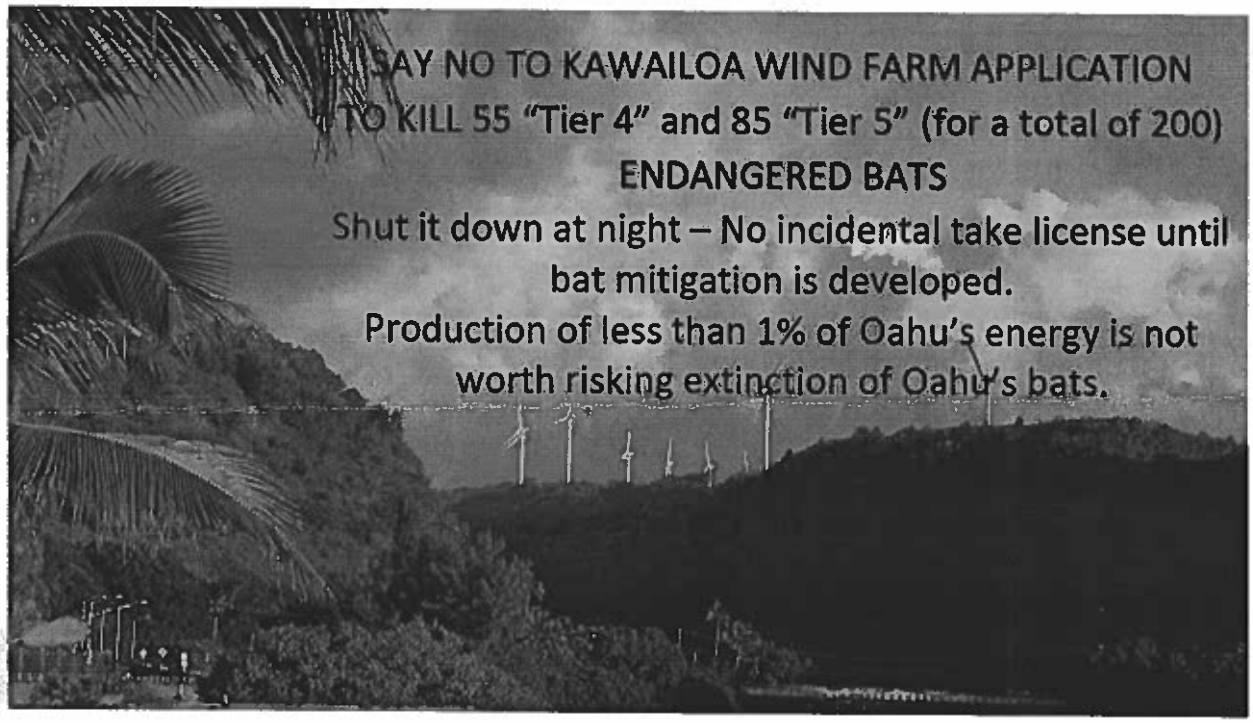
Mar 17, 2019

REASON FOR SIGNING

I Oppose your intentions to kill more of our native bats and nēnē goose and I will forever Oppose your efforts to drive our indigenous animals to extinction.

♡ 4

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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[redacted]

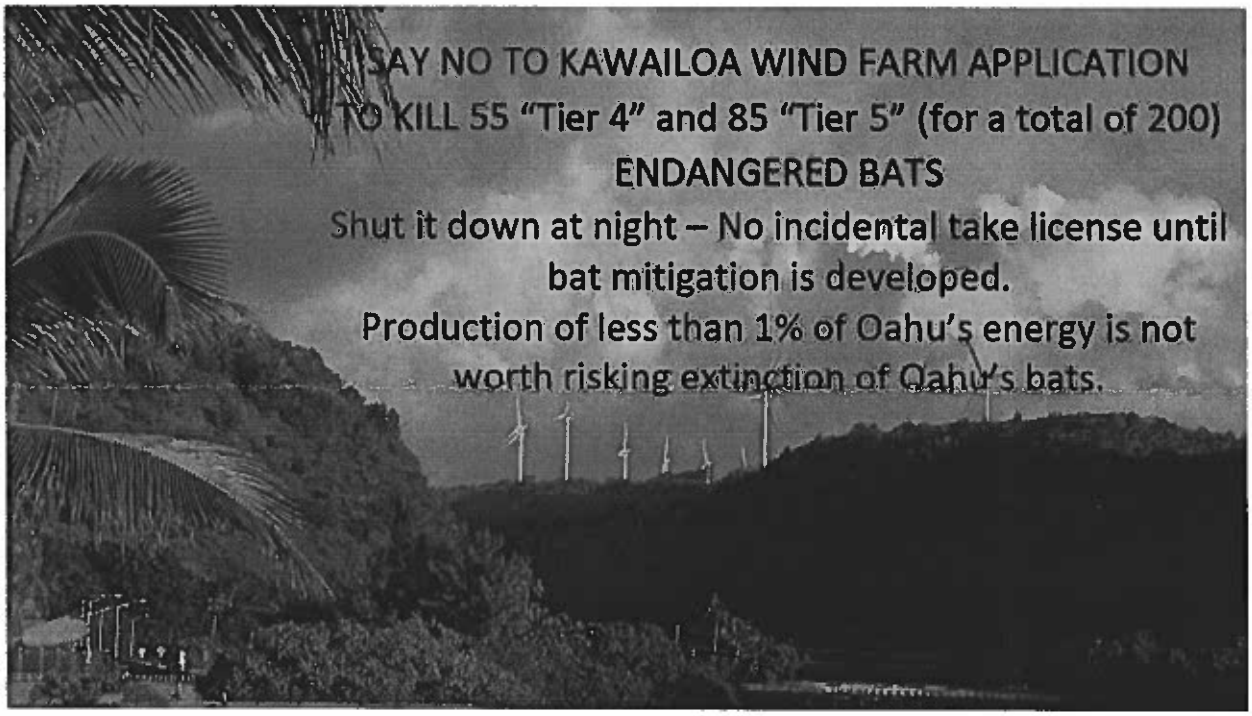
Nov 23, 2018

REASON FOR SIGNING

It was already appalling to let them kill 60. Now that they are approaching that (documented) number, it would be an insult and a mockery to increase the limit by any amount, let alone more than fourfold.

8

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



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Even IF there were a large number of endangered bats on Oahu and take of 200 of them without effective mitigation would not jeopardize the continued existence of the species on the island, the proposal does not meet the minimize and mitigate take to the "maximum extent practicable" license requirement. If take of endangered species is not offset with mitigation, state endangered species law requires that the take be avoided "to the maximum extent practicable". "Maximum extent practicable" determinations include a financial assessment of what's affordable to the developer. You don't have to be an accountant to see Kawailoa Wind Farm can afford to shut down at night and forego that 45% of their income. First, Kawailoa Wind Farm just "reorganized" their debt in Chapter 11 bankruptcy and essentially bought the wind farm from themselves for pennies on the dollar and shed their debt. Second, Kawailoa Wind Farm's gross receipts from HECO ratepayers is over $34 million/year because Kawailoa has one of the outdated HECO power purchase agreements raking in $0.22/kwh (whereas today, wind farm power purchase agreements will be approximately $0.10/kwh). In addition, Kawailoa Wind Farm receives a feed in tariff from taxpayers for each kwh it feeds into the grid.

Please do not authorize Kawailoa Wind Farm to operate at night – production of less than 1% of Oahu's energy is not worth risking extinction of Oahu's endangered bats.

[redacted]

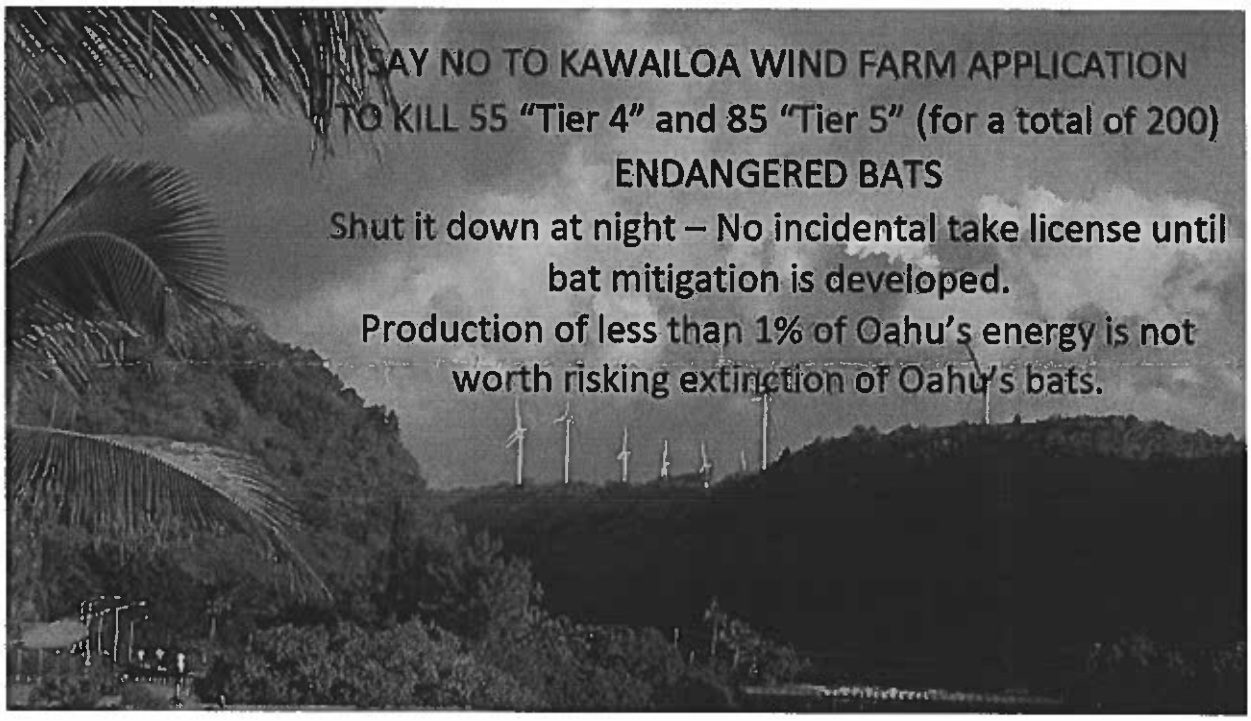
Nov 30, 2018

REASON FOR SIGNING

We need to protect our endangered species in Hawai'i.

♡ 7

Reject Kawailoa Wind Farm's application to kill 140 MORE endangered Hawaiian hoary bats



Save our bats - Shut the turbines down at night now!

Hawaii Wind started this petition to State of Hawaii DLNR Endangered Species Recovery Committee (ESRC) and US Fish and Wildlife Service

Subject: Proposed Kawailoa Wind Farm application to kill 140 MORE endangered Hawaiian hoary bats (and other endangered animals, https://www.fws.gov/pacificislands/articles.cfm?id=149489649); written comments to State DLNR were due February 21, 2019, to Glenn.M.Metzler@hawaii.gov and written comments to US Fish and Wildlife Service due June 10, 2019 to HIwindPEIS@fws.gov. and Field Supervisor, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3–122, Honolulu, Hawaii 96850.

Dear Endangered Species Recovery Committee and US Fish and Wildlife Service,

Approval of Kawailoa Wind Farm's application to continue to operate at night and kill 55 (Tier 4) plus an additional 85 (Tier 5) nocturnal endangered bats (in addition to the 60 bats this wind farm has already killed without mitigation) would not be lawful (not to mention the additional 65 (Tier 6) the applicant requested). The wildlife agencies must require the wind farm to shut down at night when wind speeds are 8 meters/second or lower (when bats are flying near the turbines) until mitigation to offset the bat deaths at the wind farm is developed and included in the incidental take license application. The wind farm must shut down at night because it is practicable for them to do so (because they can afford to). Your staff must oversee an independent auditor's assessment of maximum extent practicable.

Kawailoa Wind Farm generates less than 2% of Oahu's energy - operation of this wind farm at night (less than 1% of Oahu's energy) is not worth risking the loss of Oahu's endangered bat population.

During only six years of operation, Kawailoa Wind Farm's take of more than 80 bats far exceeds the 60-bat limit anticipated when you authorized the wind farm's construction in 2012. In your 2011 and 2012

incidental take licenses to Hawaii wind farms, we were led to believe the wind farms would offset their bat kills with mitigation projects that would increase bat populations. The wind farms said they would help bats by removing feral ungulates and restoring native forest and wetland areas. Unfortunately, bats did not increase when ungulates were removed and habitat was restored, and even worse, bat occurrence declined at some mitigation sites.

Kawailoa Wind Farm now requests a permit to kill an additional 55 bats "Tier 4" and they want the wildlife agencies to agree they are offsetting take of 55 bats by helping purchase 3,000 acres of agricultural and preservation above Whitmore Village and Halemano. The HCP does not meet the requirements of endangered species laws because it does not explain how the transfer of title for land that's already zoned agricultural and preservation would benefit a bat, let alone offset the take of 55 bats at the wind farm. The best available science by HT Harvey, funded by Kahuku Wind Farm, indicates the core area territory size for each male bat is approximately 2,900 acres and the bats prefer feeding in grazing land, gulches, and low density developed areas. How would title transfer for 3,000 acres increase the endangered bat population by 55? And if it did increase bat numbers - the spinning blades of five of the wind turbines are visible just across the slope from the mitigation site - the bat's territory would span from the mitigation site to the wind farm where it would be killed at night by a spinning turbine blade.

Kawailoa proposes tiers "four", "five" and "six" levels of endangered bat take. None of these "tiers" of take should be authorized until a proven mitigation method is developed. The wind farm must shut down at night to avoid bat take until the mitigation method is developed. The wind farm has the option to conduct research to inform development of a mitigation method - this research in itself is not mitigation. Once a mitigation method is confirmed, the wind farm can resubmit their application for the license to kill the bats. To avoid uncertainty, mitigation benefits should be required to accrue prior to the taking.

Even IF there were a large number of endangered bats on Oahu and take of 200 of them without effective mitigation would not jeopardize the continued existence of the species on the island, the proposal does not meet the minimize and mitigate take to the "maximum extent practicable" license requirement. If take of endangered species is not offset with mitigation, state endangered species law requires that the take be avoided "to the maximum extent practicable". "Maximum extent practicable" determinations include a financial assessment of what's affordable to the developer. You don't have to be an accountant to see Kawailoa Wind Farm can afford to shut down at night and forego that 45% of their income. First, Kawailoa Wind Farm just "reorganized" their debt in Chapter 11 bankruptcy and essentially bought the wind farm from themselves for pennies on the dollar and shed their debt. Second, Kawailoa Wind Farm's gross receipts from HECO ratepayers is over $34 million/year because Kawailoa has one of the outdated HECO power purchase agreements raking in $0.22/kwh (whereas today, wind farm power purchase agreements will be approximately $0.10/kwh). In addition, Kawailoa Wind Farm receives a feed in tariff from taxpayers for each kwh it feeds into the grid.

Please do not authorize Kawailoa Wind Farm to operate at night – production of less than 1% of Oahu's energy is not worth risking extinction of Oahu's endangered bats.

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Testimony in opposition to your wind farm and any more proposed on Maui.

[redacted] Mon, Jun 10, 2019 at 5:34 AM

To: "HIwindPEIS@fws.gov" <HIwindPEIS@fws.gov>

[redacted]

Aloha,

It has come to my attention you are making a wind farm in Auwahi. I am a claimant to lands owned by David Nahuewai, and Puupuu in upper Kanaio. I am not only an heir, I represent my family whom are the konohiki of lower Kahikinui and Kanaio. Auwahi is my great grandfather's gathering area. I oppose your wind farm which harms the environment for these reasons.

1. Bulldozing of the area grossly infringing on the habitat of native flora and fauna.
2. Wind farms have made the electric bills go up and will be transported to O'ahu and outerislands for rail and military.
3. Irresponsible and shameful eyesores on the community.
4. Hazardous equipment and chemical (oils and pesticides) use on the top of the sacred Haleakala.
5. Restricted access to my family's gathering areas.
6. Burials of our family.
7. Degradation of our forest and water table which affects the whole ahupua'a and has historically been an issue with Ulupalakua Ranch grazing the forest so the wells and springs went dry in the lowlands.
8. Sound.
9. On Hawaii island in Ka'u, the wind turbines rusted and are in disrepair. Like skeletons rusting away. What is your plan of cleaning up the mess?
10. According to document number (attached) recorded at the Bureau of Conveyances Department of Land and Natural Resources has all the Royal patents to Kanaio in my family's name on file giving us lineal right to say what happens in the area.

I hereby, put you on notice, I oppose this project and I would like to see your true title to the land by Royal Patent. Show me the State of Hawaii owns title to any lands in Hawaii because the Admissions Act doesn't have any metes and bounds to exactly what the state of Hawaii owns here.

Sincerely,

[redacted]

Virus-free. www.avg.com

[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Revoke Wind Energy for Hawaii's Four Projects

[redacted] Mon, Jun 10, 2019 at 8:00 AM

To: "HiwindPEIS@fws.gov" <HiwindPEIS@fws.gov>

Aloha.
Mr. David Bernhardt, United States Secretary of the Interior

Hawaii's Endangered Species are once again being denied protection by our government for the Hawaii Clean Energy Initiative. The abuse of the exemption clause regulating the protection for our endangered species must stop.
I implore you to Revoke the Incidental Take Permit (ITP) which regulates the protection by Title 16 U.S. Code 1539 Section (a)(2)C)) of Hawaii's Endangered Species.
As all previous wind energy projects have proven, by fatality numbers, to exceed the extermination of our endangered species, allowed by all previous permits in the name of the Hawaii Clean Energy Initiative.

Mahalo Nui Loa,

[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind farm Impacts

[redacted] Mon, Jun 10, 2019 at 8:04 AM

To: HIwindPEIS@fws.gov

I feel that the US Fish and Wildlife Service should NOT allow any increase in permits for "Incidental Takes" of our native or endangered species, from all four wind farms.

Wind farms in Hawaii should be required to turn off the windmills before dusk and install devices that are environmentally-friendly and uses chemical-free ultrasonic sounds to electronically **repel** bats, to keep them safe. WE moved into their home!

Ranchers and Farmers are restricted from using barbed wire on our fences, because the bats might get caught on the barbs. We don't have permits for incidental takes.

Turbines in our waterlines would be a better way to create more electricity in Hawaii.

Mahalo,

[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind PEIS

[redacted] Mon, Jun 10, 2019 at 12:38 PM
To: hiwindpeis@fws.gov

In numerous discussions with landowners, I have heard that observations of bats at dusk have precipitously declined in the past ~25 years. They recollect seeing “dozens” of bats in the evening but haven’t observed any for years. What makes this observation particularly interesting is that the majority of these locals are unaware of any conflict between bats and wind energy and do not know what to ascribe these declines to. This does suggest that there were factors negatively affecting Hawaiian hoary prior to wind energy.

Paragraph 5, page 67-68 – This paragraph makes numerous assumptions that are not based on data – that bats occupy all forested regions, that occupancy of these regions is at 20% on all islands and uses these assumptions to estimate the population. It is highly concerning that this thought experiment does not clearly state its subsumption sand could be later confused as an accurate estimate of the population of Hawaiian hoary bats. Further, it treats the Hawaiian hoary bat as a single population that freely moves between islands, this seems unlikely (Appendix G: “Interisland movement is thought to be low”). The requested take is greatest on the island Oahu, which has the least presumed habitat. Impacts to the Hawaiian hoary bat on Oahu would lead to extirpation more rapidly than this thought experiment implies.

No take alternatives – How are “daytime hours” defined? The bats are often very active in the hour prior to sunset (personal visual observations). This hour could potentially have more bat activity than during the middle of the night. If turbines are turned off at night, then the time window needs to be carefully defined using acoustic monitoring from the appropriate sites and seasons.

Numerous mitigation strategies suggest planting native trees. While the addition of native trees is likely good for many species, it is unlikely to increase survival of the Hawaiian hoary bat. This is because foliage-roosting bats are very unlikely to be limited by roosting habitat. Foliage roosts are by their nature ephemeral, and bats switch between them more frequently than more stable roosts, i.e. tree cavities or caves. There is not currently any evidence that native trees provide better roosts than non-native trees for Hawaiian hoary bats. As stated in Appendix G “roosting habitat is not believed to be a limiting factor for the species”. Therefore, additional roosting habitat will likely provide no appreciable benefit to the species and would not be appropriate for mitigation.

Other potential mitigation
Dramatic declines in insect abundance are widespread and of concern. The loss of insects has been tied to the declines of insectivorous birds around the world. To what extent are insect declines in Hawaii being investigated? And to what extent have pesticide practices been implicated in this? What mitigation projects are underway that measure increases in prey abundance directly?

Sincerely,
A concerned resident of Hawaii

VIA ELECTRONIC MAIL

June 10, 2019

Field Supervisor
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Blvd, Room 3-122
Honolulu, Hawai'i 96850
HIwindPEIS@fws.gov

Re: Comments for the Draft Programmatic Environmental Impact Statement and Draft Habitat Conservation Plan and Amendments for Incidental Take Permits for Four Wind Energy Projects in Hawai'i

Dear Field Supervisor,

These comments are submitted on behalf of the Center for Biological Diversity ("Center") regarding the Draft Programmatic Environmental Impact Statement ("DPEIS") and Draft Habitat Conservation Plan and Amendments for Incidental Take Permits for Four Wind Energy Projects in Hawai'i, 84 Fed. Reg. 17875 (April 26, 2019). These comments are timely submitted. The Center is a non-profit public interest conservation organization with more than 1.6 million members and online activists dedicated to protecting imperiled species and their habitats, including members who live and/or recreate in Hawai'i.

The Center supports the development of renewable energy to reduce greenhouse gas emissions. Regardless, all projects, including wind power projects must be thoughtfully planned and operated to minimize impacts to the environment. Thus, renewable energy projects should be operated to avoid impacts to sensitive species and habitats and remaining impacts must be effectively minimized and mitigated through proven effective compensatory mitigation. It is imperative that all environmental standards are met. Local impacts and effects on species and habitat must be thoroughly reviewed so that the public and decision makers are adequately informed. It is only with proper environmental review,

based on the best available science and data, that renewable energy production can be truly sustainable.

The Center has the following comments based on the information provided in the DPEIS, Draft Habitat Conservation Plan, and Amendments for Incidental Take Permits:

1. As with past National Environmental Policy Act ("NEPA") documents for wind energy projects in Hawai'i, the public has not been provided sufficient information to assess the legitimacy of take estimates and effectiveness of mitigation in the DPEIS. NEPA requires the action agency to ensure the scientific integrity and accuracy of the information used in its decision-making. 40 CFR § 1502.24. The regulations specify that the agency "must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be the best available. "Accurate scientific analysis, expert agency comments, and public scrutiny are essential." 40 C.F.R. § 1500.1(b).

   Where there is incomplete information that is relevant to the reasonably foreseeable impacts of a project and essential for a reasoned choice among alternatives, the Service must obtain that information unless the costs of doing so would be exorbitant or the means of obtaining the information are unknown. 40 C.F.R. § 1502.22. NEPA requires that in those instances where complete data is unavailable, the PEIS also must contain an analysis of the worst-case scenario resulting from the proposed project. *Friends of Endangered Species v. Jantzen*, 760 F.3d 976, 988 (9th Cir. 1985) (NEPA requires a worst case analysis when information relevant to impacts is essential and not known and the costs of obtaining the information are exorbitant or the means of obtaining it are not known) citing *Save our Ecosystems v. Clark*, 747 F.2d 1240, 1243 (9th Cir. 1984); 40 C.F.R. § 1502.22.

   The DPEIS does not provide adequate information regarding:

   - The median core use area for a male Hawaiian hoary bat. *See* https://dlnr.hawaii.gov/wildlife/files/2019/01/ESRC-HTHarvey-24-Jan-2019.pdf at 23.

- Activity rates for each endangered species at each site, at a precision that allows for the comparison between alternatives or other wind sites that are used for comparison.

- Date, location, and other available information (such as wind speed, curtailment, gender, Etc.) for all observed bat and bird deaths at each site.

- Limitations of acoustic monitoring as it relates to demonstrating bat abundance and decline.

- Projects ability to implement nighttime shut down and low wind speed curtailment at a cut-in speed of 6.9 meters per seconds ("m/s").

- Effectiveness of Hawaiian hoary bat compensatory mitigation.

2. The proposed increases to the authorized take of endangered Hawaiian hoary bats, in the absence of established population estimates, are of great concern. All Habitat Conservation Plans ("HCP") must provide for minimization of impacts to listed species. 16 U.S.C. § 1539(a)(2)(A); 50 C.F.R. §§ 17.22, 17.32. Upon reviewing a HCP and before permit issuance, the Fish and Wildlife Service ("FWS") must find that (i) the taking will be incidental; (ii) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (iii) the applicant will ensure that adequate funding for the plan will be provided; (iv) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (v) any other measures FWS requires will be met. 16 U.S.C. § 1539(a)(2)(B); 50 C.F.R. §§ 17.22, 17.32. In addition, Hawai'i state law requires that projects seeking an HCP explain how they will minimize and mitigate all negative impacts (HRS §195D-21(b)(2)(D)).

   Accordingly, each project must minimize and mitigate to the maximum extent practicable. Given the high numbers and increase of proposed take of Hawaiian hoary bats and lack of credible evidence demonstrating the effectiveness of mitigation, minimization of bat take must be paramount. Each project should implement nighttime shut down and low wind speed curtailment at a minimum cut-in speed of 6.9 m/s to minimize bat take to the maximum extent practicable.

An independent audit supervised by the wildlife agencies and funded by the developer could easily demonstrate the feasibility of these minimization measures.

3. The DPEIS does not adequately asses the impacts to endangered and threatened species on both island-by-island and range-wide scales. Federal law requires a range-wide assessment of impacts and Hawai'i Revised Statutes ("HRS"), Chapter 195-D requires island specific analyses of impacts. The DPEIS should produce valid population viability analyses for each covered species. In addition, cumulative population viability analyses should be completed that include all operational and anticipated wind projects in Hawai'i.

4. The use of "tiers of take" is not appropriate. There is over a decade of detailed information on endangered species mortality associated with Hawaiian wind projects. Tiers appear to be used primarily as a cost savings feature by facility operators, rather than as the only option to address the uncertainty of take levels. The HCP Incidental Take Permits ("ITP") should not incorporate "tiers of take" and the DPEIS should not rely on this framing in its analysis of impacts.

5. Compensatory mitigation for endangered species should be consistent with the U.S. Fish and Wildlife Service's policy on compensatory mitigation for endangered species. Special attention should be given to ensuring that impacts are fully mitigated, the mitigation is additive and not subsidized by federal or state agencies, and monitoring confirms that expected benefits are achieved during the permit period. Criteria for measuring the success of mitigation efforts must include a demonstration that the required numbers of birds and bats are actually produced to offset the project's take of endangered species. Mitigation should occur on the same island the proposed take will occur to ensure stability of localized populations. For example, Kawailoa's Hawaiian Petrel mitigation should occur on O'ahu.

Thank you for your consideration of these comments.

Sincerely,

Maxx E. Phillips
Hawai‘i Director and Attorney
Center for Biological Diversity
1188 Bishop Street, Suite 2412
Honolulu, Hawai‘i 96813
(808) 284-007
MPhillips@biologicaldiversity.org

AMERICAN BIRD CONSERVANCY

Bringing back the birds

June 10, 2019

Field Supervisor,
U.S. Fish and Wildlife Service,
Pacific Islands Fish and Wildlife Office,
300 Ala Moana Boulevard, Room 3–122, Honolulu, Hawaii 96850.
Email: HIwindPEIS@fws.gov

RE: Comment on "Hawaii Wind Energy HCPs and PEIS" and reference FWS–R1–ES–2019–N032

Dear Hawaii Field Supervisor,

We are writing to provide constructive comments regarding the Hawaii Wind Energy HCPs and PEIS and express our concerns for the projects' potential impact on federally protected Threatened Newell's Shearwater, Endangered Hawaiian Petrel and Endangered Band-rumped Storm-petrel.

American Bird Conservancy (ABC) is a non-profit membership organization whose mission is to conserve native birds and their habitats, working throughout the Americas to safeguard the rarest bird species, restore habitats, and reduce threats. ABC supports the effort to combat climate change, decrease air pollution, and reduce our dependence on fossil fuels through responsible "Bird-Smart" renewable energy development. As you know, however, wind turbines kill birds, which is particularly concerning when the species affected are listed as Endangered or Threatened under the Endangered Species Act (ESA).

ABC's Bird-Smart Energy Program[1] approach seeks to find solutions for sustainable wind energy development while mitigate the danger to birds by encouraging the adoption of the following six principles:

(1) proper siting of turbines away from bird high-risk collision areas;
(2) independent, transparent pre-and-post-construction monitoring of bird impacts;
(3) effective construction and operation mitigation by wind energy facilities to minimize bird mortality;
(4) compensation to reduce and redress any unavoidable bird mortality and habitat loss from wind energy development;
(5) environmental compliance with a rigorous local, state, and federal regulatory framework; and
(6) evaluation of wind energy as part of a complete analysis on all feasible renewable alternatives.

For greater detail on each of these six recommendations, please see the attached Bird-Smart Wind Energy report.

[1] https://abcbirds.org/program/wind-energy-and-birds/bird-smart-strategies/

4301 Connecticut Avenue, N.W., Suite 451 ● Washington, D.C. 20008
Tel: 202-234-7181 ● Fax: 202-234-7182 ● info@abcbirds.org ● abcbirds.org

We applaud the Service's efforts to address multi-project impacts through the Hawaii Wind PEIS, as it goes a long way in simplifying the process and public input. Here we bring specific concerns regarding species and project sites.

In a previous letter (from ABC dated July 2, 2018) to your office regarding "Notice of Intent to Prepare a Wind Energy HCPs and PEIS Scoping" we brought to your attention the need to include two ESA-listed species as "Covered Species", which were not considered in the Draft: Newell's Shearwater and Band-rumped Storm-petrel (ABC Letter, dated 2 July 2018). In this review of the current Draft PEIS, we reiterate the concern for these ESA-listed species in addition to ESA-listed Endangered Hawaiian Petrel, and the need for the Service to adequately determine potential impacts, and to minimize and mitigate for these species. All three of these species share aspects of biology that increase their risk, including being long-lived, nocturnal and ocean-feeding. All share threats to their mountain-nesting habitat including invasive mammals and risk of collision with power lines and wind turbines.

ESA-listed Endangered Hawaiian Petrel *(Pterodroma sandwichensis)*
Hawaiian Petrel is of high conservation concern globally and a priority for ABC. During the last ten years ABC has worked with partners to draft conservation action plans, initiate protection of colonies, establish a new colony, and determine threats for this species. In addition, ABC highlights the conservation needs of this species in international waters through our work with the Agreement on the Conservation of Albatrosses and Petrels (ACAP)[2].

we are highly concerned with the cumulative impacts of these wind projects to Hawaiian Petrel and other Covered Species. Recent information from Raine et al. (2017)[i] demonstrated a 78% decline for Hawaiian Petrel on Kaua'i. The population is split predominantly between Maui, Kauai and Lanai, and has distinct genetic sub-units (sub-populations) on the different Hawaiian Islands, and mitigation should be implemented in such a way as to compensate all the sub-populations affected by the proposed actions. Given this precipitous decline, and that few colony data are available for other islands, a precautionary approach is needed to minimize take from the combined wind infrastructure across all sites.

We support alternative actions to protect this species at nesting areas with predator control.

ESA-listed Endangered Band-rumped Storm-petrel *(Oceanodroma castro)*
In October 2016, the Hawaiian Band-rumped Storm-petrel was designated as Endangered under the ESA (USFWS 2016)[3]. Similar to bats, these birds are small-bodied and nocturnal while making flights from the ocean to inland nesting areas. While detection of the movement of this species through a project area is challenging, it can be accomplished through automatic sound recorders, such as those used for bats (i.e., Song Meter, Wildlife Acoustics). As the project occurs within the known range for the species (USFWS 2016), and is known to breed on Hawaii Island on both National Park and Military Land, this species is potentially at risk from the Pakini

[2] https://acap.aq/
[3] https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B08V

Nui Wind Farm. Until flyway corridors are studied and described, we must presume that these endangered birds flying from the sea to inland nesting habitat are at risk from collisions with wind infrastructure: turbines, lights and power lines. We highly recommend the inclusion of acoustic monitors at these sites to detect and monitor the risk of these projects to this species.

We support alternative actions to monitor this species at all potential sites, and minimize risk through nocturnal curtailment and predator control.

ESA-listed Threatened Newell's Shearwater *(Puffinus auricularis newelli)*
The NESH is Threatened[4] and continues to exhibit a population-level decline (Raine et al. 2017). Based on this documented decline, and take that is ongoing and significant by Kauai Island Utility Company (HCP in progress) and Kauai light attraction (HCP in progress), the species was recently up-listed globally to Critically Endangered (IUCN 2018). In January 2019, the Service provided draft recovery guidelines for Newell's Shearwater, which suggested that recovery will require conservation across "seven of the eight main Hawaiian Islands" (84 FR 790 795).

We support alternative actions to monitor this species at all potential sites, and minimize risk through nocturnal curtailment and predator control.

Recovery-based goals
We highly recommend that the Service consider PEIS alternatives that not only compensate for take due to the cumulative wind impacts, but also serve to increase knowledge about species occurrence around project and restoration sites (acoustic surveys), and ultimately lead to recovery-based goals. Under the Draft Recovery Plans for Newell's and Hawaiian Petrel, the Service noted the need for building resilience in these populations, and suggest rigorous, long-term (i.e., 30 year) population-level recovery criteria. We encourage the Service to similarly draft recovery goals for Band-rumped Storm-petrel with some urgency so that appropriate mitigation action can be taken within a larger conservation framework. Given the long history of impacts to this species and the current state of population decline, the recovery of this species will require a high level of management to achieve the ambitious recovery targets.

Second, we believe that compensatory mitigation should primarily be targeted at the geographic location from which impacts are taking individuals (same island). As there are genetically-isolated sub-populations[ii], and as stated above – there are recovery based goals associated with maintaining genetic diversity across the island groups. Ideally, the Service will describe which mitigation is possible on the island-population which is experiencing impacts, or at minimum, the most genetically related population. Again, this idea of supporting island-specific actions when possible is supported by the Service's draft recovery criteria, which would ensure recovery across "all main Hawaiian Islands" for both Hawaiian Petrel and Newell's Shearwater.

[4] https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B04O

Site specific comments:

Auwahi Wind (Maui Island) – requested take = 87 (current take = 87 HAPE), no BNSP or NESH mentioned

- Reporting of take of other seabirds not consistent and data is difficult to find in Annual Reports. It is not clear if a take of 87 fits the estimated model of take, and recovery need for Maui island sub-population of Hawaiian Petrel (HAPE).
- There are species mentioned for which no compensation is proposed - White-tailed Tropicbirds and Frigatebirds. Because we were unable to access the numbers of MBTA-birds reported take is not clear. Request Service consider mitigation of these MBTA-protected nesting seabirds through colony restoration.

Kahaewa Wind II (Maui Island) – requested take = 43 (current take = 43 HAPE, no change), no BNSP or NESH mentioned

- Hawaiian Petrel and Newell's Shearwater breed on Maui Island. Consider including Newell's Shearwater as "Covered Species" given their nocturnal habits and vulnerability to wind and collisions elsewhere.
- Given the rigorous recovery criteria proposed for the species as drafted by the Service (January 2019), we would like to see greater justification of take level and no change in take with reference to model used and with respect these criteria.

Pakini Nui (Hawaii Island) – requested take = 3 HAPE (new project), no BNSP or NESH mentioned

- Hawaiian Petrel, Band-rumped Storm-petrel and Newell's Shearwater breed on Hawaii Island[iii]. Consider including Band-rumped and Newell's Shearwater as "Covered Species" given their nocturnal habits and vulnerability to wind and collisions elsewhere.
- Recommend acoustic monitoring at project site for all three nocturnal seabirds during breeding season (HAPE, NESH, BNSP).
- Recommend acoustic monitoring at potential mitigation site for all three nocturnal seabirds during breeding season (HAPE, NESH, BNSP). For example, a great deal of information could be gained if the Service conducted exploratory surveys within the Natural Area Reserve System, where preliminary surveys indicate that these species occur regularly and likely breed (A. Wang, NARS, unpublished data.)
- Consider mitigation to support rescue program for protected species by state-certified and permitted wildlife rehabilitators for care of downed birds (such as Hawaii Wildlife Center).

Kawailoa (Oahu Island) – requested take = 3 HAPE (current take = 0 HAPE), no BNSP or NESH mentioned

- New study demonstrates that Hawaiian Petrel and Newell's Shearwater likely breed on Oahu Island (Young et al. 2019) [iv]. However, more acoustic work is needed to determine breeding area.

- We urge Service to consider including Newell's Shearwater as "Covered Species", and address monitoring and/or mitigation appropriate to this island site.
- Recommend acoustic monitoring for all three nocturnal seabirds during breeding season.
- Consider colony protection for protected species via predator control in areas where nesting is suspected (see Young et al. 2019).
- Consider acoustic surveys to determine extent of HAPE, NESH in project area and on island for possible mitigation action. Given level of take requested would seem to make population not viable on long-term based on scant knowledge of breeding area and level of threats and protections.
- Given that 36 individual endangered seabirds have been grounded on Oahu during 1990-2003 (Pyle and Pyle 2017), consider mitigation to support rescue program for protected species by state-certified and permitted wildlife rehabilitators for care of downed birds (such as Hawaii Wildlife Center).

Given the ongoing threats to these ESA-listed seabirds and an expected delay in action to recovery (based on long generation time), it is all the more urgent to make immediate and coordinated conservation action for these species across the Hawaiian Islands.

Thanks you for considering our comments.

Sincerely,

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Bird-Smart Wind Energy: solutions for sustainable wind energy development

American Bird Conservancy's Bird-Smart Wind Energy Program promotes bird-friendly solutions to advance the sustainable development of wind energy, while minimizing impacts to bird life. Since 2010, we have worked to reduce risk to birds during planning stages, with a focus on pre-construction considerations. Our thanks to Holly Goyert who drafted this section, and to Michael Hutchins, Kelly Fuller, and Michael Fry for their contributions to the Bird-Smart Wind Energy Program.

American Bird Conservancy supports efforts across the USA to reach energy sustainability goals, combat climate change, and reduce our dependence on fossil fuels. However, wind turbines and their associated infrastructure can negatively affect bird populations, through direct collision and habitat loss. Given our mission to protect America's most threatened and endangered bird species and their habitats, our approach is to provide solutions for responsible renewable energy development, including "bird-smart" practices to minimize these impacts.

Sustainable wind energy sources in the US are rapidly increasing, both onshore and offshore. On land, there currently exist over 54,000 turbines operating in 41 states in the US, with approximately 90 GW of capacity (Fig. 1). The number of turbines are predicted to triple in the next three decades, by over 50,000 onshore and up to 50,000 offshore (DOE 2015, 2016).

Based on three studies from the last five years (Smallwood, 2014, Loss et al. 2014, Erickson 2015)[1], American Bird Conservancy estimates that approximately 1 million birds are killed annually from collisions with wind turbines in the US (Hutchins et al. 2016)[2]. This does not include impacts from collisions with associated infrastructure (e.g., power lines), habitat loss, displacement or other indirect impacts. Given projected onshore and offshore build-out (i.e., the expected growth of the wind energy industry), that figure is projected to increase to 3-5 million annually by 2050.

[1] See Johnson et al. 2016 for a comparison among studies

[2] Derived from the build-out since those three studies were conducted, and new techniques using canines to increase carcass detectability.

Photo credit: Wind turbines and birds by J Marjis, Shutterstock.

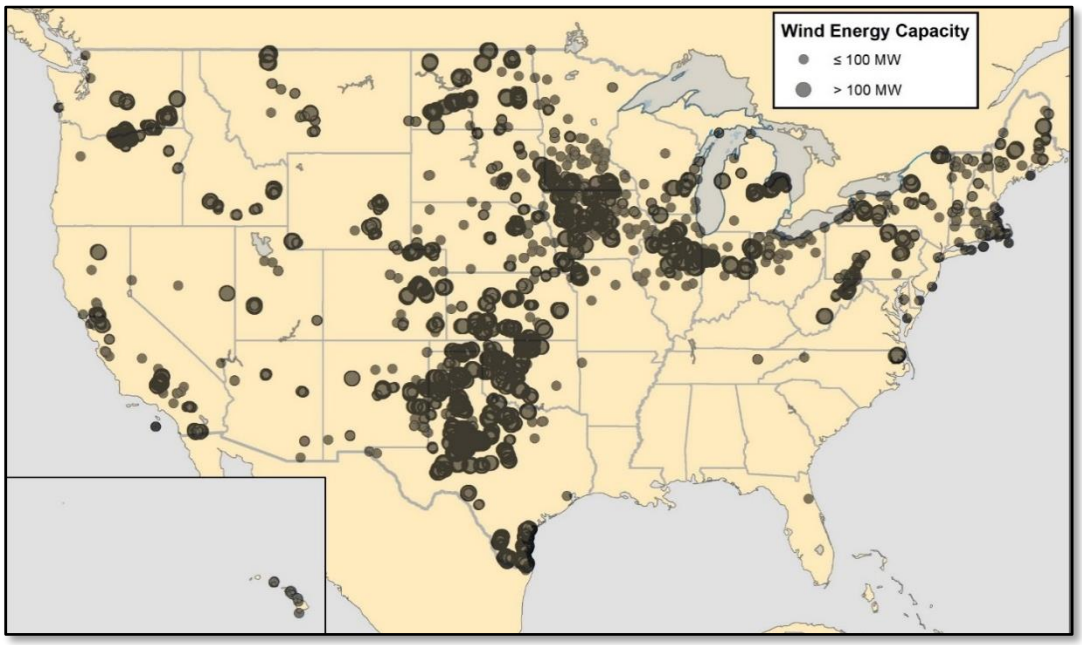

Figure 1. Currently, more than 54,000 turbines exist in the U.S with approximately a 90 GW energy capacity operating in 41 states, concentrated in the Midwest (American Wind Energy Association, AWEA). Turbine data shown here were sourced from the USGS Wind Turbine Database.

Birds contribute substantial ecological services to the environment, and bird-watching people contribute over $40 billion to the national economy (Carver 2013). American Bird Conservancy works to ensure that the benefits of wind energy outweigh its costs, by minimizing and mitigating its impacts on birds. Our wind energy policy provides a strategy to prioritize early

decision-making steps in wind energy development: “avoid when planning, minimize while designing, reduce at construction, compensate during operation, and restore as part of decommissioning” (according to the “mitigation hierarchy”, May 2017).

American Bird Conservancy supports wind power development when it is bird-smart, which means following six principles:

(1) proper siting of turbines away from high-bird-collision-risk areas;
(2) independent, transparent pre-and-post-construction monitoring of bird impacts;
(3) effective construction and operation minimization of bird mortality by wind energy facilities;
(4) mitigation to compensate for any unavoidable bird mortality and habitat loss;
(5) evaluation of wind energy as part of a complete analysis on all feasible renewable alternatives; and
(6) environmental compliance with a rigorous local, state, and federal regulatory framework.

American Bird Conservancy works with the government, industry, and conservation partners towards our goals to promote a science-based approach to bird-smart wind energy.

Photo credit: Wind turbines with flock by J Marjis, Shutterstock.

Bird-smart Principle 1: proper siting of turbines away from high-bird-collision-risk areas

Land-based Development

The first best practice step in wind energy planning, with regard to bird impacts, is to conduct an independent pre-construction risk assessment at the proposed site to carefully evaluate the exposure and vulnerability of birds to turbines and their associated infrastructure (Drewitt and Langston 2006). It is good practice to avoid developing areas in or near sites where birds concentrate, during migration or other times of year.

High risk areas include regions where birds are exposed to development, in part due to their distribution and abundance. For example, proper siting avoids avian hotspots, which are areas where a high abundance and diversity of resident and migratory birds congregate in ecologically important habitat. Other "no-go" zones are Important Bird Areas, Critical Habitat as designated under the Endangered Species Act (ESA), sensitive habitat (e.g., wetlands), reserves, migratory bottlenecks, the edges of ridges used by migrants, and breeding concentrations or movement corridors.

Photo credit: Wind turbine with flock by Bildagentur Zoonar GmbH, Shutterstock

To aid wind energy project developers, American Bird Conservancy has created a Wind Risk Assessment Map (Fig. 2) identifying levels of risk throughout the country. While well-sited wind facilities require extensive resource investment at an early stage, they help to ease the ensuing regulatory and decision-making process, as it relates to monitoring, minimization, and mitigation (see Bird-smart Principles 2-4 below).

Areas of moderate risk could include habitat that has been previously altered (e.g., urban environments), coldspots, and resilient habitat (e.g., agriculture). Developers may proceed with caution in areas of moderate risk, as long as they follow stringent monitoring, minimization, and mitigation requirements. For example, the design of movement corridors through or around wind energy arrays, via micro-siting, can help to enable turbine avoidance. Developers could also consider reducing turbine number and density, and selecting turbine sizes with a rotor swept zone that minimizes collision risk, based on at-risk species. There exists a tradeoff in energy output, where few, large turbines have equivalent capacity to a large matrix of small turbines. A reduction in turbine number and/or density may help to minimize collision or displacement risk, as long as the rotor zone remains outside the range of flight heights of at-risk species.

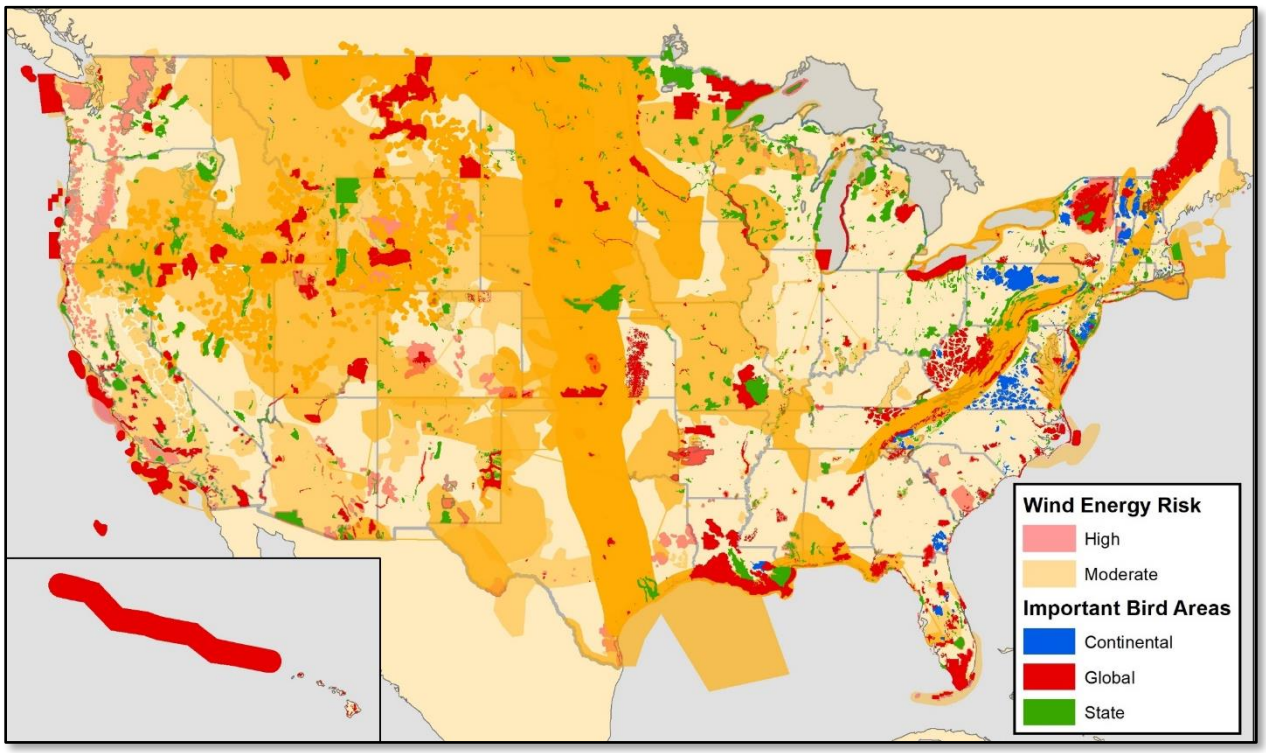

Figure 2. American Bird Conservancy's U.S. Wind Development Bird-Risk Assessment Map. Wind energy development should avoid high risk areas, indicated in red (where dark shades of red highlight Global Audubon Important Bird Areas (IBAs)). If developers choose to proceed in areas of moderate risk (orange on the map), they should follow stringent monitoring, minimization, and mitigation requirements. Continental IBAs are shown in blue, and state IBAs are in green.

Offshore Development

Offshore wind facilities should not be placed near populations of rare or endangered species, large breeding colonies, or in major migratory pathways. The definition of "near" may vary from

species to species, as some birds travel long distances to forage. Special attention should be paid to avoid wind development near nesting islands, where seabirds could be at risk of collision when transiting between at-sea foraging grounds and their breeding sites.

American Bird Conservancy's Seabird Maps and Information for Fisheries (SMIF) tool provides a list and summary of the seabird species found across the world's oceans.

To inform the offshore siting process, Winship et al. (2018) modeled and mapped the relative density of marine birds on the Atlantic Outer Continental Shelf, using three decades of aerial and boat-based visual surveys at sea. However, the ocean is a characteristically dynamic habitat, where conditions can change rapidly over time and space (e.g., upwelling, forage resources), thus influencing the distribution and concentration of wildlife. Climate change is exacerbating such environmental volatility, and shifting the long-term distribution, persistence and predictability of hotspots. To fully evaluate risk during the time frame of 30-year wind energy leases, developers and regulators will need to consider long-term forecasts of seabird hotspots.

Offshore wind energy has been subject to structured regional planning, more so than terrestrial wind energy, which mostly operates within private lands (DOE 2016). This is in part because waters within 200 nautical miles (nm) of shore fall within US federal or state (less than 3nm offshore) jurisdiction. The US Bureau of Ocean Energy Management (BOEM) is the federal regulatory and leasing agency that manages federal waters. Over five years ago, they began the planning and leasing process for several wind energy areas on the Atlantic Outer Continental Shelf (Fig. 3).

Opportunities exist to encourage proper siting in the Atlantic and Pacific, but largely in state waters, where planning has begun more recently (Fig. 4). In the Atlantic, Massachusetts, New Jersey, New York, North Carolina, and South Carolina are planning the highest renewable energy capacity (Table 1). As part of the Atlantic Marine Bird Cooperative, American Bird Conservancy is leading a working group to incorporate birds into this marine spatial planning process.

In the Pacific, Hawaii has proposed the most ambitious goal of achieving 100% renewable energy by 2045. Consequently, it also has the highest number of endangered birds, which American Bird Conservancy's Oceans & Islands team actively works to protect. We have directly helped inform the planning process for proposed wind energy areas in both the Atlantic and Pacific (Rhode Island, Massachusetts, and California), and we plan to expand this effort as we continue to comment on other projects.

Photo credit: Wind in water by Sergey Galushko, Shutterstock

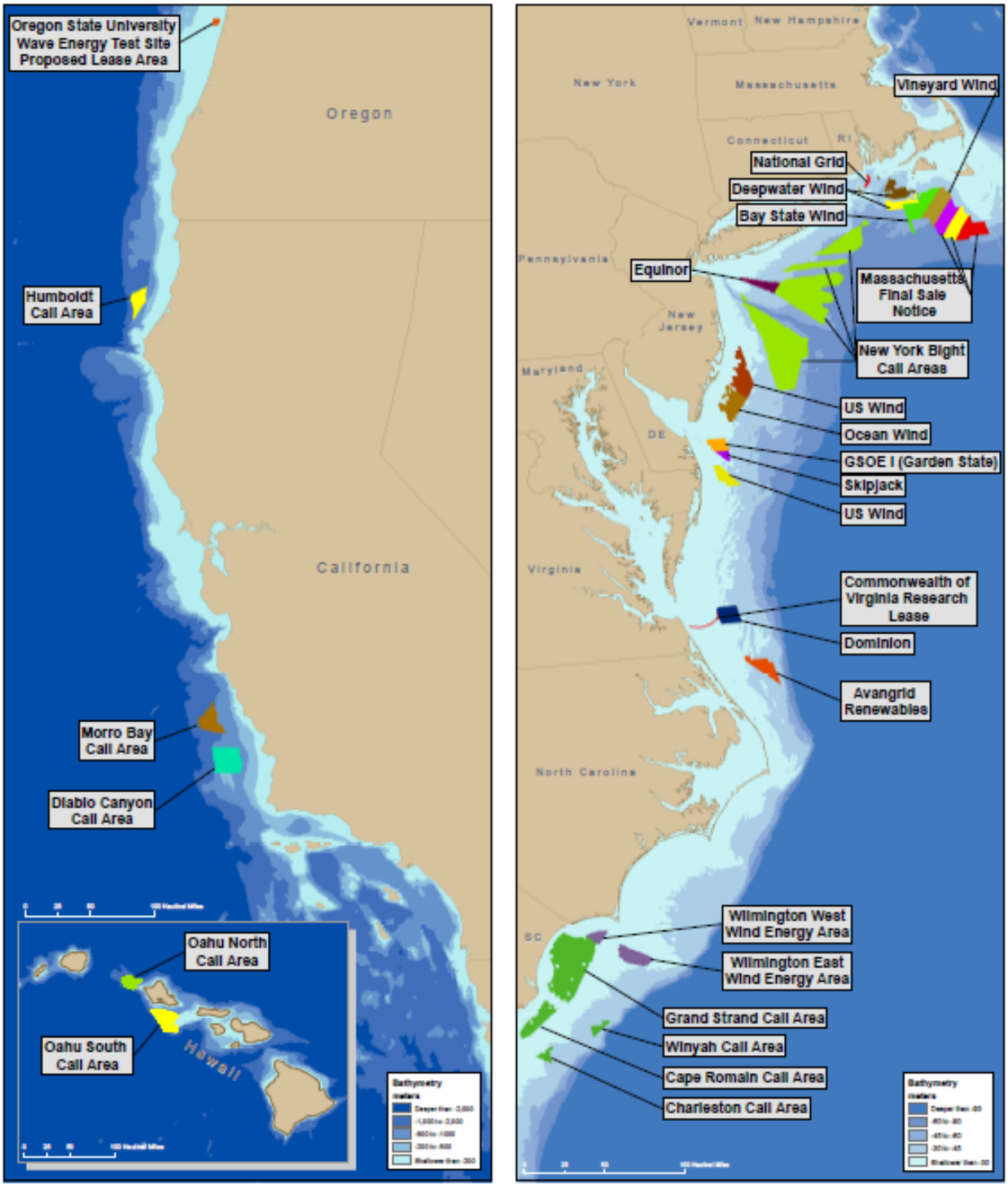

Figure 3. Wind energy areas managed by the federal Bureau of Ocean Energy Management (BOEM). Call Areas are in the early planning stage, while others are farther along into the leasing stage. From https://www.boem.gov/All-States-Poster/.

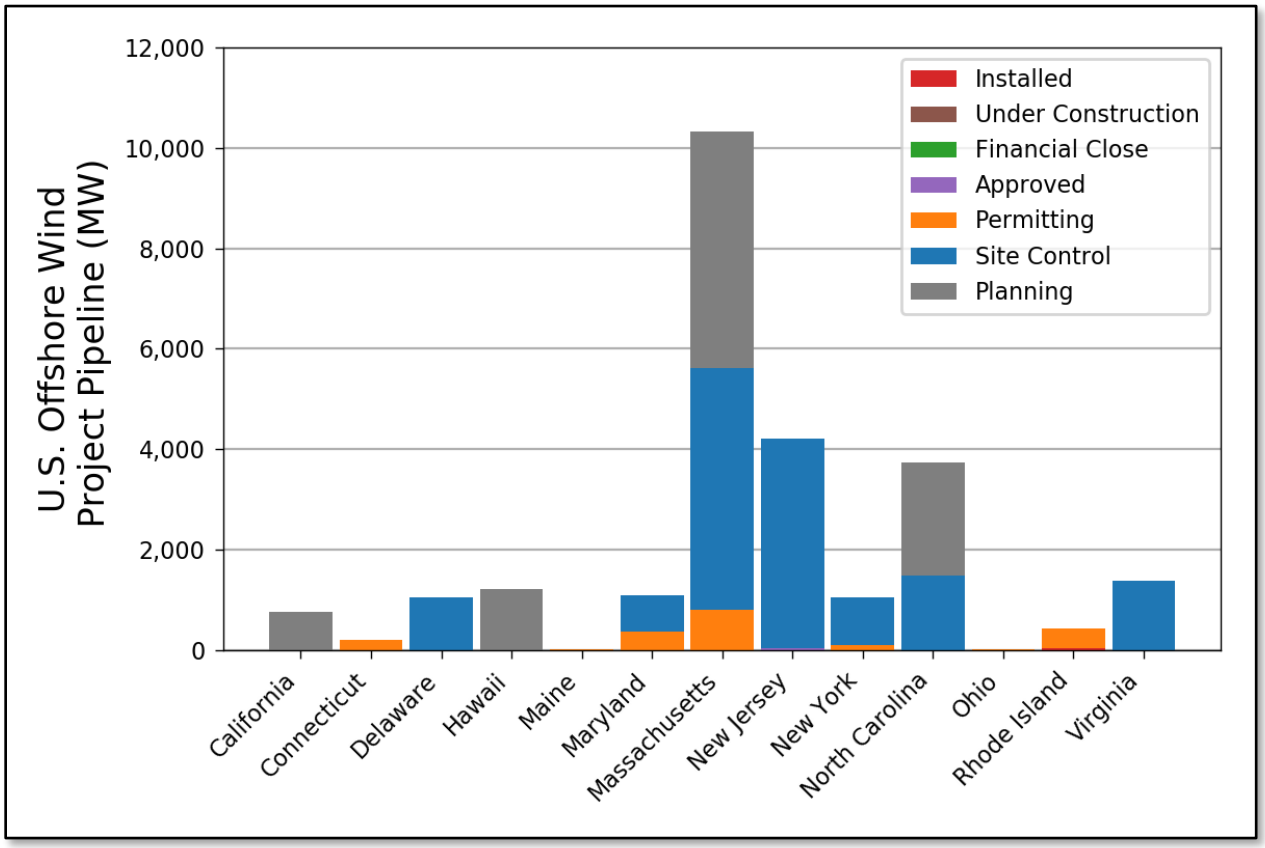

Figure 4. The planned offshore wind energy capacity for coastal states, from Beiter et al. 2018. For comparison, the first and only offshore wind farm in the U.S. is in Rhode Island state waters: the Block Island Wind Farm, which operates across 5 turbines (30 MW total capacity). The legend shows the stages of development, beginning with Planning and ending with Installed. Careful siting is most effective during the Planning stage.

Table 1. The planned offshore wind energy capacity and renewable energy goals for U.S. coastal states, adapted from Musial et al. 2017, Beiter et al. 2018, and the BOEM Renewable Energy Map Book 2018. New York (NY), South Carolina (SC), Massachusetts (MA), New Jersey (NJ), North Carolina (NC), Virginia (VA), Hawaii (HI), Maryland (MD), California (CA), Ohio (OH), Maine (ME), Rhode Island (RI), Delaware (DE), New Hampshire (NH). For comparison, the U.S. goal is 86 GW of offshore wind energy produced by 2050 (DOE 2016), which would represent 14,333 6 MW turbines, but this could change rapidly with shifting priorities and other factors.

	Planned		Goal			
	Capacity (MW)	Area (km²)	Capacity (GW)	by Year	% Renewable	by Year
NY	22,029	7,343	2.4	2030	50	2030
SC	12,006	4,002				
MA	5,613	2,101	1.6	2027		
NJ	4,197	1,399	3.5	2028		
NC	3,735	1,245			12.5	2021
VA	1,383	463			15	2025
HI	1,200	399			100	2045
MD	1,086	322			25	2020
CA	765	275			50	2025
OH	21	10				
ME	12	9	5	2030		2030
RI	630		1	2020	38.5	2035
DE	600				25	2025
NH					25	2025

Bird-smart Principle 2: independent, transparent pre-and-post-construction monitoring of bird impacts

It is best practice to monitor the impacts of wind energy on birds using an independent body to assess pre-construction risk and post-construction injury to birds. This guideline removes conflicts of interest due to company self-reporting, and avoids perceived incentives for under-reporting. Any study should include consultation with avian experts that are not paid employees of wind energy companies, but who are intimately familiar with the local avifauna and their habitats. As described below (Bird-smart Principle 4), such independent studies can be supported through a mitigation fund. To allow for public oversight of study design and results, transparency is essential, as our nation's birds are a public trust resource.

Bird-smart wind power should employ a site-specific monitoring plan that is federally and state reviewed and approved (e.g., an Avian Protection Plan). A monitoring plan should be included in all Construction and Operation Plans, and reviewed during the National Environmental Policy Act (NEPA) process. An effective plan covers at least 5-10 years and requires independent, transparent, site-specific studies that use standard pre- and post-construction "Before, After – Control, Impact" (BACI) or "Before-After Gradient" (BAG) protocols. These methods set a comprehensive annual baseline against which post-construction studies can be evaluated, to quantify the cumulative impacts of wind turbines on birds.

With oversight from regulatory agencies, the plan should be modified on an annual basis, to inform the adaptive management process for improved operational minimization and mitigation. For example, at the first (and only) offshore wind farm in the US, located off the coast of Block Island, Rhode Island, Deepwater Wind reports the results of their monitoring plan to the US Army Corps of Engineers (USACE), USFWS, and Rhode Island Coastal Resource Management Council (CRMC). These organizations review the information biannually and modify the plan as appropriate.

Photo credit: Wind turbines at sea by Boscorelli, Shutterstock.

Pre-construction assessments should last at least two years and use all existing available bird study data, providing sufficient site-specific data to best account for detection probability, local environmental variability and bird movements at the appropriate spatial/temporal resolution.

Post-construction studies should run for at least five years (long enough to determine the efficacy of operational minimization measures and make needed revisions). Implementing a suite of methods is necessary to assess displacement sensitivity (e.g., boat and aerial surveys, with tracking studies), as well as collision vulnerability (e.g., radar combined with vibration/bioacoustics collision sensors). Together with life history factors, these contribute to population vulnerability, which is used to evaluate risk when combined with exposure to the hazard of wind turbines (bird abundance and distribution; Marques et al. 2014; Fox et al 2006).

Displacement

Avoidance behavior displayed by some birds around wind facilities suggests that, even if they don't collide with wind turbines, birds may experience habitat loss, particularly from large wind farms (Garthe et al. 2017, Mendel et al. 2019). Advancements in tracking technology have made it possible to identify behavioral avoidance of wind turbines by individual birds. For example, GPS tracking can be used on large birds (e.g., > 200g) to quantify fine- and macro-scale movements, with a special focus on altitudes within the rotor-swept zone. Alternatively, nanotags are miniaturized tracking devices attached on small birds that are detected by receiving towers throughout the Motus Wildlife Tracking System network. This tool uses automated digital telemetry to estimate the macro-exposure of birds to wind energy development, such as wind energy area crossings (Loring et al. 2018).

Surveys that assess avian exposure to wind energy development can also address displacement vulnerability (Kelsey et al. 2018). To estimate abundance at a micro-spatiotemporal scale, developers should deploy continuous turbine-mounted acoustic monitors to detect the calls of passing birds and bats. Radar, aerial surveys, and boat-based surveys (in the offshore realm) estimate the abundance and distribution of birds at a macro-spatial scale. Radar should be monitored on a continuous (daily) basis to detect large birds and flocks at altitudes within the rotor zone. Traditional (observer) aerial or high-resolution digital aerial surveys should be run on a monthly basis, and weekly during peak movement periods; digital aerial surveys can be used to estimate altitudes within the rotor zone. In the offshore realm, boat-based surveys have the advantage of detecting bird behaviors and should also operate on a monthly basis, weekly during peak movement.

Photo credit: Northern Gannet in flight by Dolores Harvey, Shutterstock

All site-specific avian exposure surveys should follow BACI or BAG protocols within the wind energy area (i.e., treatment) and a reference area (i.e., control plots). Careful selection of reference areas requires a representative sample of the wind energy area consistent with standard environmental variables – these variables differ depending on the habitat type (i.e., terrestrial versus offshore). For example, in the offshore realm, a control plot should represent the species assemblage affected by the wind energy area, through a range of habitat covariates that include water depth, productivity, and distance to shore. Mendel et al. (2019) used a BACI approach with 14 years of pre-construction data and 3 years of post-construction data from boat-based and aerial surveys. They showed that wind facilities in the North Sea caused a loss (i.e., reduction and redistribution) of available loon habitat, which could lead to indirect long-term effects on their populations.

Collisions

Flight height of a given species is considered the most important factor in determining that species' collision risk (Furness et al. 2013) and avoidance potential (Band 2012). A radar study around the Great Lakes conducted by the U.S. Fish and Wildlife Service (Bowden et al. 2015) suggests that many migratory birds often fly at lower levels than once thought.

For seabirds that use dynamic soaring, flight height and behavior are positively related to wind speed and direction. For example, albatrosses and petrels exhibit gliding flight behaviors, where their flight heights increase to within rotor height during high winds (Ainley et al. 2015). Gannets, gulls (including kittiwakes), and terns also fly within rotor height and have shown particularly high collision and displacement vulnerability scores (Willmott et al. 2013). Advancements in digital aerial survey technology (Johnston and Cook 2016) and the use of drones (Harwood et al. 2018) in the last couple of years have shown that boat surveys underestimate flight heights, therefore many collision and displacement vulnerability scores are likely to be even higher than estimated in these previous studies.

Photo credit: Birds surround a Chinese wind turbine by Changhua Coast Conservation Action, Flickr Creative Commons License

American Bird Conservancy encourages the USFWS, Department of Energy (DOE), BOEM, and other federal and state natural resource agencies to further study species-specific collision risk and avoidance potential. **Pre-construction** assessments should involve site-specific collision risk modeling, based on avian exposure to the wind energy area (i.e., abundance and distribution), hazards imposed by the turbine parameters (i.e., based on rotor zone), and vulnerability (i.e., based on life history parameters such as flight height and other bird behaviors, including foraging and migratory activity).

Post-construction studies should employ statistical models that best account for variations in local conditions and the relative difficulty of locating bird carcasses in different conditions, particularly due to scavenging by predators. Standardized mortality statistics should be calculated via the Generalized Fatality Estimator, GenEst. On land, the use of dogs within search radii > 105m is imperative to maximize the detection of carcasses. Smallwood 2018 states that "fatality rates are being underestimated because too often investigators and permitting agencies have assumed that disproportionate numbers of fatalities fall straight down or near the wind turbine. This common assumption has justified maximum search radii that fall far short of the area needed to adequately detect available carcasses of birds and bats. Even at the recent wind projects in the [Altamont Pass Wind Resource Area], the search radius of 105 m appears to be too short" (p. 13). Determining post-construction mortality for birds is even more difficult in the offshore realm than onshore, since carcasses are immediately lost in the water, thus precluding species identification and determination of actual numbers taken.

Given the low detectability of bird carcasses, American Bird Conservancy encourages research on new technologies that will test and verify accurate pre-construction risk assessment and post-construction mortality monitoring at offshore wind facilities. Several techniques used to monitor bird strikes with turbines are under development or in the testing stages (Dirksen 2017). Turbine-mounted systems include vibration/bioacoustics and multi-sensor (MUSE) wildlife detection systems; radar and infrared camera Thermal Animal Detection Systems (TADS); as well as accelerometers, microphones, and video cameras (WT-Bird). Rigorous metrics are needed to

improve upon existing methods of pre-construction risk assessment and post-construction mortality studies, particularly offshore (Bailey et al. 2014).

Cumulative impacts

Estimating the potential impact of one wind energy facility in a site-specific study is very different from assessing the impact of several facilities in a strategic study of the same area (Busch et al. 2013). Site characterization and assessment studies need to follow BACI or BAG protocols (i.e., with appropriately-selected control plots adjacent to the lease area for comparison, as stated above).

In contrast, strategic surveys are larger-scale, longer-term, and set a baseline against which to compare the impacts of different wind energy areas. It falls to government regulators to develop a comprehensive decision-making process that involves both site-specific and strategic surveys to estimate the cumulative impacts of wind energy on birds (see Goodale and Milman 2014). Such studies should be transparent, independent from the leasing industry, and systematically designed to accurately and precisely quantify the collision and displacement vulnerability of protected birds to offshore wind energy development.

Bird-smart Principle 3: effective construction and operational minimization of bird mortality by wind energy facilities

Several cost-effective strategies can be taken to minimize bird mortalities, although further innovation and testing is needed (Bailey et al. 2015, Wang et al. 2015, Dirksen 2017). Improving existing methods is an important factor in taking a science-based approach to wind-energy development, since "technologies to minimize impacts at operational facilities for most species are either in early stages of development or simply do not exist" (DOE EERE 2014).

American Bird Conservancy encourages further research on ways to minimize the effects of wind turbines on birds, including measures to deter birds and to detect-and-cease wind turbine rotation (i.e., feather, curtail) when large numbers of birds are present (May et al. 2015). Until such approaches become reliable, a precautionary approach is necessary to compensate for the low detectability of bird mortality that results from inadequate monitoring and minimization technology.

Bird-smart wind power uses the best existing technology and management practices to avoid harm to birds. Cables that connect wind energy to the electrical grid can pose a significant risk to birds through collisions and electrocution (Manville 2005). Avian Power Line Interaction Committee (APLIC) standards are fundamental to minimizing these issues: above-ground transmission lines should be buried in high risk areas, and meteorological towers should be un-guyed.

Attractant removal is good practice, such as anti-perching devices and lighting that minimizes nighttime migratory bird collision mortality (such as flashing lights). Sonic and visual deterrents can also be effective, such as flight diverters, markers on associated infrastructure, or specialized light spectrum deterrent devices using UV or red/blue LED lights or lasers. Effective

construction and operation minimization should be implemented as part of a monitoring plan to reduce bird fatalities.

During high risk times of year, operational curtailment is necessary (i.e., feathering, or shutting-down turbines), for example during poor visibility weather and peak movement periods (e.g., nocturnal, seasonal migration, or post-breeding season). Offshore marine environments are particularly dynamic and can change rapidly with changing weather conditions, such as strong wind and fog.

Photo credit: Roseate Tern by Luke Seitz

Measures need to be taken into account to accommodate changing distributions in bird hotspots, as a result of weather conditions and climate change. Existing detection-and-curtailment systems (e.g., IdentiFlight and DTBird) detect eagles and activate warning sounds prior to curtailment, which occurs within seconds. Further research is necessary to generalize this technology to other realms (e.g., offshore) and to other at-risk species, including solitary birds and large flocks. Best practice involves adaptive management to maximize the efficacy of a monitoring and minimization plan. That means revising operational measures, such that when parameters are exceeded they trigger required remedies. For example, Greater Sage Grouse planning is updated when habitat loss is exceeded.

In the offshore realm, it may be possible to install floating turbines that can be re-located under circumstances where bird distributions shift dramatically (i.e., an adaptive post-construction matrix design). However, adaptive management requires a robust monitoring and minimization program involving independent, transparent reporting of bird injuries to regulatory agencies.

Bird-smart Principle 4: mitigation to compensate for any unavoidable bird mortality and habitat loss from wind energy development

Following efforts by developers to properly site wind energy facilities and minimize bird mortalities, further harm to birds can be unavoidable. In these situations, bird-smart wind power redresses the loss of any birds or habitat, to a net benefit standard. This means that developers must find ways to produce enough birds to offset the losses imposed by collisions, displacement, and the cumulative effects of wind turbines. Examples include predator control and post-construction/decommission restoration of disturbed habitat (e.g., replanting of native vegetation).

Best practice for developers is to buy into a mitigation fund, for example via an HCP or other memorandum of understanding (MOU) with a natural resource agency (e.g., USFWS). This can be used to support conservation and independent research on the vulnerability of birds to the wind energy facilities, improve monitoring and minimization through technology innovation, and offer other compensatory conservation actions.

Compensation should also include acquiring additional habitat for migratory birds, such as off-site habitat conservation projects at wintering grounds, National Wildlife Refuges, and/or marine protected areas. Under a Section 10 ESA consultation, the USFWS has clear authority to require compensatory mitigation (Wilkinson 2019). Landowners or developers can apply for Incidental Take Permits (ITP) to engage in Safe Harbor Agreements, Candidate Conservation Agreements, and HCPs (e.g., Great Plains Wind Energy HCP). Offshore wind energy involves Section 7 ESA consultation, meaning that an ITP could include restoration to breeding colonies, such as that which occurred at the Bird Island Roseate Tern colony in 2017 (MassWildlife 2017).

When compensatory mitigation results in no net impact to a protected species or habitat, it can save a lot of time for developers, by helping to shorten review time or altogether avoid formal Section 7 ESA consultation with the USFWS (Wilkinson 2019). American Bird Conservancy supports compensatory actions that help in the recovery trajectory for endangered or rare species, particularly when they produce a net benefit to birds that is otherwise not possible using minimization measures, alone.

Bird-smart Principle 5: evaluation of wind energy as part of a complete analysis on all feasible renewable alternatives

Given all of the aforementioned impacts of wind energy on birds, it is good practice that project developers conduct a complete feasibility analysis to determine whether other renewable alternatives may be more appropriate at their proposed sites. Alternative energy sources, such as distributed solar energy (i.e., photovoltaic panels on preexisting structures such as houses, parking lots, or other buildings), can require less infrastructure, such as power lines, and have less impact on birds.

In 2011, the Bureau of Land Management and the California Public Utilities Commission considered distributed solar as a feasible alternative to three energy projects in San Diego County (BLM/CPUC EIS). California is an example of a state that invested so heavily in solar that it is exporting its power to other states (Penn 2017). A complete feasibility analysis would determine the need and justification for additional energy capacity generated from other renewable sources, including wind energy.

Photo credit: Distributed solar panels and wind turbines along road by Djomas, Shutterstock

Bird-smart Principle 6: environmental compliance with a rigorous local, state, and federal regulatory framework

In the US, birds are protected federally from incidental take by wind turbines under the ESA, Bald and Golden Eagle Protection Act (BGEPA), and Migratory Bird Treaty Act (MBTA). Despite efforts to weaken the ESA and MBTA, these laws have a record of success, and their protections remain essential.

A recent interpretation of the MBTA exonerates developers from incidental take of migratory birds – this is extremely insufficient, under litigation, and opposed by several organizations and members of congress. American Bird Conservancy recommends a process of protecting migratory birds similar to the BGEPA. Additionally, we have been actively involved in the NEPA process to ensure that Environmental Assessments (EA) and Environmental Impact Statements (EIS) include adequate measures to monitor, minimize, and mitigate bird mortalities. American Bird Conservancy is particularly concerned about the effects of wind turbines on rare species, including those listed as Threatened and Endangered.

Photo credit: Bald Eagle and wind turbines by Louise Redcorn

American Bird Conservancy works with legislators to improve the existing policy and regulatory framework designed to protect birds. We also collaborate with state and federal agencies to provide guidelines for energy developers.

In 2011, the US Fish and Wildlife Service published voluntary guidelines for developing wind energy on land. American Bird Conservancy favors mandatory, rather than voluntary guidelines for wind energy that effectively protect our nation's native birds from this rapidly expanding industry, both on and offshore.

In 2015, American Bird Conservancy petitioned the Department of the Interior to develop a rulemaking process and mandatory permitting system – this was endorsed by several partner groups. Guidance for developing offshore wind energy is currently under review by the USFWS, which is a step in the right direction. We urge a precautionary approach when it comes to wind energy compliance with avian guidelines and regulations.

American Bird Conservancy encourages regional planning to guide leasing decisions, with state and federal oversight, as has occurred with the U.S. National Offshore Wind Strategy by the U.S.

Departments of Energy and the Interior (DOE 2016). For Threatened and Endangered species, planning processes should involve a Habitat Conservation Plan (HCP) under a Section 10 ESA consultation. For example, the Great Plains Wind Energy HCP was developed to cover the Whooping Crane migratory corridor from North Dakota to Texas (orange on our Wind Risk Assessment Map, with stopover sites in red). Wind exclusion zones have been incorporated into Greater Sage Grouse planning, in the vicinity of known leks. Organization of an independent avian stakeholder advisory group is key to the regional planning process.

Photo credit: Birds and wind turbine sunset by NiekGoossen, Shutterstock

Build capacity

An independent avian stakeholder advisory group should be charged with a variety of tasks throughout the wind energy planning and operation process. This group makes informed decisions about the potential impacts of offshore wind energy development, contributes to the NEPA process, encourages regional planning, and establishes mandatory guidelines and best management practices. It also helps to identify knowledge/data gaps, interpret data, methods, and results from the monitoring plan, and assess cumulative impacts.

The group provides transparency by disseminating data and results to public, and also ensures multi-agency oversight. It should assess the need for incidental take permits, recommend adaptive management of operations, and help to develop and implement the mitigation fund. As an example, the New York State Energy Research and Development Authority (NYSERDA) has developed an Environmental Technical Working Group (ETWG) to pursue similar goals. Such existing groups may be used as a foundation to structure future groups dedicated to regional issues nationwide.

American Bird Conservancy is currently organizing a stakeholder working group to engage industry, government agencies, and other environmental NGOs in establishing and adhering to Best Management Practices for wind energy development in the Great Lakes. During spring and fall in the Great Lakes, vast numbers of birds and bats, many of which migrate at night, gather along the shorelines and eventually fly along or over the lakes during their annual migration to and from the boreal forests of Canada where they breed. Being tied to water, federally-protected Bald Eagles are likely to experience impacts from wind energy development in and around the Great Lakes.

The cumulative impact of the many existing and planned projects in the region is likely to be substantial. For example, the southwestern quadrant of Lake Erie (coastal Ohio) has been designated a Global IBA by the National Audubon Society. A Global IBA is defined by BirdLife International as a place of international significance for the conservation of birds and other biodiversity. American Bird Conservancy, in partnership with the Black Swamp Bird Observatory, successfully challenged a turbine in this IBA, at the Air National Guard's Camp Perry, OH. We continue to work proactively to ensure that the first offshore wind facility in the Great Lakes sets a rigorous precedent in the development of bird-smart wind energy.

Photo credit: Geese and wind turbines by J Marjis, Shutterstock. Shutterstock.

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Wind Energy HCPs and PEIS FWS-R1-ES-2019-N032 Comment

[redacted] Mon, Jun 10, 2019 at 8:24 PM

To: HIwindPEIS@fws.gov

Hello,

This is a comment of support for the HCP amendment proposed by Auwahi Wind for an expansion of their mitigation efforts. The scope and breadth of their already-established reforestation project has been impressive, and is already having an impact on Maui's landscape and environment.

As a disclosure, I am currently working on a masters´ thesis regarding the relationship between *Acacia koa* and *Pennisetum clandestinum* at their Pu'u Makua site. I am aware of sites of reforestation within formerly denuded ranchlands in Costa Rica that have served as "corridors" and havens for rare and endangered wildlife. The same success seen in Central America could easily be replicated in Hawaii. For that reason, I support this amendment.

Thank You,
[redacted]

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] Public Comments on Draft PEIS and HCPs for 4 Wind Projects

[redacted] Mon, Jun 10, 2019 at 10:44 PM

To: HIwindPEIS@fws.gov

During the May 22nd 2019 Maui public meeting, I had the opportunity to speak with Michele Bogardus regarding the following back-of-the-envelope style calculation appearing in the background section for the Hawaiian hoary bat on page 67 of the draft PEIS for public comment. When I suggested that the calculation should be removed from the document, Michele informed me that the calculation had already been removed from the most recent version of the PEIS, but urged me to submit a public comment anyway. Hopefully the comment I am providing will still be helpful, even if the section of the PEIS it concerns has been removed. The paragraph in question is included below in quotations:

"The lifespan of the Hawaiian hoary bat is estimated to be between 4-10 years (Bonaccorso 2016). The average number of pups produced each year is estimated to be 1.8 and survival rate is estimated to be 30%. Thus, annual production of pups is estimated at 0.5 pups/female. The median core use area for a male bat is 20.3 ac as calculated by (DOFAW 2015; Bonaccorso et al 2015), although females may have overlapping core use areas (Bonaccorso et al 2015) and females with pups are known to share roosting trees (Pinzari 2017). If we assume that the forests that provide suitable bat habitat are at 20% of their carrying capacity, then about 14,500 bats would occur across the islands. On Oʻahu, Maui, and Hawaiʻi, we would expect about 11,400 bats. The Hawaiian hoary bat populations on Kauaʻi, Lanaʻi, and Molokaʻi, where wind energy is not currently in development, would not be affected. If we assume 50% of the population is female (5,700) and 50% of that population breeds each year (2,850), than approximately 1,425 pups would be expected to survive to adulthood each year if the carrying capacity was at 20%."

The calculation essentially results in a population estimate across all Hawaiian islands, and for Oʻahu, Maui, and Hawaiʻi Island produced simply by dividing total forest acreage by half of the median core use area for a male bat in a productive region of Hawaiʻi Island, and then multiplying by 20%. Several additional assumptions are made to come to an estimate of pups surviving to adulthood each year.

There are a number of issues with the calculation, especially arbitrarily assuming 20% percent carrying capacity and that 50% of the population breeds each year. However, the main issue with this calculation is that the starting point for the calculation is all forest cover across the Hawaiian islands, whereas Hawaiian hoary bats are even described in the preceding paragraph as using forest edges rather than the forest interior. Because of the difficulty of foraging in cluttered environments, the vast majority of the 1,475,000 acres of forest habitat across the Hawaiian islands used as the basis for the calculation is most likely not "suitable bat habitat."

Additionally, the median core use area for a male Hawaiian hoary bat as calculated by Bonaccorso et al. 2015 was 40 acres (not 20), and the mean was just over 63 acres. As these core use areas were all from hot spots of bat activity on Northeast Hawaiʻi Island, they are probably not representative of home range sizes for Hawaiian hoary bats on other islands or habitat types.

A population estimate for the species would be extremely helpful and useful, but it should be done scientifically and any assumptions must have proper justifications.

[redacted]

Bat biologist and Maui resident

HIwindPEIS, FW1 <hiwindpeis@fws.gov>

[EXTERNAL] PEIS opea'pea

[redacted] Tue, Jun 11, 2019 at 12:14 AM

To: hiwindpeis@fws.gov

Aloha, Please find attached my comments regarding your PEIS regarding the endangered opea'pea. These comments are submitted on behalf of my 4th and 5th grade students at Daniel K Inouye Elementary School on Oahu who completed a project-based learning experience between November 2018 and May 2019. Angela Huntemer.

[redacted]**docx**
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The Senate

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HONOLULU, HAWAII 96813

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JUN 17 2019
U.S. FISH & WILDLIFE SVC
PACIFIC ISLANDS FWD
HONOLULU, HI

June 7, 2019

Field Supervisor
U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3–122
Honolulu, Hawai'i 96850

Subject: Wind Energy HCPs and PEIS, FWS–R1–ES–2019–N032

To Whom It May Concern:

As Chair of the Senate Committee on Energy, Economic Development, and Tourism, I have a keen interest in the timely approval of renewable energy projects that will move us more quickly toward fulfilling the mandate of the landmark legislation passed by the state Legislature four years ago to power the grid of every island with 100 percent renewable energy by 2045 (HB623 HD2 SD2 CD1; enacted as Act 97, SLH 2015).

To further the progress toward this worthy goal, we strongly urge all parties to keep this act in mind when making decisions that could affect wind energy projects in Hawai'i and the wind industry as a whole.

Wind is the cornerstone of clean, renewable energy in Hawai'i and currently accounts for an estimated 25 percent of the state's renewable energy portfolio. Responsible wind operations not only move us closer to our 100 percent renewable energy goal and provide Hawai'i portfolio diversity, but also align with our environmental goals in the areas of habitat conservation, research and protection of endangered species.

We must also be mindful of the regulatory oversight that your agency provides to ensure the impacts associated with renewable energy development are properly mitigated. In this respect, we have a good partner in the wind industry, which through the use of technology, financial resources and habitat conservation, is contributing significantly to the conservation of our environment and the plants and animals that inhabit it, I am grateful the industry is helping the state to strike a balance between our energy and environmental policies, reflecting the value of both.

Senator Glenn Wakai
Kalihi · Salt Lake · Foster Village
State Capitol, Room 216, 415 S. Beretania St., Honolulu, Hawaii 96813
Phone: (808) 586-8585 Fax: (808) 586-8588 Email: senwakai@capitol.hawaii.gov

Because of the importance of wind in the state's renewable portfolio, I believe we must move carefully but expeditiously in all regulatory review processes and provide clarity to reduce the open-ended risk to existing and prospective wind industry projects. This will avoid jeopardizing responsible resource development that can enable us to reach our renewable energy goals.

Thank you for taking Hawai'i's 100 percent renewable energy goal and the long-term benefits provided to the environment and environmental species into consideration in your decision-making.

Sincerely,

Senator Glenn Wakai
Chair, Senate Committee on Energy, Economic Development, and Tourism

c: Suzanne D. Case, Chairperson, Board of Land and Natural Resources
David Smith, Administrator, Division of Forestry and Wildlife, Hawai'i State Department of Land and Natural Resources