

From: [Jack Alexander](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Birds Not Mosquitos
Date: Monday, October 9, 2023 12:50:13 PM

To whom it may concern,

I am writing to express my support for the approval of the Final Environmental Assessment (EA) titled “Final Environmental Assessment for Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Non-native Southern House Mosquito Populations on Kaua’i”. This technique is scientifically and ethically sound, and remains one of the sole options for controlling the spread of avian malaria via non-native mosquitos. I feel confident that without the approval of this technique, Akikiki and Akekee will be extinct in the wild within a few years at most. These birds are essential to a functioning forest ecosystem which provides clean water for the island, and they are an irreplaceable cultural artifact that should be preserved for future generations. Please consider the people and the land, and vote yes to approve this EA to save Kauai’s native forest birds.

Sincerely,

Jack Alexander
Kupu Aina Corps 2023
Kauai Forest Bird Recovery Project

From: [Alicia](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquitoes
Date: Wednesday, October 11, 2023 11:58:29 AM

Aloha,

It blows my mind that this is even a thing, releasing MOSQUITOES upon the population of Hawaii!!
But common sense has been gone for years so I shouldn't be that surprised. No EIS even? NO one wants this and we've testified already yet the evil doers keep pushing their agenda like every other issue the people have no voice. One of these days this will end and those who participate will hopefully pay for these crimes. For the love of god please stop this insanity!

Sent from my iPhone

From: [lauren barclay](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:37:21 PM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i. The native forest birds of Kaua'i cannot afford to wait much longer.

- Lauren Barclay

From: [Kyhl Austin](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] SUPPORT for Agenda Item C-1
Date: Thursday, October 12, 2023 5:49:13 AM

Dear Chair Designate Chang, and members of the Board of Land and Natural Resources,

My name is Kyhl Austin. I live in Mō'ili'ili O'ahu and am an Entomology Ph.D. student at the University of Hawai'i at Mānoa I am writing to express my **STRONG SUPPORT** Agenda Item C-1 to approve the FAE and issue a finding of no significant impact for this proposed program.

As an entomologist, I have firsthand experience with the extreme dangers mosquitoes pose to our native birds, watersheds, and entire ecosystems. For the first time ever, we have a tested and effective method for controlling mosquito populations and saving our native forest birds, some of which are most assuredly going to become extinct in the next 5 years if this FONSI is not issued.

I believe the proposed conservation action to implement the Incompatible Insect Technique is the most promising and effective tool we have ever had to protect our most vulnerable native bird species. If no action is taken, species WILL become extinct. Hawaii is already the extinction capital of the world. We cannot allow it to have even more extinctions when an effective solution is so close at hand. I believe the prepared Environmental Assessment is thorough, well-researched, and realistic in its goals and approaches.

I urge you to please **SUPPORT** agenda item C-1 and approve the Final Environmental Assessment and authorize the Chairperson to issue a Finding of No Significant Impact.

Mahalo for your time,
Kyhl Austin

From: [Molly Bache](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony in Support of Kauai Mosquito Suppression Work
Date: Thursday, October 12, 2023 7:34:24 AM

Aloha,

My name is Molly Bache and I write to express my support of DLNR's mosquito suppression work on Kaua'i.

I have worked in the field of native bird conservation on Kaua'i for the last 6.5 years. This project is a pivotal step towards conserving Kaua'i's remaining forest birds. These native species are important natural and cultural resources that must be protected. I have learned about the Incompatible Insect Technique (IIT) over the past several years and believe it is a safe, targeted, feasible method that would give these birds their last fighting chance of survival. This method has been used successfully around the world and I support its use here in Hawai'i, particularly so following thorough review of the environmental assessment.

Thank you for the opportunity to provide testimony on this important matter.

Molly Bache

Program Manager - Save Our Shearwaters

SOS Hotline: (808) 635-5117 molly@saveourshearwaters.org
7370-A Kuamo'o Rd, Kapa'a, HI 96746 saveourshearwaters.org



From: [Michael Bailey](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Reference ITEM C-1; testifying in favor of the project to protect the upland birds.
Date: Wednesday, October 11, 2023 11:16:26 PM

Members of the BLNR:

We have all seen how well our native birds have fared over the past century. They have been progressively chased into higher and higher altitudes to escape the mosquitoes. Global warming has pushed ambient temperatures up to a point where this no longer any high ground for the birds to retreat to. We risk losing them all.

It is time to immediately start tipping the balance of power in favor of these birds. Please come to a Finding of No Significant Impact (FONSI) and let this project move forward.

I am acquainted with the IIT technique that is being proposed and believe whole heartedly that it has sufficient safeguards to prevent any adverse effects to any other portion of the environment. We must give it a try to see if we can save the I'iwi, 'Apuane and other species. Losing the O'o was tragic.... we need to stop this tragedy from progressing further.

Please give these highly qualified scientists your approval and support.

Michael R. Bailey D.M.D.
Lihue, HI

From: [Kallie Barnes](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kaua'i Wolbachia IIT Testimony
Date: Wednesday, October 11, 2023 3:50:11 PM

Aloha Chair Person Chang and members of the board,

I implore you, please reiterate your stance on Maui and approve the EA and the finding of no significant impact of Wolbachia IIT on Kaua'i. The science is sound and the worst that could happen is that it does not work!

Mahalo nui,

Kallie

From: [KS](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL]
Date: Wednesday, October 11, 2023 10:29:08 PM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kauai'i.

Thanks for considering,
Basil

From: [KISC Rapid Ohia Death Team](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] SUPPORT Birds not Mosquitos
Date: Wednesday, October 11, 2023 6:53:15 AM

Aloha kakou,

I live on the island of Kaua'i in the Ahupua'a of Puna, Kapaa. I work as a wildlife biologist. I fully support all mosquito suppression techniques. Mosquitos are a problem worldwide and I know that these methods have been tried and tested all over the world already. I trust the biologists who are enacting it.

I am lucky enough to be one of the few that have seen 'Akikiki in the wild. I wish I could've seen all the now-extinct birds in the wild too. It is our responsibility to fix the problems from the past and conserve what little uniqueness is left.

Mahalo for your time,
Lizzy Baxter

From: [bobbi becker](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaula to save native birds
Date: Wednesday, October 11, 2023 9:18:53 PM

Saving Kauai's native honeycreepers is an URGENT task. It requires action on multiple fronts, most urgently reducing the risk of avian malaria being transmitted by non-native mosquitos. As a long time birder and conservationist I urge the DLNA to proceed with the Wolbachia incompatible mosquito project as soon as possible. This project is based on the best research that is currently available and we know that we must reduce further losses of our critically endangered native birds by all means possible.

Other actions that I support are efforts to stop the spread of rapid ohia death, replanting of "resistant" varieties and eliminating cats, rats and mongoose through baiting and trapping.

Thank-you for considering my input.

Bobbie Becker
Makawao, Hawaii

Sent from [Mail](#) for Windows

From: [Laura Berthold](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaula to save native birds
Date: Wednesday, October 11, 2023 1:10:09 PM

To the BLNR-

I, Laura Berthold, **SUPPORT** Agenda Item C-1, DLNR-DOFAW's request for Board approval of the submitted Final EA and for the Chairperson to be authorized to issue a finding of no significant impact (FONSI).

I am a conservation biologist on Maui and have been working with these forest birds for nearly 15 years. The protection of these birds is important for the native ecosystem, Hawaiian culture, and for biodiversity.

I strongly support the EA as written and the described action. I do not think a further Environmental Impact Statement is needed for this project. The circumstances are dire and swift action is needed. This is a well described project with valid data and methods.

Avian malaria, a disease transmitted by invasive southern house mosquitoes, is driving the extinction of our forest birds. Due to climate change mosquitoes and malaria are being found higher and higher in elevation. I am seeing this first hand from my experience with working with these birds in the wild. I have seen the changes of where I used to see and hear these birds-certain parts of the forest have become quiet. I have literally watched individual birds die from this disease.

Without mosquito control, several species of honeycreepers will become extinct in the next few years. The Incompatible Insect Technique can suppress mosquito populations and help save our native forest birds.

Please **SUPPORT agenda item C-1. Approve the Final Environmental Assessment** and authorize the Chairperson to issue a Finding of No Significant Impact.

Thank you,
Laura Berthold
Maui Forest Bird Recovery Project
Avian Research Field Supervisor
2465 Olinda Road, Makawao, HI 96768
(808) 573-0280- office
(808) 269-9381- cell
www.mauiforestbirds.org

From: [Barbara Brandt](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 12:22:18 PM

Hello,

My husband and I live on Kauai part time. We volunteer on the behalf of birds, the environment, and wildlife wherever we go. The forest birds on Kauai are nearly out of time. Please approve this mosquito control method. They deserve a chance to survive.

Mahalo,

Barbara

From: [Emily Broderick](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Tuesday, October 10, 2023 6:35:31 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

Emily M Broderick
emilybrod@yahoo.com
Marine Biologist
Kaua'i Community College
Biology/Marine Science Instructor

Sent from my iPhone

From: [Brittni Brooks](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaula to save native birds
Date: Wednesday, October 11, 2023 5:08:55 PM

Aloha,

This testimony is in support of protecting native birds from mosquitos. Please save the birds before they are gone forever.

Mahalo,

Brittni

From: [Nancy Budd](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kua"i to save native birds
Date: Wednesday, October 11, 2023 11:07:02 PM

Please approve the Wolbachia technique to save our native birds. There is no time left: in the past several decades we have witnessed the extinction of so many of our precious forest bird species and, in the past 10 years, the rapid increase in the deadly mosquito population at higher elevations. Your swift action now is critical to the survival of our remaining forest birds.

Thank you,
Nancy Budd

Sent from my iPhone

From: [Adrian Burke](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Friday, October 6, 2023 5:45:31 PM

Aloha,

Please approve the use of the incompatible insect technique to save Kaua‘i’s remaining forest birds. Having personally been fortunate enough to venture deep into the Alaka‘i on Kaua‘i and actually see, with my own eyes, the ‘akikiki, ‘akeke‘e, ‘anianiau, ‘i‘iwi, and others, I know how amazingly unique, beautiful, and important to Hawaiian forests and culture these birds are. These four species will absolutely certainly be lost from Kaua‘i, and for the former three that means also complete extinction on the entire planet, if we do not employ the incompatible insect technique as soon as possible. It is probably already too late to save wild populations of ‘akikiki, which is devastating, just as it is devastating to look back at all the birds unique to Kaua‘i that have already been lost forever. We have lost Kaua‘i ‘ō‘ō, ‘ō‘ū, Kaua‘i nukupu‘u, Kaua‘i akialoa, kāma‘o and more species that were lost before Europeans arrived. We must do all that we can to save the remaining native forest birds, and the incompatible insect technique is the only promising way to do so. Time is absolutely of the essence. It is probably already too late to save wild ‘akikiki, but if we are to reintroduce the remaining ‘akikiki that have hatched in captivity we must act quickly to secure mosquito-free habitat for them. Kaua‘i’s populations of ‘akeke‘e and ‘i‘iwi are dangerously low already, and ‘anianiau have recently been declining at an extremely alarming rate. These birds need help now, years ago even. These birds are unique gems worth conserving for their own right, but also for us humans to enjoy. These birds play an important role in Hawaiian culture and are important to the health of Hawaiian native forests. I love to see ‘i‘iwi feeding on the nectar of the flowers of hāhā‘aiakamanu (*Clermontia fauriei*), a plant species found only on Kaua‘i and O‘ahu, now rare on O‘ahu, which have coevolved in shape with ‘i‘iwi beak shape to facilitate an exchange of a nectar meal for pollination. Countless important ecological relationships like this exist with Hawaiian songbirds in Hawaiian forests, so keeping the forest birds alive is important to keeping native forests healthy and diverse. Please, please, please act now by approving the use of the IIT to save these amazing forest birds of Kaua‘i! Countless people from today to thousands of years in the future will lament these losses if we do not act to prevent them.

Adrian Burke
‘Ele‘ele, Kaua‘i

From: [Mike's Gmail](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaula to save native birds
Date: Wednesday, October 11, 2023 6:54:10 PM

To All Concerned:

I know there are a lot of people who have misguided information about the Wolbachia treatment but this has been used and tested in numerous areas.

If we do not act now to control the mosquitoes and to do everything possible to protect our native Hawaii birds, it will become too late.

Please act in favor of the mosquito control measures and help our birds to have. Chance of not becoming extinct!

Mahalo Nui Loa!

Michael Carion

Sent from my iPhone

From: [Brooke Casey](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 7:19:11 AM

Good morning,

No native creature should be sacrificed for an invasive one. Any actions we should take to remove mosquitos we should, and we should take such actions to protect our native wildlife.

Casey.

From: [Ryan Chang](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Support Agenda Item C-1
Date: Thursday, October 12, 2023 7:01:47 AM

Dear Chair Chang and members of the Board of Land and Natural Resources,

I am writing in support of Agenda Item C-1: Request approval of Final Environmental Assessment and Authorization for the Chairperson to issue a Finding of No Significant Impact for the "use of Wolbachia-Based Incompatible Insect Technique for the suppression of non-native southern house mosquito populations on Kauai"

Please approve the final EA and authorize the FONSI before we lose many of our endangered honeycreepers.

Mahalo,
Ryan

Hawaii State Board of Land and Natural Resources

October 13, 2023 Public Hearing

Testimony on Item F:1

Request for Authorization and Approval to Issue a Special Activity Permit (SAP 2024-60) for David McInroy of the British Geological Survey, Principal Marine Geoscientist, for the Collection of Fossilized Reef Cores from Submerged Lands in State Waters off of Hawaii Island, for the Purposes of Climate Research.

Aloha Chair Chang and Members of the Board of Land and Natural Resources:

My name is Charles Young. I reside in Kealia in the region of Kapalilua S. Kona. I am writing this testimony in opposition to the Authorization and/or Approval to Issue a Special Activity Permit (SAP 2024-60) until such time that substantive public outreach has been completed and all conditions of a Ka Pa'a Kai analysis are met so the BLNR has sufficient information to make its' decision. To my knowledge the Applicant has sent email notice to a selected group of people for comment. The notice explained the nature of the project and requested that if anyone had any questions that they may contact the applicant. No public or private meetings were offered for interested parties, which I believe would have been the preferred method particularly for those who wished to provide comment for a Ka Pa'a Kai analysis.

In its' application the Applicant states that "This outreach consists of (but is not limited to):

1. Explanation of the project's scope, aims, and research objectives;
2. Notification of dates/times when drilling operations are anticipated to occur so that fishers are able to temporarily modify their fishing activities; and
3. A commitment to share all data gathered with community leaders, community groups, and fishing organizations in an expedited manner.

The BGS has reached out to all contacts provided by DAR and has fielded, and is continuing to field, enquiries from various community members on Hawaii Island. The project's outreach team is organizing the first of possibly several live video sessions from the vessel for any interested individuals or groups to attend. The sessions will describe the project's aims, objectives, and activities, and will offer a 2-way Q&A session for participants. The offshore project team is keen to hold discussions with community leaders and groups in advance of coring within state waters on, for example, how to avoid interfering with fishing practices, and how the project can be conducted in a culturally respectful way. The first of these sessions will be arranged for the beginning of October, with the help of the West Hawaii Fishery Council". This would seem to indicate that more outreach is required and being planned. In its' Ka Pa'a Kai Analysis the Applicant states that "A traditional or customary Native Hawaiian right that could be affected by the proposed project would be fishing activity near or adjacent to the boring sites. Because each of the proposed sites will drill into submerged lands at depths of over 100 meters (approx. 330 feet), it is not anticipated that the disturbance of these submerged lands will affect any traditional or customary Native Hawaiian right as they pertain to the submerged lands themselves. I think this statement requires more clarification and much more discussion.

The outreach with the West Hawaii Fishery Council was scheduled for the Oct. meeting of the Council. I believe the BLNR would agree that a decision on October 13 would not allow any substantive dialog amongst the Council much less allow adequate time for the Council to disseminate the information to its' members and time for meaningful discussion.

I thank the BLNR for this opportunity to provide testimony and encourage board Members to defer decision making pursuant to additional and more effective public outreach.

Sincerely

Charles Young

PO Box 505

Honaunau, Hi 86726

From: [Saxony Charlot](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Supporting Agenda Item C-1
Date: Thursday, October 12, 2023 8:56:46 AM

To whom it may concern,

I am writing to express my strong support for the use of Wolbachia IIT on Kaua'i. Please approve this EA and issue a finding of no significant impact.

I am a local conservation biologist who has had the opportunity to work closely with our native manu. Seeing declining populations of our endemic birds is heartbreaking, and protecting what is left is crucial. Wolbachia IIT provides a safe, effective, and necessary means of preserving our unique biodiversity.

Please approve agenda item C-1 and support the use of Wolbachia on Kaua'i.

Thank you and aloha,
Saxony Charlot

From: [Jason Cheers](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 12:01:49 AM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i.

- Jason Cheers

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From: [Sue Chouljian](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 2:48:56 AM

Please support this project to save our native birds. Let's save native wildlife for our children and grandchildren.

Mahalo,
Sue Chouljian
Oahu resident

From: [Peter Chora](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito
Date: Thursday, October 12, 2023 3:57:22 AM

Please don't do dangerous experiments with Mother Nature risking life and health of people and living things

Sent from my iPad

From: [Lisa Cali Crampton](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony in support of agenda item C-1, 10/13 meeting
Date: Wednesday, October 11, 2023 12:55:33 PM

Aloha Board Members,

I am submitting testimony in favor of item C-1: DLNR-DOFAW's request for board approval of the [Final Environmental Assessment](#) (EA) titled "Use of Wolbachia- Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kaua'i."

I am the Project Manager for the Kaua'i Forest Bird Recovery Project, where I have led forest bird research and conservation since 2010. There are six honeycreeper species - four endemic - on Kaua'i, including the critically endangered endemic honeycreepers 'akikiki and 'akeke'e.

This year, I have witnessed the near extinction of the 'akikiki in the wild; week after week, 'akikiki disappeared before we could capture them and bring them into captivity to protect them. They left behind cold, wet eggs and starving chicks. You may have seen the headlines this summer proclaiming that we estimate that there are as few as five 'akikiki remaining in the wild. There are fewer than 650 'akeke'e. Even the more "common" honeycreepers are now scarce; we go all day without seeing an 'anianiau or 'i'iwi. We pick dead birds up off the trail several times a month; in past years we have only found a couple of dead birds all year. Without immediate and decisive action, the 'akikiki and 'akeke'e will go extinct this decade, with others disappearing shortly thereafter.

The cause of this terrible situation is the climate-change-driven advance by the invasive southern house mosquito (*Culex*) and the deadly disease it carries, avian malaria, into the high elevation forests occupied by these species. Most honeycreeper species are highly susceptible to avian malaria and die quickly after being bitten by an infected mosquito.

We as a scientific, human health, and conservation community have spent many hours analyzing the data and examining all the possible options to address these declines and prevent extinction of these species. We have concluded that the best tool to prevent their extinction is landscape-level mosquito control achieved through the Incompatible Insect Technique, IIT. This technique takes advantage of a bacteria species, *Wolbachia*, that occurs naturally in insect species throughout Hawai'i, including *Culex* mosquitoes. When the strain of *Wolbachia* carried by a male differs from that carried by a female, this renders them incompatible in that his sperm cannot fertilize her eggs, so there are no offspring. Without offspring, the mosquito population crashes and less disease transmission occurs. This safe and effective tool has been used globally to control human mosquito-borne diseases like Zika and Dengue, with no reported negative health or environmental impacts.

Both Environmental Assessments and Environmental Impact Statements involve rigorous analysis of the potential environmental and cultural impacts of proposed actions, as required by federal and state regulations. An EA is prepared when the proposed action is not likely to have significant negative effects, as in the case of the Kaua'i EA.

This tool will give Hawai'i's honeycreepers a chance not only to recover but once again thrive, allowing also our forests to flourish, since these birds provide essential services like pollination and insect control. The honeycreepers are also integral to the spiritual, emotional, and cultural fabric of Hawai'i. But it is more than that. Saving these species is our kuleana, our duty.

To me, witnessing their extinction is not an option, not when we have the opportunity to use a safe and effective tool to save them, IIT mosquito control. I could not bear to face my family and my community if I told them we had given up at this juncture.

The birds have been losing their voices. I urge you all to give the birds a voice by approving the Final

Environmental Assessment and authorizing the Chairperson to issue a finding of no significant impact (FONSI) for this effort.

Mahalo for your consideration of my testimony,

Lisa

--

Dr. Lisa "Cali" Crampton

Program Manager

Kauai Forest Bird Recovery Project

PO Box 27 (USPS mail) or 3751 Hanapepe Rd (courier packages)

Hanapepe HI 96716

808.335.5078

From: [Neil Cripps](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed
Date: Wednesday, October 11, 2023 10:18:29 PM

I AM OPPOSED TO THE BLNR 10/13/23 AGENDA ITEM C1. THIS BACTERIA INFECTED MOSQUITO RELEASE PROJECT IS DANGEROUS EXPERIMENT ON OUR ISLANDS. WE MUST HAVE A FULL EIS BEFORE MOVING FORWARD WITH THIS EXPERIMENT.

From: [Kristina C](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 8:18:23 PM

Aloha Board,

I write to support your approval of the EA
Final Environmental Assessment for Use of Wolbachia-based Incompatible Insect
Technique for the Suppression of Non-native Southern House Mosquito Populations
on Kaua'i. The science is clear - please reiterate your stance for East Maui again in
Kaua'i.

Mahalo,
Kristina Chyn, PhD

From: [Bailey Daniels](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Submitting testimony for Agenda item C-1
Date: Wednesday, October 11, 2023 7:38:16 AM

Aloha,

I am writing in about the environmental assessment taking place for the mosquito control. I am in full support of the release and believe the chairperson should issue a FONSI.

This will have no impact on people living there but it will significantly increase the native birds chances of survival, what few are left. Kauai birds are severely affected by the culex mosquitoes and are unable to escape to higher altitude to survive. If the mosquitoes are released now then hopefully in the near future there could be a return of the native birds that make Kauai such a unique place.

Please approve the final EA and issue a FONSI.

Mahalo,
Bailey Daniels
Field Technician
Hawaii island

Sent from my iPhone

From: [Susie Davis](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] comments
Date: Wednesday, October 11, 2023 3:41:22 PM

To Whom it may Concern,

I am a resident of the Big Island, living in North Kohala. I am concerned about the fight to preserve all endangered endemic species, but especially the birds that are such an important part of our unique Eco system as well as our history.

Our native birds need this project to reduce the threat of avian malaria that is killing them. We must act now to suppress the mosquito populations to give the birds a fighting chance. The science in the environmental assessment (EA) is sound and adequate and we should use it to protect Kauai forest birds.

Thank you!

Susie Davis

Kapaau, HI

From: [Mike DeMotta](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Native Forest Bird Protection
Date: Wednesday, October 11, 2023 6:07:16 AM

Aloha

My name is Michael DeMotta and I am Curator for Living Collections at the National Tropical Botanical Garden in Kalaheo, Kauai.

I support a finding of no significant impact.

- Hawaiian forest birds are special natural and cultural resources that must be protected. We must do everything in our power to prevent any more native forest bird extinctions.

Thanks

Michael DeMotta

--

I ola 'oe, i ola makou nei.



Michael J. DeMotta

Curator

Living Collections

NATIONAL TROPICAL BOTANICAL GARDEN

3530 Papalina Road

Kalaheo, HI 96741 USA

Cell Ph.(808)651-3138

mdemotta@ntbg.org

"The mission of the National Tropical Botanical Garden is to enrich life through discovery, scientific research, conservation and education by perpetuating the survival of plants, ecosystems and cultural knowledge of tropical regions

www.ntbg.org

From: [Julia Diegmann](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Friday, October 6, 2023 5:14:59 PM

Aloha!

I am submitting testimony in **very strong support** of agenda item C-1.

Our native Honeycreepers are foundational to the culture, forests, and ecosystems of Hawai'i. On the island of Kaua'i, we have already lost dozens of forest bird species due to avian diseases transmitted by non-native mosquitoes, among them iconic species like the Kaua'i 'ō'ō, featured in mahiole and 'ahu 'ula, and the spectacular Kaua'i 'akiāloa, a pollinator of 'ōhi'a lehua and insect eater. We are grieving the loss of their song, the loss of their beauty and the loss of their presence. Of the six remaining Honeycreepers species on Kaua'i today, two are critically endangered. The 'akikiki is going extinct in the wild as you are reading these lines and the 'akeke'e is predicted to go extinct in the wild within the next couple years. As pollinators, seed dispersers, and insect eaters, they are essential for our forests and without action or delayed action, these species have no chance of survival. The incompatible insect technique or mosquito birth control provides us with a glimmer of hope and opportunity to save the last remaining Honeycreepers from extinction. This method has been used successfully worldwide for vector control for human diseases and gives us a powerful tool to address the main cause for the decline of our Honeycreepers: avian malaria transmitted by the Southern House Mosquito. Neither the disease nor the vector is native to the Hawaiian islands and the mosquitoes have invaded the highest elevation of our island, decimating our Honeycreeper populations every day. Our forest birds evolved in a mosquito-free Hawai'i and a single bite of an infected mosquito can be enough to kill an 'i'iwi. I am confident in the scientific work and research carried out by the involved state and federal agencies, the conservation projects and their partners and strongly encourage the BLNR to support and help to execute this project in Hawai'i.

Mahalo,

Dr. Julia Diegmann
Kalāheo, Kaua'i

From: [Keep ME Playing](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 3:39:29 PM

Aloha,
Decreasing mosquito population is beneficial to all Kaua'i. Will you be the only island who refused to save their native forest birds? You can stop the extinction. Protect our Manu not invasive disease carrying insects!

Mahalo,
Jill Dietmeyer
Pearl City, HI

From: [Karen Edwards](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I support our birds!
Date: Wednesday, October 11, 2023 10:03:56 PM

Aloha,

I support mosquito suppression in hopes it will spare our native birds from malaria. It has been used elsewhere in the world and I believe it is an important step for assisting our Hawaiian forest birds.

Sincerely,
Karen Edwards

Sent from my iPhone

From: [Hawaii Wildlife Center](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Item C-1
Date: Wednesday, October 11, 2023 12:19:20 PM

Department of Land and Natural Resources, Division of Forestry and Wildlife,

Attn: Mosquito Control Project,

1151 Punchbowl Street, Room 325, Honolulu, HI 96813

RE: Item C-1

Dear Chair Designate Chang and members of the Board of Land and Natural Resources,

I STRONGLY SUPPORT, the proposed use of the *Wolbachia* Incompatible Insect Technique to prevent the extinction of the endangered Hawaiian honeycreepers living on the islands of Kaua'i. I am requesting of the BLNR for a Finding of No Significant Impact (FONSI) on item C-1.

It is past time to reverse the extinction crisis in Hawai'i. It is tragic that Hawai'i is recognized as the extinction capital of the world. This loss of unique biodiversity is not only detrimental to our island ecosystem but also to the planet.

The conservation action to save the last remaining 17 species of honeycreepers that are teetering on the brink of extinction is at a crisis point. There is no down side to the management actions to reduce and control invasive mosquitos in Hawai'i. The benefits of this technology go beyond protecting our invaluable biodiversity to human health benefits as well.

Please **SUPPORT** the Wolbachia method for mosquito control efforts and request of BLNR for the **FONSI**.

Mahalo nui!
Linda Elliott

Biologist

Hāwī, HI 96719

From: [MARTIN ENGEL](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 10:17:34 AM

I am strongly in favor of eliminating mosquitoes throughout Hawaii

Sent from my iPhone

From: [Keith Evans](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for 10/13 board meeting agenda item C-1
Date: Saturday, October 7, 2023 4:00:49 AM

Dear Members of the Board of Land and Natural Resources,

I SUPPORT, Agenda Item C-1, DLNR-DOFAW's request for Board approval of the submitted Final EA and for the Chairperson to be authorized to issue a finding of no significant impact (FONSI).

I think we can all agree that the situation facing Hawaii's native forest birds is dire, and that we must do something, safe and effective, as soon as possible in order to save those birds that remain for future generations.

The proposed Incompatible Insect Technique (IIT) has been successfully used globally for over 50 years. In each case, scientists have researched and analyzed the results and found that the method has no significant negative health or environmental impacts. Furthermore, this technique is the only hope left to save several species of the birds in the short time remaining before extinction.

Currently on the table is a vote on the acceptance of an Environmental Assessment (EA) for use of the IIT method to control avian malaria on Kauai. The EA was performed by accredited experts of The National Park Service and DLNR-DOFAW. As is the case for every other known use of this technique, the EA found that there will be no negative impacts to the health, environment, plants, animals, or people of Hawaii.

Given these facts, and the desperate plight of the birds, please SUPPORT agenda item C-1, and approve the Final Environmental Assessment and authorize the Chairperson to issue a Finding of No Significant Impact.

Mahalo nui for your consideration,

Keith Evans

Princeville

From: [Kerri Fay](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Item C-1
Date: Wednesday, October 11, 2023 2:08:37 PM

Aloha Board,

Please consider a FONSI for the Kaua'i DLNR mosquito suppression environmental assessment. Twenty years ago, it was easy to drive up to Kōke'e and see i'iwi, 'apapane, elepaio and 'anianiau. Today I have a hard time finding 'apapane. There is no time to waste as 'akikiki and akeke'e are likely to disappear very soon. There are currently no other available methods to try to save these birds and the EA and science is sound. I fully support a FONSI for this EA.

Mahalo,
Kerri Fay

From: [Tina Ferrato](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaula to save native birds
Date: Thursday, October 12, 2023 7:56:51 AM

Aloha,

This is not an easy decision to make, but I do support we humans do what we can to save some of our incredible bird species before they go extinct. While I typically do NOT advocate for any interference with wildlife, I recognize we have a kuleana here. We helped create the problem, so we should help fix it. I support the Mosquito Control.

That's my two cents.

Mahalo nui,

Tina Ferrato
2477 Liliuokalani St., UNIT A
Kilauea, HI 96754
808-631-4779



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

In Reply Refer to:
01EPIF00-2023-Inv

Ms. Dawn Chang
Chairperson
Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Subject: U.S. Fish and Wildlife Service Appreciation for Collaborative Effort with DLNR
to Prevent Forest Bird Extinction in Hawai'i

Dear Chairperson Chang and Board:

As you are aware, the U.S. Fish and Wildlife Service (Service) and the State of Hawaii Department of Land and Natural Resources (DLNR) have been collaboratively working together to plan for the implementation of Incompatible Insect Technique (IIT) to reduce mosquito populations on Kaua'i. This action is urgent and necessary to protect critically endangered forest birds from mosquito-borne disease in higher-elevation native forest bird habitat. The Service and DLNR have prepared a joint environmental assessment (EA) to address the impacts of *Wolbachia* IIT.

The Service has reviewed and evaluated the information pertaining to this *Wolbachia* based biopesticide¹ used in IIT. Based on the information available to us and public comments received we find this biopesticide is consistent with other IIT tools used to control mosquitoes for public health, which have been shown to be highly effective and safe. We further anticipate the likelihood for non-target and environmental effects from the use of this technology in Hawai'i to be negligible. Therefore, on September 22, 2023, the Service issued a [Final EA](#) in accordance with our National Environmental Policy Act regulations (NEPA; 42 U.S.C. §4321 et seq.) and a [Finding of No Significant Impact](#) (FONSI).

The planning and implementation of mosquito control for preventing the extinction of Hawaiian forest birds is part of the Department of the Interior's [Hawaiian Forest Bird Keystone Initiative](#) and funded in part through Bipartisan Infrastructure Law allocations. The Department's bureaus and offices are working together, along DLNR, Native Hawaiian Community, and numerous public and private partners, to lead a comprehensive initiative to prevent the extinction of

¹ Biopesticide: certain type of pesticide derived from natural materials such as animals, plants, bacteria, and minerals. (U.S. Environmental Protection Agency)

PACIFIC REGION 1

IDAHO, OREGON*, WASHINGTON,
AMERICAN SĀMOA, GUAM, HAWAI'I, NORTHERN MARIANA ISLANDS

*PARTIAL

additional Hawaiian forest birds. The use of IIT to control mosquitoes is a critical component of this multi-prong initiative and is outlined in the Department's "[Strategy for Preventing the Extinction of Hawaiian Forest Birds.](#)"

We greatly appreciate DLNR's partnership, leadership, and ongoing commitment to this critical conservation challenge. If you have any questions regarding this letter or how IIT and other forest bird conservation projects align with the Service's conservation strategy, please contact me at Michelle_Bogardus@fws.gov or by telephone at 808-792-9400.

Sincerely,

Michelle Bogardus
Deputy Field Supervisor

Enclosures: Kaua'i Wolbachia EA FONSI signed 09222023

From: [Marybeth Fentriss](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 8:14:08 PM

Please support this project to save our native birds. Let's save native wildlife for our children and grandchildren.

Mahalo nui

Marybeth Fentriss
808-291-1166

From: [J. B. Friday](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 7:28:52 AM

Aloha Board of Land and Natural Resources,

I am writing to support the introduction of mosquitoes inoculated with Wolbachia as a method to control mosquito populations. Please help save our native birds!

Sincerely,
JB Friday

--

J. B. Friday
1416 Kilikina St
Hilo, Hawaii 96720

Life is like riding a bicycle - in order to keep your balance, you must keep moving.

- Albert Einstein

From: [Lila Fried](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 3:30:08 PM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i. We are in the eleventh hour for these critically endangered birds and Wolbachia IIT has been proven safe and effective. Please do not let outrage due to ignorance and misinformation be the downfall of Hawai'i's manu.

Sincerely,
Lila Kono Kim Fried



PO Box 1130, Kīlauea, HI 96754
808.828.0384 | info@kilaueapoint.org
www.fkwr.org | Facebook & Instagram @fkwrkauai

Support of Mosquito Control Project

October 11, 2023

Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809

RE: Agenda Item C-1: Request approval of Final Environmental Assessment and Authorization for the Chairperson to issue a Finding of No Significant Impact for the “use of Wolbachia-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai”.

Aloha Friends and Colleagues:

I am Executive Director of Friends of Kaua'i Wildlife Refuges, the nonprofit “Friends Group” that supports and advocates for the work of the three national wildlife refuges located on the Island of Kaua'i, including Hanalei National Wildlife Refuge (NWR), Hulē'ia NWR and Kīlauea Point NWR. On behalf of the organization and its supporters, and our conservation partners at the Kaua'i Forest Bird Recovery Project, we wish to publicly endorse the use of the Wolbachia-based Incompatible Insect Technique for the suppression of non-native southern house mosquito populations on Kaua'i.

Since the introduction of mosquitoes into Hawai'i in 1826 and mosquito-spread diseases, such as avian malaria and pox in the 1900s, the range of Hawaiian honeycreepers has drastically shrunk to high-elevation forests. In addition, the gradual warming of our climate is now enabling mosquitoes to move into formerly disease-free, higher-elevation areas.

Sadly, just one bite from a mosquito carrying avian malaria can result in death, and it is estimated that many Hawaiian honeycreepers will become extinct within the next few years, if mosquito populations are not controlled.

Thankfully, there is a solution to help the remaining critically endangered forest birds. We believe that science clearly shows the Wolbachia Incompatible Insect Technique is a safe and effective method to reduce mosquito populations. We also understand that time is of the essence. Population numbers of our native Hawaiian forest birds are at critically low levels. Sadly, it was recently reported that only five of the native Hawaiian honeycreeper species, 'akikiki, are left in the wild. This is devastating news, and it is up to us to work together and act immediately...before it is too late.

As the “extinction capital of the world,” Hawai'i has a reputation for losing many conservation battles and acting too late. We, along with other wildlife conservation groups and professionals, public health officials, and animal welfare advocates, are very excited about this approach to mosquito population control.

I urge you to support the Mosquito Control Project and recommend it to be immediately deployed within forest bird habitats across the state, in the urgent fight to help save our native honeycreepers.

I deeply appreciate your kind consideration of my testimony and can be reached at 808.828.0384 ext. 1 or thomas@kilaueapoint.org.

With aloha,



Thomas Daubert
Executive Director

From: [ERICA GALLERANI](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Final EA for Use of Wolbachia-based IIT on Kauai
Date: Sunday, October 8, 2023 9:04:58 AM

To the BLNR members,

I am a previous employee of the Kauai Forest Bird Recovery Project and current graduate student studying translocation potential for native Hawaiian honeycreepers. 'Akikiki and 'akeke'e are two birds I have been working with and studying since 2018. My research focuses on finding suitable habitat for these birds outside of Kaua'i given the dire situation that these native birds face on their home island. I have to be honest with you, my research saddens me. I found the only nest of 'akikiki to fledge all year in 2021 and both of the baby birds hatched in that nest are now in a facility on Maui. I wish they could be flying around the alaka'i filling the forests with their song. Once these birds are gone from Kaua'i they will never be able to come back without the suppression of the southern house mosquito. I implore you all to please approve the final EA for the implementation of Wolbachia-based IIT on Kaua'i. Not only will you be saving birds that are ecological and culturally essential for the island but you are opening the door for future IIT that can help protect the residents of all the islands from any future mosquito-borne disease. Thank you for your time and I hope you take this essential action in preserving Kaua'i's native ecosystems.

Best,

Erica

--

Erica Gallerani, MA
Student, PhD in Geography
University of California, Los Angeles
ericagallerani5@g.ucla.edu

From: [Charlotte Godfrey-Romo](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] my testimony in strong support of agenda item C-1.
Date: Wednesday, October 11, 2023 2:56:58 PM

Aloha,

My name is Charlotte Godfrey-Romo, I live in Hilo and I am submitting testimony in **very strong support** of agenda item C-1. I have learned a lot about Wolbachia and incompatible insect technique and I think it is one of our only hopes of helping protect the endangered birds of Hawai'i. I did some research and learned this technology is already being used around the world to suppress mosquito populations for human diseases vectored by mosquitoes, it is safe. The Wolbachia already occurs here, it does not harm humans or other organisms, The science in the EA is sound, and the only arguments against IIT I have seen are online, are not sound science, based on evidence, the arguments against use of Wolbachia as a biocontrol for avian malaria are just fear based conspiracy bunk that is trying to impede real science and protection for species on the brink of extinction.

Please help protect these unique birds that only exist here in Hawai'i, they are important to Hawaiian culture and to the forests where they belong. Please support science based research based on facts and empirical evidence.

Mahalo,
Charlotte

--

Charlotte Godfrey-Romo
1445 Waianuenue Ave.
Hilo, HI 96720
(520) 907-4553

From: [Ben Godsey](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Sunday, October 8, 2023 3:28:17 PM

Aloha,

Please approve the final environmental assessment for use of wolbachia to control mosquitos on Kauai. This is the LAST CHANCE we have to protect critically endangered native Hawaiian birds from going extinct. This is it. It's that simple. The time to act is now. Approve this and possibly save the akikiki.

Mahalo,

Ben Godsey

President and CEO



IMPORTANT/CONFIDENTIAL: This message may contain confidential and privileged information. If it has been sent to you in error, please immediately inform the sender of the error and then delete this message.



October 9th, 2023

To the Department of Land and Natural Resources – Division of Forestry and Wildlife,

The Finch Research Network, a 501(c)(3) nonprofit dedicated to the study and conservation of finches and their habitats globally, would like to take this time to highlight the severity and importance of the completed Environmental Assessment for Kaua'i Mosquito Suppression you'll be reviewing today regarding Hawai'i's forest bird extinction crisis.

We are writing to you today in **SUPPORT** of this Environmental Assessment and use of Wolbachia to aid in the suppression of mosquitos to assist in the conservation of these species, and request your authorization for the Chairperson to issue a **FINDING OF NO SIGNIFICANT IMPACT** for the use of these techniques.

The Hawaiian honeycreepers are a very diversified group of finches, and as such, have garnered the attention of our organization and members (many of whom are based on the mainland). We are astonished at the rapid pace these species are headed towards extinction, and are working with partners in Hawai'i to ensure these extinctions do not take place.

We would like to emphasize the value in the two tools that are being presented on today - both the use of mosquito control through Incompatible Insect Technique, and through captive care of two of the most endangered honeycreepers (the 'akikiki and kiwikiu). These are the only tools left in the so-called tool-box, and if we don't employ them, we are guaranteed to lose these birds forever.

Extinctions of Hawaiian birds and birdlife have proceeded at an incredibly rapid pace since contact with Europeans first took place in 1778, and now only 17 of the 50+ species of honeycreepers that used to exist on the island are holding on today.

We hope you will not take this matter lightly, and do all you can to help save these birds that are 'ohana, kūpuna, and 'aumākua to Native Hawaiians. These birds are only found here and nowhere else in the world. We must do what we can to save them before it is too late.

Thank you for your work,

Matt Young and Nathan Goldberg

Finch Research Network
<https://finchnetwork.org>

From: lindagray1123@comcast.net
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:43:06 PM

Please allow mosquito control to be implemented in order to help our native birds to survive and recover. This practice has proven to be safe and should be implemented on Kauai.

Thank you for your consideration,
Linda and Dana Gray, Kauai residents

Sent from my iPhone

From: [flower_of_tahiti](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 1:51:34 AM

Aloha, Chairperson Chang and members of the board!

In other parts of the country and world, Incompatible Insect Technique has been tested and proven safe and effective when used for the benefit of humans. In which case, there's no reason we should prevent it from being used for the survival and recovery of Kaua'i's native forest birds, crucial not only to our diverse ecosystem, but unique culture.

To steward such wonders of creation is our God-given duty, one which we've not properly exercised in our imperfect state and for which we will be held accountable. It's our responsibility to pull these birds back from the brink of extinction to which we've pushed them and provide such species as the 'akikiki, 'akeke'e, 'apapane, 'anianiau, 'i'iwi, and 'amakihi with an environment in which they're able to not just survive, but thrive.

Therefore, I implore you, please, to reiterate your stance for East Maui and approve this Final Environmental Assessment and issue a finding of No Significant Impact for the "use of Wolbachia-Based Incompatible Insect Technique for the suppression of non-native southern house mosquito populations on Kaua'i."

Mahalo piha,
Tiare Gutierrez

From: [Suzanne Harding](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Written Testimony for the Support for the Kauai Mosquito Suppression Program
Date: Monday, October 9, 2023 12:05:50 PM

Agenda for the meeting of the Board of Land and Natural Resources held on 10/13

I am a supporter of the Kaua'i Mosquito Suppression Program and feel that all of the concerns brought up by concerned community members were addressed in the report, and many public concerns were not even based on facts.

I request the Board approves the Final EA and authorizes the Chairperson to issue a Finding of No Significant Impact (FONSI) for this effort to stabilize and recover populations of critically endangered Hawaiian forest birds on the island of Kaua'i. The use of wolbachia-based incompatible insect technique for the suppression of non-native southern house mosquito populations on Kauai would be a good thing to restore the habitats for the Honey Creepers.

Thank you.

All my best,
Suzy Harding
smharding@kukuiula.com
808-651-5737



October 11, 2023

**MEETING OF THE BOARD OF LAND
AND NATURAL RESOURCES
Agenda Item C-1**

October 13, 2023, 9:15 a.m.

DLNR Boardroom, Kalanimoku Building
1151 Punchbowl St., Room 132

Re: TESTIMONY IN STRONG SUPPORT OF APPROVING THE FINAL ENVIRONMENTAL ASSESSMENT AND THE CHAIRPERSON ISSUING A FINDING OF NO SIGNIFICANT IMPACT FOR THE “USE OF WOLBACHIA-BASED INCOMPATIBLE INSECT TECHNIQUE FOR THE SUPPRESSION OF NON-NATIVE SOUTHERN HOUSE MOSQUITO POPULATIONS ON KAUA‘I.”

Aloha e Chair Chang and Members of the Board of Land and Natural Resources,

Please accept these comments submitted by the Center for Biological Diversity (Center) in **strong support of Agenda item C-1**, which would approve the final environmental assessment (EA) and allow the chair to issue a finding of no significant impact (FONSI) for the “use of Wolbachia-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kaua‘i.”

The Center is a non-profit 501(c)(3) membership corporation dedicated to the protection of native, threatened, and endangered species and the habitats they depend on to survive. Through science, policy, and environmental law, the Center is actively involved in endangered forest bird protection issues throughout Hawai‘i. The Center has more than 88,000 members throughout the United States, including Hawai‘i, with a direct interest in ensuring the conservation of our struggling Hawaiian forest bird species and the healthy habitat they need to survive.

Hawaiian forest birds, one of the most imperiled group of birds in the world, are in crisis. Sadly, 68% of Hawai‘i’s known endemic bird species have gone extinct due to habitat loss, disease, and the introduction of invasive predators. Of the remaining 37

surviving endemic species, 33 are currently listed under the Endangered Species Act, although 9 of these have not been observed recently and are thought by scientists to be extinct.

Kaua'i's forest birds are on the front lines of this heartbreaking, yet preventable, extinction crisis. Of Kaua'i's 16 native honeycreepers, 10 have already gone extinct. Scientists predict that two of the six remaining birds, 'akikiki and 'akeke'e, will be extinct in the next 2 to 10 years if we don't act now.

Whereas Hawaiian forest birds used to be found from sea level to the tree line across all major islands, now the majority of Hawai'i's forests have fallen silent. With the introduction of invasive mosquitoes and mosquito-borne diseases such as avian malaria and avian pox, endemic forest birds have been forced out of lower elevations, where mosquito prevalence and disease proliferation are higher, into high elevation disease-free areas.

However, warmer temperatures associated with climate change further exacerbate the eminent danger of avian malaria facing our forest birds. Mosquitoes are temperature-limited species that historically could not survive at higher elevations in Hawai'i due to cooler temperatures. Unfortunately, due to climate change, temperatures at high elevations in Hawai'i are increasing at a disproportionately greater rate than at mid and low elevations. This warming allows mosquitoes to expand their range into higher elevations, bringing with them avian malaria and avian pox. Furthermore, the virus that causes avian malaria survives better in warmer temperatures, meaning warmer high elevation habitats will no longer be safe refugia from the disease. As warmer temperatures facilitate the spread of mosquitoes and avian malaria, our forest birds' already limited disease-free habitat contracts. This is having a devastating impact, sliding our beloved, culturally revered, and ecologically irreplaceable manu into extinction.

Hawaiian forest birds are highly susceptible to avian malaria. The combination of low resistance and high mortality means that the majority of Hawaiian forest birds that come into contact with avian malaria and pox die from the disease.

This is why we need to suppress mosquitoes known to transmit diseases to native forest birds in critical higher-elevation native forest habitat in the Kōke'e and Alaka'i areas of Kaua'i. Landscape level mosquito eradication is of utmost importance for the continued survival of not only critically endangered 'akeke'e and 'akikiki, but also the 'anianiau, Kaua'i 'amakihī, 'apapane, 'i'iwi, puaiohi, and Kaua'i 'elepaio.

It is our kuleana to act. Landscape-scale mosquito control in critical forest bird habitat via the proven and safe method detailed in this EA known as the Incompatible Insect Technique (IIT) must be implemented without delay. This proposed action, which has previously been used successfully to control mosquitoes which vector human diseases in other parts of the world, will suppress mosquito populations in habitat essential to our forest birds' survival. This will give our birds a fighting chance and allow their populations to recover.

Mahalo for this opportunity to provide testimony in **strong support of Agenda Item C-1. Please approve the submitted Final EA and authorize a FONSI. We don't have time to waste. Extinction is forever, but for our manu it does not have to be inevitable.**

/s/ Maxx Phillips

Maxx Phillips, Esq.

Hawai'i and Pacific Islands Director, Staff Attorney

Center for Biological Diversity

1188 Bishop Street, Suite 2001

Honolulu, Hawai'i 96813

(808) 284-0007

MPhillips@biologicaldiversity.org

Frank O. Hay
kokee@okauai.com

10 October 2023

Members of the Board of Land and Natural Resources
1151 Punchbowl Street, Room 310
Honolulu, Oahu, Hawaii 96813

Via email only

FOR THE BOARD MEETING IN HONOLULU ON Friday, October 13, 2023: ITEM C-1

TESTIMONY IN STRONG SUPPORT OF THE APPROVAL OF THE FINAL ENVIRONMENTAL:
ASSESSMENT AND THE PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR THE USE
OF WOLBACHIA-BASED INCOMPATIBLE INSECT TECHNIQUE FOR THE SUPPRESSION OF
NON-NATIVE SOUTHERN HOUSE MOSQUITO POPULATIONS ON KAUA'I

Aloha,

I have been a resident of Hawaii for sixty years and a leaseholder in the Koke'e State Park for almost fifty. Over those many years, my wife and I have observed a rapid decline in the number of native forest birds visible from our lanai and in the surrounding forests. At the same time, and especially in the last ten years or more, we have noted a substantial increase in the number of mosquitoes, as they have worked their way mauka.

I have reviewed the summary and relevant portions of the Final Environmental Assessment, and strongly support the use of the Wolbachia-based Incompatible Insect Technique to suppress the non-native mosquito populations on the island of Kaua'i.

Very truly yours,

A handwritten signature in black ink that reads "Hay". The signature is written in a cursive style with a large, looped 'y'.

268 Hua Place, Wailua Mauka, Kapaa, Kauai, Hawaii 96746-9608
(808) 635-3226

From: [Linnea Heu](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 / In favor of approving EA
Date: Thursday, October 12, 2023 8:48:35 AM

Testimony for agenda item C-1
Submitted by Linnea I. Heu
Thursday, October 12, 2023

Aloha Chair Person Chang and members of the Board,

I am writing today to urge you to commit to the future health of our native birds and forest by approving the EA and the finding of "no significant impact of Wolbachia IIT on Kaua'i."

As a native Hawaiian, born and raised on Kaua'i (currently living in Hilo), with family that has lived on Kaua'i for generations, the health of our manu Hawai'i (native birds) is an issue that I care deeply about. I have had the opportunity to experience the songs of our manu Hawai'i (Hawaiian birds) in Kōke'e on recreational hikes with family, but also during a year-long internship with the Natural Area Reserve System (NARS). What I hear in the forest today is a mere fraction of what used to be, and if we do not act urgently and decisively, we will leave future generations with forests devoid of native bird song. We will also leave behind less diverse and less resilient forest ecosystems. Hawaiian language, practices, and worldview are all shaped by our environment; specifically, our relationships to and community with our plant and animal species. Extinction of our species contributes directly to the erosion of our life ways.

I have read through the Environmental Assessment, especially concerns raised and responded to. I believe that much of the concern and opposition to using Wolbachia IIT are based in misinformation and misunderstanding of the technique and process. I implore you to follow the science and the recommendations of trained professionals who have spent countless hours to research the safety and efficacy of Wolbachia IIT.

Thank you for your time and consideration.

Linnea I. Heu

1110A Auwae Rd.
Hilo, HI 96720

Ashley L. Kierkiewicz
County Council District IV

*Policy Committee on Planning,
Land Use and Development – Chair*



(808) 961-8265
ashley.kierkiewicz@hawaiiicounty.gov

*Policy Committee on Infrastructure
and Assets – Vice-Chair*

HAWAI'I COUNTY COUNCIL

25 Aupuni Street • Hilo, Hawai'i 96720

October 11, 2023

Board of Land and Natural Resources • October 13, 2023 Meeting
Testimony of Council Member Ashley Kierkiewicz, Council District IV (Lower Puna)
Regarding Rental Reopening of the Kikala-Keokea Subdivision, Puna, Hawai'i Island

Aloha kākou:

I write as a concerned Council Member and advocate for the 'ohana of Kikala-Keokea, who have endured significant hardships due to rent increases in their homestead. These increases, raised to levels unaffordable for many, are in direct contradiction to the original purpose and intent of the Kikala-Keokea subdivision.

The 'ohana residing in Kikala-Keokea are the original families from Kalapana displaced by the 1983 eruption. The State Legislature recognized the unique community that existed in Kalapana, one that strongly perpetuated Hawaiian values, traditions, and culture. The creation of the Kikala-Keokea subdivision was intended to provide 'ohana with relocation assistance and to enable their way of life. They have struggled through challenging circumstances and now face the prospect of being displaced once again due to the exorbitant increase in lease rents.

Our office respectfully requests the DLNR to revisit current lease terms held by Kikala-Keokea 'ohana and provide a fair and just resolution to their plight. Please consider the financial burden imposed by the rent increases; it is unsustainable and may lead to displacement, which would be a great tragedy for our community.

Our office urges close communication and consultation with Kikala-Keokea homestead lessees to ensure their best interests are being considered. Please work towards a solution that not only allows 'ohana to remain in their homes, but improves quality of life immediately and for future generations.

Mahalo for your kind consideration of this matter.

Cheers,

A handwritten signature in black ink, appearing to read "Ashley", written in a cursive style.

Ashley Lehualani Kierkiewicz
COUNCIL MEMBER, DISTRICT IV
DIRECTOR, REVITALIZE PUNA

From: [Dave](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kauai mosquito suppression EA
Date: Wednesday, October 11, 2023 8:06:57 AM

I support this project

Hawaiian forest birds are special natural and cultural resources that must be protected. The threat of avian malaria to our native birds is undeniable. As the mosquito population has moved to higher elevations due to warming temperatures, native forest birds are running out of safe havens. It is our responsibility to give these birds a chance to survive.

Incompatible Insect Technique (IIT) has been used safely around the world and I support its use in Hawaii. The science in the environmental assessment (EA) is sound and adequate.

David Hill

Captain Cook, Hawaii

From: whalemail@waypt.com
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Honeycreeper Support
Date: Wednesday, October 11, 2023 7:26:22 AM

Aloha!

I am in very strong support of agenda item C-1.

Although I live on the mainland, I've been keenly interested in the fate of Hawaiian plants and animals and write books about them for reiki here and in the islands. I hope my books bring greater awareness for adults as well as young people as we all try to bring more support for all life, especially endangered forest birds.

Even here in Washington State, we are at a critical point with losses of hundreds of birds and even small numbers of seals to bird flu.

The challenge now is to prevent extinction of Kauai's honeycreepers. among the most threatened species on earth. I first visited Kauai prior to Iniki when O'o were thought to be still present on the island. Now gone, they cannot be replaced.

Mosquito control can help to protect the few remaining honeycreeper species, including the beautiful I'iwi that can die from a single mosquito bite.

Scientific efforts are needed to protect our valuable birds and I urge BLNR to support and put in place the mosquito birth control project.

I've had the honor to see and listen to Hawaiian honeycreepers on Kauai and have hope future generations will too.

Mahalo,

Ron Hirschi
PO Box 22
Poulsbo, Washington 98370
whalemail@waypt.com
360-394-2264

From: [Kai Hollenberg](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony in support of agenda item C-1
Date: Thursday, October 12, 2023 7:39:06 AM

To whom it may concern,

I am writing in strong support of the implementation of the incompatible insect technique on Kaua'i. Honeycreeper populations have been rapidly declining, largely due to mosquito-borne avian malaria. Not only are honeycreepers important culturally, but they also provide ecosystem services such as seed dispersal. I firmly believe that we have a duty to utilize well-researched methods (such as the IIT) to try to conserve these species. I urge the BLNR to support efforts to implement IIT in Hawai'i!

Sincerely,
Mareyna Hollenberg

From: [Shaya Honarvar](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 5:36:36 PM

Aloha,

I am in full support of the final EA and authorization for the chairperson to issue a finding of no significant impact for the use of wolbachia-based incompatible insect technique for the suppression of non-native southern house mosquito populations on Kauai. The EA is backed by exemplary scientific studies. We need to act now!

Shaya Honarvar, Ph.D.

From: [Phyllis Hopeck](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 2:15:07 PM

Aloha,

As a retired school teacher and active conservationist, I believe that it is critical to take immediate action to control mosquitoes before this avian malaria kills off our endemic and native forest birds. It's not just about the extinction of these honey creepers, they are integral to the island's biodiversity, watershed activity, native culture and survival. They evolved with the ability to pollinate our precious Kokee forests, the crowning jewel of Kauai.

From my research, I am convinced that this mosquito treatment will not have any adverse environmental impacts. We must act on it now, because the bird population numbers are diminishing rapidly.

A silent forest will lead to the demise of our beloved Aina.

Mahalo,
Phyllis Hopeck

From: [La](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 6:24:09 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! The mosquito population has and is getting worse each and every year. Places I used to never experience mosquitoes. I am now experiencing. Please move forward with this project so we can save our native birds and stop spreading illnesses to the public. Mahalo.

Sent from my iPhone

From: [Ariel Imoto](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for Agenda item C-1 (10/13/23)
Date: Wednesday, October 11, 2023 12:56:09 AM

Dear Chairperson and Members of the Board of Land and Natural Resources,

I am writing to express my SUPPORT for the approval of the final environmental assessment and for the Chairperson to issue a FONSI.

I have worked closely with these Kauai birds at the Keauhou Bird Conservation Center and witnessed first-hand the cruel and swift death of an 'akikiki due to avian malaria. These birds belong in the forest, not in cages.

The use of IIT as a mosquito population suppressor is a groundbreaking tool and advancement in science that is so needed to save these birds.

Please approve the environmental assessment.

Sincerely,
Ariel Imoto

From: [Stillpoint Photography LLC](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kaua'i DLNR mosquito suppression project
Date: Wednesday, October 11, 2023 7:57:14 PM

My name is Warren Johnson and I live on Maui. I am writing to express my strong support for the proposed suppression of invasive mosquito populations on Kaua'i. I am familiar with the proposed use of Wolbachia-based Incompatible Insect Technique (IIT), and believe it's safe and should be used in Hawai'i. The southern house mosquito is an invasive species in Hawai'i whose population is responsible for the spread of avian malaria and pox in endangered and threatened native birds. This project has identified a way to suppress the mosquito population in order to reduce the spread of avian malaria and pox with extremely limited impacts to the ecosystem. Coming from Maui, which is also impacted by the same mosquitos but fortunate to have some remaining high-elevation refuges for native birds, it is heartbreaking to experience how few native birds remain in the native forest areas of Koke'e and Alaka'i because of the relatively low elevation and upward advance of mosquitos. This project is the forest birds' only chance at continued survival.

Mahalo for your consideration.

Aloha,
Warren

From: [Jonah F](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Wednesday, October 11, 2023 2:44:45 PM

Aloha!

My name is Jonah F. I'm 14 years old, and absolutely love birds.

I strongly support the use of the Incompatible Insect Technique (IIT) to reduce mosquito populations in the Hawaiian Islands. The fate of the Hawaiian Honeycreepers depends on it. There were once 56 species of honeycreepers, maybe more. We are now down to 17 species. This is absolutely heartbreaking, 39 species of honeycreepers I will never get to experience. Hearing about birds like the Po'ouli, which went extinct in 2004. Birds that could have been saved if we had just acted a little bit sooner.

This is what we're facing now with the 'Akikiki, 'Akeke'e, Kiwikiu, and 'Akohekohe. They very well could go extinct if we do not act now. IIT may be the only hope for the survival of these birds, and the fate of the biodiversity of Hawai'i. If something does not happen in the next few months, it might be too late.

Birds like the Po'ouli and the O'o keep me up at night. I don't want something like that to happen again.

Please approve the use of IIT on Kaua'i. These birds deserve help, after all we've done to them.

Sincerely,
Jonah.

From: [Mackenzie Joy](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for BLNR approval of Kaua'i EA for mosquito control - STRONG SUPPORT!
Date: Wednesday, October 11, 2023 4:49:02 PM

Aloha,

My name is Mackenzie Joy. I am a published children's book author and illustrator ([HarperCollins](#) and [Candlewick Press](#)), who has been working closely with the Kaua'i Forest Bird Recovery Project to accurately tell the story of the extinction of the Kaua'i 'ō'ō. I am submitting testimony in **very strong support** of agenda item C-1.

While I am not from Kaua'i (I am a California kid who has been visiting since I was under 2 year old with family who has lived in Kaua'i off and on for decades), over the past two years I have devoted much of my energy and time towards partnering with scientists and Kumus from Kaua'i to tell the story of the evolution and eventual extinction of the Kaua'i 'ō'ō. While it is unclear how big of a role disease-carrying mosquitoes had on the extinction of the Kaua'i 'ō'ō, it is not unclear the impact they are having now on the remaining native forest bird species: they are one of the leading causes of death of Hawaiian honeycreepers. But unlike some of the other factors leading to the extreme decline of these birds, we can actually do something about this **now** while we still have birds to protect.

I live in California where scientists have safely and successfully suppressed mosquito populations using the Incompatible Insect Technique (IIT). And as part of my research for my book on the Kaua'i 'ō'ō, I met some of the people behind this work, when I was invited to visit with the [Debug Team](#) at Verily Sciences near San Francisco, CA. They are doing some truly amazing work on controlling mosquitoes, and I strongly encourage the BLNR to support and help to execute the control of mosquitoes in Hawai'i, while we still have Hawaiian honeycreepers left to save. The time to act is now.

Sincerely,
Mackenzie Joy (Guinon)
Author/Illustrator/Storyteller/Science & Nature Champion

Children's Book Author/Illustrator of Pau: The Last Song of the Kaua'i 'ō'ō (Fall 2024), [One Tiny Treefrog](#) (2023), [Wallflowers](#) (2023)



(: mackenzie joy

Find me www.mackenziejoy.art & [@lefthandedsmile](https://www.instagram.com/lefthandedsmile) on Instagram

Learn more at linktr.ee/lefthandedsmile

Represented by the world's best agent at Erin Murphy Literary Agency

Debut picture books [Wallflowers](#) (Clarion HarperCollins) & [One Tiny](#)

[Treefrog](#) (Candlewick Press) & [Pau: The Last Song of the Kaua'i 'ō'ō](#) (Candlewick Press) coming September 2024!

From: [Kaaz](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kaua'i Forest Bird Recovery
Date: Wednesday, October 11, 2023 3:45:15 PM

Dear BLNR members,

We are writing in support of the threatened native birds of Hawai'i. These birds will soon become extinct if something is not done to control the mosquitos that infect these birds with avian malaria which kills them.

We are fully in favor of the Wolbachia program to safely control the mosquito populations on all the Hawaiian islands including Kaua'i. This program has been shown to safe and effective. Without mosquito control, Hawai'i will lose these beautiful, rare and precious birds which are found nowhere else in the world.

Please save our forest birds!

Aloha and Mahalo,

Joy and Robert Kaaz

From: [Malia Kaawaloa](#)
To: [DLNR.BLNR.Testimony](#)
Cc: [LANIHAU-rsmith](#); [Leila Kealoha](#); [Tia Keliioomalu](#)
Subject: [EXTERNAL] Testimony- October 13, 2023- Agenda Item D-1
Date: Monday, October 9, 2023 11:23:30 AM

**Rynae Malia Mendes (Kaawaloa)
WRITTEN TESTIMONY**

**Before the
BOARD OF LAND AND NATURAL RESOURCES**

DATE: October 13, 2023

TIME: 9:15 AM

**LOCATION: DLNR Boardroom, Kalanimoku Building
1151 Punchbowl St., Room 132 & online via ZOOM**

October 9, 2023

Agenda Item

D. LAND DIVISION

1. NON-ACTION ITEM: Report Relating to Rental Reopening of the Kikala-Keokea Subdivision, Kikala and Keokea, Puna, Hawaii; Tax Map Keys: (3) 1-2-07: Various

Aloha,

My name is Rynae Malia Mendes (Kaawaloa) and I am submitting written testimony on behalf of the Kikala-Keokea homesteads: "Report relating to rental reopening Kikala-Keokea Subdivision, Kikala and Keokea, Puna, Hawaii; Tax Map Keys: (3) 1-2-07: Various.

I contest the full market value rents for the second set of rent leases varying from \$3,084 to \$3,238 annually. We are requesting that rent leases for all 67 Kikala-Keokea Residential Subdivision lots be set at the rate of \$600 per year.

As it States in Act 314:

In 1991, the Hawaii State Legislature passed Act 314 (as later amended) ¹ that established the Kikala-Keokea Residential Subdivision for Native Hawaiian families that had lived in Kalapana and had been displaced by the lava flows. The legislature found that residents of Kalapana maintained a unique community promoting the Hawaiian way of life ... [and] that it is in the public interest to provide for relocation assistance to the Hawaiians of Kalapana to enable them to perpetuate their way of life and traditions."

We are the Kalapana 'ohana who have been displaced and have been trying to maintain our unique lifestyle here in Kikala-Keokea. It is in the best interest of the DLNR/BLNR to support the livelihood of our 'ohana and not to displace us from our homes. The rent increase is displacing our 'ohana and having to pay insurmountable amounts of lease rents. We ask that you support us in our requests and to help keep our 'ohana on our 'aina.

We contest the full market value lease rent, and request the lease rent be consistent for all Lessees at \$600.00 per year.

Mahalo nui loa,

Rynae Malia Mendes (Kaawaloa)

(808) 756-3478

mkaawaloa5856@gmail.com

From: [Kanaka Climbers](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Approve Agenda Item C-1: Kaua'i forest birds & Wolbachia IIT EA
Date: Thursday, October 12, 2023 8:08:00 AM

Aloha kākou,

This statement is on behalf of Kānaka Climbers, a Hawai'i-grown non-profit organization. We are commenting in **strong support of Agenda Item C-1: Request approval of Final Environmental Assessment and Authorization for the Chairperson to issue a Finding of No Significant Impact for the “use of Wolbachia-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai.”**

We are a Kānaka 'Ōiwi (Native Hawaiian) and ally led non-profit that aims to cultivate a more responsible and ethical outdoor recreational community in Hawai'i. We hope to provide knowledge and guidance that will help people form meaningful connections with 'āina (land) and in turn become better stewards. We actively engage in conversations with Kānaka 'Ōiwi, Native Hawaiian Organizations and locals within different recreational areas to assist in voicing and supporting area-specific concerns, which often involve the protection and preservation of sacred spaces.

Our organization recognizes that our island home is unfortunately known as the endangered species capital of the world. Of more than 50 species of honeycreepers that used to live here, all but 17 have gone extinct. The Kānaka 'Ōiwi relationship to manu (birds) runs from the beginning of time. They play critical roles in our mele ko'ihōnua (cosmogenies), mo'olelo and ka'ao (stories and legends), including the Kumulipo, the Epic of Hi'iakaikapoliopole, and the legend of Keaomelemele. We value these manu as gods, ancestors, guardians, and keepers of mana or great spiritual power. There is a reason why their feathers were chosen to adorn the ahu'ula, mahi'ole, pā'ū and kāhili of our ali'i.

As Kānaka 'Ōiwi, we continue to live in unique times just as our kūpuna did. In an era of reclamation where we are revitalizing practices such as 'Ōlelo Hawai'i, wayfinding, and traditional food systems, we believe the restoration and protection of manu is a vital part of cultural preservation and modern-day ahupua'a management. It is clear that the actions detailed in the EA to suppress avian malaria are needed to make room for a future where manu nāhele thrive in the physical and spiritual landscapes of Hawai'i once again.

Mahalo for this opportunity to comment.

Me ke aloha 'āina,
Kānaka Climbers

From: [Ka'ike Kau'i](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:59:22 PM

Aloha chair person Chang and members of the board,

I implore you to reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i.

Regards,
Ka'ike Kau'i

Sent from my iPhone

From: [Springer Kaye](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony in Support. Item C-1 Finding of No Significant Impact.
Date: Wednesday, October 11, 2023 2:14:58 PM

Aloha,

I am the Wildlife Refuge Specialist at Hakalau Forest National Wildlife Refuge, designated for the protection of Hawaii's native forest birds. I am the former Manager of the Big Island Invasive Species Committee, and have served Hawaii as a biologist for 25 years. I am testifying in support of the proposed project, in my capacity as a private citizen.

The incompatible insect technique (i.e. Wolbachia) is a proven technology, having safely reduced the disease-carrying mosquito population to protect human health in numerous sites around the world. Today it is Hawaii's forest birds that need this help--especially the birds of Kaua`i, where mountains simply are not tall enough for the birds to escape the uphill movement of mosquitoes and the lethal diseases they carry. While mosquitoes are not the only threat, they are the most immediate and significant threat to the survival of the 'akikiki, 'akeke'e, and other precious Hawaiian forest birds.

Today you may hear from people with genuine, yet unfounded, fears about what the use of this technology could mean. It is reasonable to question and be concerned, but the decades of actual applications of this technique in real world settings should put those fears to rest.

What the science clearly shows is that the great risk right now is a failure to act in time. If we fail to reduce the mosquito population now, we are very certainly condemning the forest birds of Kaua`i to extinction.

Thank you for your consideration,

Springer Kaye
Honolulu, HI 96728

From: [K Keahi](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Support for Kauai EA
Date: Thursday, October 12, 2023 8:23:36 AM

I am in support of the Kauai EA and the findings of "No" significant impact.

Mahalo,
Kahoali`i Keahi

From: [Mary Lu Kelley](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony RE: C.1. DIVISION OF FORESTRY AND WILDLIFE
Date: Wednesday, October 11, 2023 11:05:33 PM
Importance: High

Aloha,

I am writing in strong support of [approval of the Final Environmental Assessment and Authorization for the Chairperson to issue a Finding of No Significant Impact for the "use of Wolbachia-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai"](#).

I have read the research and agree with the findings of no significant impact for the use of Wolbachia-Based Incompatible Insect techniques on Kauai.

Please do the right thing and approve C.1.

Thank you,
Mary Lu Kelley
4707 Pelehu Road
Kapa'a, HI 96746-1852

From: [Norma Kibler](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] No to the release.
Date: Thursday, October 12, 2023 6:57:27 AM

This is dangerous! I say no

From: [Brigitte Kiefling](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kuaa"i to save native birds
Date: Wednesday, October 11, 2023 8:46:58 PM

Hello

I am imploring that Chairman Chang and members of the board to reiterate your stance for East Maui. Please approve this EA and the findings of no significant impact of Wolbachia IIT on Kauai.

Native birds are hanging on by a thread and we need to take action to protect and invest in future populations.

Mahalo,

Brigitte Kiefling

From: [Adam Knox](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strongly Support FONSI for IIT Mosquito Release (Agenda Item C-1)
Date: Wednesday, October 11, 2023 11:04:27 AM
Attachments: [image003.png](#)

Aloha,

My name is Adam Knox and my testimony is in support of the Incompatible Insect Technique (IIT) mosquito suppression project to help the remaining Hawaiʻian forest birds before they are driven to extinction by avian malaria spread by mosquitoes.

The IIT is a safe, targeted, feasible method which should be used in Hawaiʻi to give the birds a chance at recovery.
This method of mosquito population suppression has already been used safely around the world and I support its use here in Hawaiʻi.

I support a BLNR finding of no significant impact (FONSI) based on the environmental assessment performed regarding the release of IIT mosquitoes to protect native Hawaiʻian forest birds.

Sincerely,

Adam Knox

Project Manager, Aerial Deployment of Mosquitoes
American Bird Conservancy
cell: (808) 866-4192



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From: [Savitri Kumaran](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito suppression
Date: Wednesday, October 11, 2023 11:55:50 AM

I support mosquito suppression as stated in the environmental assessment.
Mahalo!

Savitri Kumaran
Kapa'a Hawaii

From: [Kurano, Matthew](#)
To: [DLNR.BLNR.Testimony](#)
Subject: Support for Kauai DLNR Mosquito Suppression project- ITEM C-1
Date: Wednesday, October 11, 2023 4:02:42 PM

Support for the DLNR Kauai Mosquito Suppression Project-

Name: Matthew Kurano
Position: Program Manager
Organization: Hawaii Department of Health, Vector Control Branch
Island: Oahu

Testimony:

I support the use of the Wolbachia based incompatible inspect technique proposed by the Department of Land and Natural Resources. As the Program Manager for the Department of Health, Vector Control Branch, I am aware of the nature of the project as well as the necessity for the project. Mosquitoes, including those of the culex variety are invasive species which carry and transmit both human and animal diseases. The proposed project is an important step towards development of sterile insect techniques that are safe and effective and can be utilized for the protection of both human health and our delicate ecosystems. The safety measures and controls associated with the project ensure very low risk of adverse environmental and public health outcomes. Alternatives to the project (e.g. broad scale pesticide application) are far more harmful to human and environmental health. Inaction increases the reality of endangered species extinction as well as increases the threat to public health. I reiterate my support for the project and a finding of no significant impact.

Thank you for the opportunity to provide testimony,
Matthew Kurano

Matthew Kurano
Environmental Program Manager
State of Hawaii | Department of Health | Environmental Health Services Division – Vector Control Branch
99-945 Halawa Valley St. | Aiea, HI 96701
p:808.586.4708 | e:matthew.kurano@doh.hawaii.gov <http://health.hawaii.gov/vcb>

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From: [Cody Lane](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kuaui'i to save native birds
Date: Wednesday, October 11, 2023 6:11:37 PM

Hello,

I would like to voice my utmost support for this final EA to conduct suppression efforts for non-native mosquitoes for the protection of native birds using IIT. This is our last chance to save several species from extinction, and I hope you agree on a Finding of No Significant Impact (FONSI). Please vote to allow mosquito control efforts to commence.

Thank you,
Cody Lane

From: [Stanley Lazaro](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Tuesday, October 10, 2023 6:37:38 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

I care about the native birds

Stanley Lazaro

Sent from my iPhone

From: [Courtney Lemmon](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Final EA approval for the critically endangered forest birds
Date: Wednesday, October 11, 2023 3:34:48 PM

Please approve this Final EA and authorization for the Chairperson to issue a Finding of No Significant Impact (FONSI) for this effort to stabilize and recover populations of critically endangered Hawaiian forest birds on the island of Kaua'i.

Thank you,

Courtney Lemmon, President
The Lemmon Foundation

From: [Leticia](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Save the birds
Date: Saturday, October 7, 2023 1:55:24 PM

Good to see your booth at the harvest festival in kekaha sharing your knowledge with the community and raising awareness to the endangered species.
Cheering all efforts are successful in saving the endangered and declining populations of forest birds.

Best
Leticia

Re: Testimony of Susan Lim Liang, citizen of the State of Hawaii and citizen of the United States, on behalf of herself and the public, on the subject of Final Approval of the Environmental Assessment of the Use of Mosquitos as Delivery Vehicles of Diseases related to Certain Species of Birds on Kauai – and Factual Finding of No Projected Significant Impact. BLNR hearing, October 12, 2023, Honolulu, HI.

Testifier Susan Liang states for the record that a finding and declaration by the State that the project to deliver diseases via mosquitos as biological vaccines to save certain bird species on Kauai is premature and procedurally and substantively unconstitutional in timing and placement before the DLNR, given the purpose of public hearings and federal legislative and agency processes in general. 14th Amendment due process and equal protection clauses. 18 U.S.C. sections include among others 1001, 1983 and 1961-1964.

Testifier notes for the record of this public hearing that because the subject matter before it provably involves the future use of mosquitos or other live insects as dual-use weapons it is as a matter of jurisdiction and agency mission improperly before this agency.

Dual weapons systems such as the use of Clive insects as lethal disease vectors for delivery to human populations are funded by

- A. the Pentagon and its private contractors and
- B. by private enterprises and individuals funded directly or indirectly by the U.S. Government

And because material and fundamental issues of life and death of the members of the public -- are both procedurally and substantively beyond the scope of this hearing, this testifier contends that any final decision on the Environmental Assessment and therefore any factual finding of “no impact” is unconstitutionally before this agency in violation of the rights of this testifier and the public who will be and are intended as future targets of certain private enterprises and individuals who are, and have placed themselves beyond, the reach of the judicial and executive law enforcement systems of the U.S.

The provable bad faith and criminal intent of certain private individuals and private organizations is improperly before civil state agencies. This placement is part of their private, intended, future use of weapons involving of vectors that are intended by the same private parties to appear to be natural and therefore “harmless”.

This skirting of the purpose of public hearings, this placement of this dual use weapon improperly before this state agency, is intended to avoid both public and governmental evaluation. The private goal of these private parties is to expedite approval of what is in fact a dual-use nanoweapon. And its unconstitutional placement before a governmental forum not specialized by either its mission or substantive capabilities, to fully consider the risks of lethal harm to the public, itself puts the public at risk of harm

Testifier alleges that private enterprises and related individuals such as the World Economic Forum have directed and selectively informed public officials and agencies on the subject of the conservation of nature, through events such as the 2016 conservation convention on nature at the Hawaii Convention Center in Oahu -- for its own private and undisclosed purposes as noted above. The WEF, for example, has specifically not informed public servants of its ultimate goals for the use of such dual-use nanoweapons (on the public of America including that of Hawaii. See Annie Jacobsen, "The Pentagon's Brain: An Uncensored History of DARPA, America's Top Secret Military Agency" (2016) on the development of dual use weapons. that are intended to be undetectable and untraceable by law enforcement and the public. Also see Louis A. del Monte, "Nanoweapons: A Growing Threat to Humanity".

The website of "Birds, not Mosquitos" shows research on "impact" considered by state decisionmakers is at a rudimentary stage.

The following factors are relevant to the vote before the BLNR today.

- 1) The jurisdictions of the DLNR and the U.S. Fish and Wildlife Service fall short substantively where the relevant and material definition of "impact" is concerned. The CDC and the FDA should also be involved in the proper definition of the scientific scope of the use of disease vectors such as mosquitoes are concerned. The U.S. Congress should be involved on the issue of the use of dual-use weapons.

Information should arm the public with a scientific definition of the scope and substance of the problem so that it can make informed decisions.

2. The fact that the website of the "Birds, not mosquitoes" obfuscates "impact" is some evidence of bad faith. The false statement the site presents to the public -- of the accuracy and efficiency of "mosquito monitoring" -- gives rise to a reasonable inference its writer(s) is being intentionally deceptive ("...mosquito monitoring can be conducted across the proposed....")

Comparing two species on the website reveals basic differences that will affect "monitoring." Humans make choices one way. Presumably, mosquitoes make choices a different way(s). There is insufficient science to claim, as the website does, that the trails and management roads etc. of humans will be the same as those of nonhumans.

Mahalo for your time and consideration.

Susan Lim Liang

10/12/23. Submitted 6 a.m.

From: [Justin Lum-Osborn](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaaui to save native birds
Date: Wednesday, October 11, 2023 3:22:38 PM

Aloha Chair Person Chang and members of the board,

I humbly request that you please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaaui. Our beloved manu do not have the luxury of time with the ever changing environment and issues facing them. Countless others have gone extinct but the few left do not have to. They are priceless to our ecosystems and rich culture. Mahalo for your time.

Justin Lum

From: [Don Drake](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Item C-1 Mosquito suppression
Date: Wednesday, October 11, 2023 12:56:12 PM

To Whom It May Concern,

I fully support the science-backed Incompatible Insect Technique methodology to suppress mosquitoes in forests, to reduce the threat that they pose to native birds. This is a vital step in the conservation of our forests and wildlife, and it should proceed without delay.

Sincerely,

Don Drake

Interim Director, [Lyon Arboretum](#)
Professor, [School of Life Sciences](#)
University of Hawai'i
3190 Maile Way
Room 101
Honolulu, HI 96822
USA

808-988-0457 (Arboretum)
808-956-3937 (Campus)

<https://sites.google.com/view/don-drake-home-page/home>



From: [Kate Maley](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 7:20:56 AM

I am writing in support of the use of wolbachia to protect Hawaii's native forest birds.
Kate Maley

From: [Sally Jo Manea](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony supporting the environmental assessment for mosquito suppression
Date: Wednesday, October 11, 2023 11:13:19 AM

Aloha kakou BLNR members and chairperson: Mahalo for the opportunity to testify with my strong support for item C-1 on the agenda. Our unique forest birds are very close to extinction due to avian malaria and other threats. If mosquito suppression is not begun as soon as possible, more birds will be lost forever. This environmental assessment is accurate and complete, and a "finding of no significant impact" is the most appropriate response when the issue of extinction is considered.

Sally Jo Keahi Manea
Kapa`a, Kaua`i

From: [Joanna Maney](#)
To: [WOLBACHIA](#)
Subject: [EXTERNAL] In support of the Incompatible Insect Technique to save Hawai'i's native birds and prevent the spread of mosquito-borne diseases that threaten humans
Date: Wednesday, October 11, 2023 11:30:35 AM
Attachments: [image001.png](#)

Aloha,

I am writing to express my support of the Wolbachia program to reduce mosquito populations in Hawai'i.

I feel strongly that this program should be implemented as soon as possible because if action isn't taken immediately we risk losing our native forest birds completely. Wolbachia is a scientifically supported solution with proven results. It's not an experiment, it's been safely used with good results in other places like California, Texas, Mexico, and Australia to stop the spread of mosquito-borne diseases that sicken humans. In fact, 15 different countries, including the continental U.S. have used Wolbachia to decrease mosquito populations. It's natural, non-GMO, and safer than pesticides. There is a lot of misinformation floating around but Wolbachia doesn't hurt people, or animals that eat mosquitoes, or change the water supply in any way. Wolbachia is already in the environment—nature healthily coexists with all kinds of bacteria, we even need them in our gut to help digest food.

Mosquitoes are not native and do not belong in Hawai'i. Additionally, no native species depend on them for food. They are, in fact, a plague on native wildlife. It is vital we fix this situation because the extinction of multiple species of birds, known only to exist here in Hawai'i, hinges on humans making the right decisions and doing the right things to correct the mistakes we ourselves have caused to this unique and fragile ecosystem we call home. Humans brought mosquitoes to Hawai'i in the 1800s and we have to be the ones to do the work to get rid of them now.

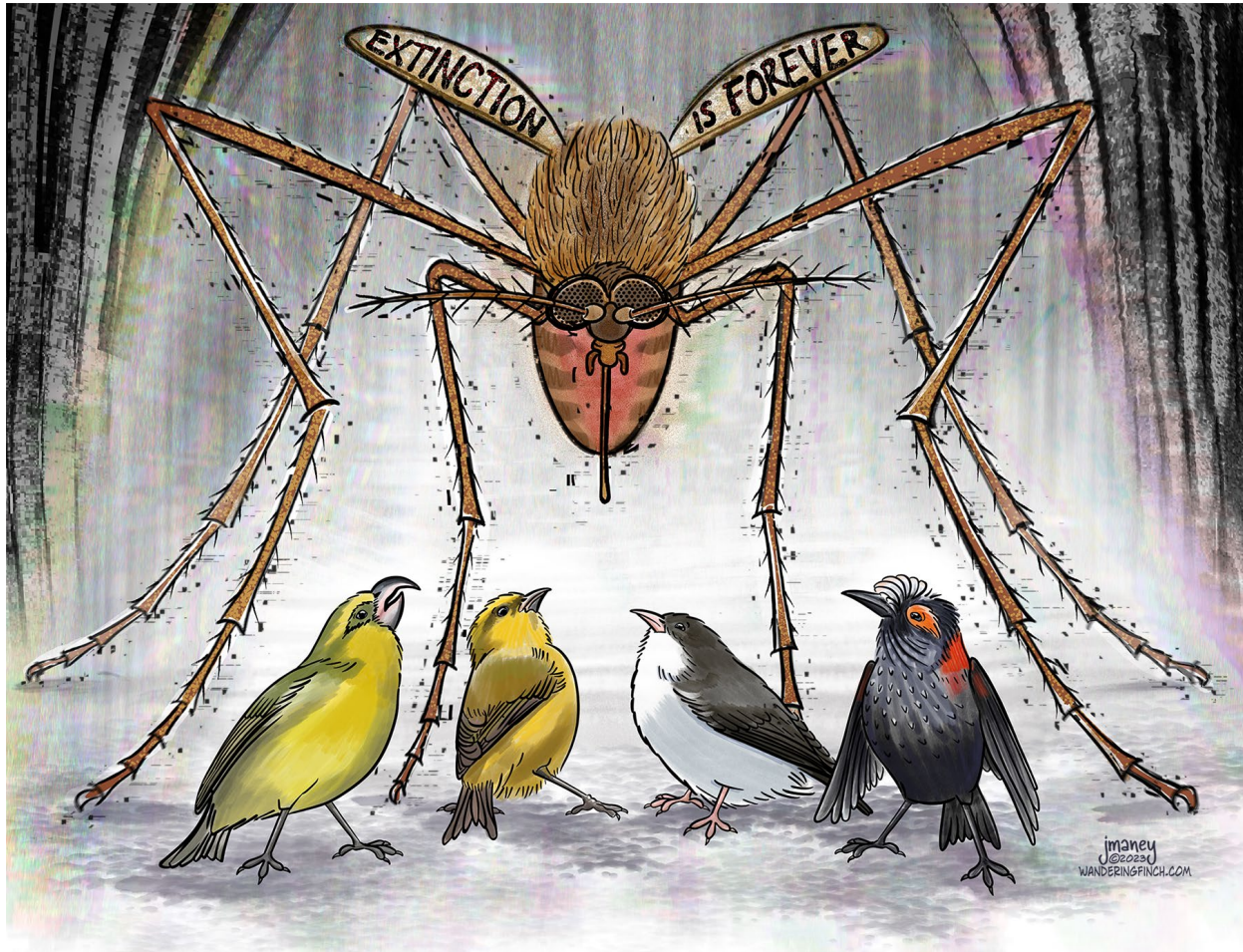
We cannot dismiss the immediacy of this crisis. There is no recovery from extinction. Hawaiian honeycreepers are facing challenges and this is an area we can truly help have a positive impact. Do we really want to wake up one morning and hear the news that we have lost the last 'iwi? How will we feel if we can only describe them to our youngest family members and know they'll never see one for themselves because they are all gone? How will we feel if we know we missed a chance to save them?

Our native birds attract tourism dollars for our economy but more importantly, they are valuable to Hawaiian culture, Hawaiian history, and Hawaiian identity. We should celebrate them because they are precious, inspiring, stunning, and they only exist here in these magnificent islands. They need our help and we will surely regret not meeting these challenges with decisive action if they disappear forever.

One of the most beautiful things about our species is our indefatigable ability to solve complex problems and this comes into no greater light than we fix the problems we ourselves created. By reducing mosquito reproductive rates by implementing the Wolbachia bacteria plan we will see less mosquito larvae squiggling in the puddles. That's a win for birds and a solid win for us!

Thank you sincerely for your time,

Joanna Maney



From: [Ellen Manko](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposition to BLNR 10/13/23 item C1
Date: Wednesday, October 11, 2023 7:43:30 PM

It is time to stop experimenting on the population of Hawaii and the USA in general. It is dangerous to release bacteria infected mosquitos!!!! There needs to be a full EIS before moving forward. I am opposed to the BLNR 10/13/23 item C1 of the agenda.

We're just coming out of a pandemic, LaHaina is devastated, and the population needs a break from any possible chaos/consequences from this experiment. It is not in the interest of the people.

Ellen Manko, RN

From: [Serge Marcil](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Personal testimony in support of agenda item C-1
Date: Wednesday, October 11, 2023 5:11:56 AM

Aloha,

My name is Serge Marcil and I fully support agenda item C-1.

This past summer, I have witnessed the extinction of the 'Akikiki in the wild. I was/am very sad, but feel the Incompatible Insect Technique (IIT) can save the other remaining critically endangered forest birds of our Garden Island.

For over a year now, I've been researching, reading and discussing the science behind ITT with biologists and scientists, and I find it to be sound and adequate.

Please take action and help our Hawaiian forest birds. This is your kuleana.

Thank you, and please do not hesitate to contact me if you have any questions.

Aloha.

Serge Marcil
(c) 808-212-6473
(e) smarcil@hawaii.rr.com

From: marilyns501@gmail.com
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquitoes
Date: Wednesday, October 11, 2023 4:18:39 PM

I AM OPPOSED TO THE BLNR 10/13/23 AGENDA ITEM C-1...!!!! THIS BACTERIA-INFECTED MOSQUITO RELEASE PROJECT IS A VERY DANGEROUS EXPERIMENT ON OUR ISLANDS NOW OR FOREVER MORE! WE REQUIRE/ MUST HAVE A FULL EIS BEFORE MOVING FORWARD WITH THIS EXPERIMENT!

Sent from my iPad

From: [Jenny Marion](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Please approve the Wolbachia IIT control method in Kaua'i
Date: Wednesday, October 11, 2023 7:55:43 PM

I am writing to voice my support for approving the EA and the finding of no significant impact of Wolbachia IIT on Kaua'i. This was approved on Maui and I hope you approve this for Kaua'i as well.

Thank you very much,
Jenny Marion
2373-A Palolo Ave.
Honolulu, HI 96816

Sent from [Mail](#) for Windows

From: [Susu Markham](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 5:30:07 AM

Please support this project. Protect our birds for the future generations.

From: [Julie Marrack](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 7:09:31 PM

Aloha Chairperson Chang and members of the board,

Please reiterate your stance on East Maui and approve mosquito control on Kaua'i to save native birds. As stewards of the land, it is our kuleana to ensure the survival of our native species.

Thank you for your time.

Mahalo,
Julia Marrack

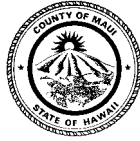
Sent with a smile!

Council Chair
Alice L. Lee

Vice-Chair
Yuki Lei K. Sugimura

Presiding Officer Pro Tempore
Tasha Kama

Councilmembers
Tom Cook
Gabe Johnson
Tamara Paltin
Keani N.W. Rawlins-Fernandez
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Nohelani U'u-Hodgins



Director of Council Services
David M. Raatz, Jr., Esq.

Deputy Director of Council Services
Richelle K. Kawasaki, Esq.

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.MauiCounty.us

October 11, 2023

Dawn N.S. Chang, Chairperson and Members
Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii

SUBJECT: NON-ACTION ITEM: Update Regarding the Disposition of Water License for Water Use from East Maui on the Island of Maui Item D1

Dear Chair Chang and Members of the Board of Land and Natural Resources;

Thank you for the opportunity to testify on this matter. In November 2022, voters overwhelmingly approved the Maui County Charter amendment enabling the establishment of local regional water authorities. Over 63.4 percent of people voted yes to the Charter amendment.

The public's support of the Charter amendment showcases their desire to place water back into the hands of community members. Water is protected as a public trust, and the State is responsible for protecting and conserving water resources for the benefit of all its people. Over the next 30 years, the County will need additional water sources to accommodate population growth and food security attained through local food production. Water has historically been controlled by private interests through plantation water systems. The passage of the Community Water Authority charter amendment is significant, as the Maui County Charter now directs Maui County under regional water authorities to secure long-term affordable water for island residents and farmers through the acquisition of water systems and state leases.

The recent fires on Maui have shown the need for public control of our water systems more than ever. Having a private intermediary when making decisions between the state and county on emergency water usage delays critical life saving actions. It also creates opportunities for private interests to use fire devastation as an excuse to further their agenda to receive more water for private development and to advance their water allotments beyond what is already allotted and needed by them. I

Chairperson Chang and Members of the Board of Land and Natural Resources
October 11, 2023
Page 2

ask that given the historic nature of the fire impacts and county recovery efforts that the Board not rush the final stages of lease process. I understand that a contract agreement between A&B and Mahi Pono puts a clock with financial penalties on acquisition of the lease, but this is a private matter and the state of Hawaii should not heed calls to expedite the process to meet private entity deadlines.

The lease process also needs to take into consideration the recently adopted instream flow standards for eight streams located in the Huelo license area. Prior to any decision making on final water allocation amounts those standards need be implemented. As you are aware the Environmental Impact Statement is based upon a scenario with no state standards for these streams and the proposed large amount of diverted water requested may not be possible under the current regulations.

It is also important to recognize the effects of the charter amendment passed almost a year ago. As a result, the Maui County Charter specifically establishes an East Maui Regional Community Water Authority and Board of Directors. For the first time, the East Maui lease area communities will have a mechanism to provide a voice on management of the East Maui water and the watersheds. It would be wise that prior to making a 30 year decision on water licenses in East Maui, that the Board understand the rights of the County of Maui as exercised through the EMRC Water Authority. The Authority is empowered to work with the state to secure the state water leases.

As an update, the members of the Board of Directors have been appointed by the Council and Mayor Bissen. The Board is in the process of getting organized and will begin meetings in the next few months. Once meetings have begun, you will be notified. This is a unique and exciting time for the citizens of Maui and the County. I look forward to embarking on a new partnership with the state to ensure that our community's water is managed as a public trust resource for the benefit of the people.

Thank you for your consideration of my testimony. Please let me know if you have any questions or need additional information.

Sincerely,



SHANE M. SINENCI
Councilmember

From: [Anella McConnachie](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Saturday, October 7, 2023 2:01:02 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

Sent from my iPhone

From: [Kinsley McEachern](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Review of Kaua'i EA -please support
Date: Thursday, October 12, 2023 8:00:25 AM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i,

Mahalo nui loa,
Kinsley McEachern

From: [John McHugh](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Birds not Mosquitoes
Date: Wednesday, October 11, 2023 12:42:44 PM

Dear Board of Land and Natural Resources,

The increasing impact of climate change and the attendant global warming has provided the opportunity for mosquitoes to invade upland habitats. The spread of mosquito borne disease is putting at great risk native Hawaiian birds that are found in upland environments in Hawaii. The project designed to introduce bacteria that is associated only with mosquitoes and will cause mosquito infertility is the ideal way to control mosquitoes without disrupting other animal species that inhabit the forest. This is a scientific approach to mosquito control that can, potentially, have other applications. As an agricultural scientist who has spent over 50 years in Hawaii I wholeheartedly support this project and urge you to approve it to protect endangered Hawaiian birds.

John McHugh
(808) 341-0230

From: [Nichol McKeag](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Honeycreeper Support
Date: Thursday, October 12, 2023 8:57:41 AM

Aloha-

I am in support of agenda item C-1.

Mosquito control can help to protect the few remaining Honeycreeper species.

Efforts are needed to protect our birds and urge BLNR to support and put in place mosquito control project.

Thank you-

Nichol McKeag

From: [Matthew Medeiros](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] RE: item C-1
Date: Wednesday, October 11, 2023 11:21:24 AM

Aloha mai kākou,

I am Dr. Matthew Christopher Ikaika Medeiros, a native Hawaiian and resident on O‘ahu.

I would like to communicate my complete support for the Kaua‘i DLNR mosquito suppression environmental assessment. It is clear that the scientific consensus of this technology suggests it is safe. It is equally clear that without immediate action our Hawaiian forest birds, special natural and cultural resources, will go extinct. We can not allow this to happen based on unfounded opinions rooted in pseudoscience.

E mālama pono i nā manu,

Matt

From: [kimberly Meyer](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kuaui to save native birds
Date: Wednesday, October 11, 2023 6:30:32 PM

Aloha chair person Chang and members of the board,

I plead with you to reconsider and stand with the wolbachia ITT on Kauai. Please approve of this EA. It is our last chance to save so many of our birds that will directly affect our plants and eco system which directly affects us culturally and in resource.

Mahalo! Please please please

Mahalo,
Kalei Meyer

From: [Chuck Miller](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 1:34:17 PM

I lived in Hawai'i for 2 years in the 1970's. I was in the US Navy and I was stationed at Barber's Point Naval Air Station on Oahu and Alternative Landing Site, Barking Sands, Kaua'i. I would hike up to the Alakai Swamp Area, no Boardwalk then, and listen to the Symphony of Forest Birds singing. It was paradise. We need our Forest Birds so that the whole package works, meaning Kauai Island's ecological health is at stake. No birds, no forests, no soil or water, no reef. Everything falls. We can't let that happen. We have an obligation to do what we can to save our Island. We brought these invasive species, diseases, to Kaua'i. Now it's our turn to approve Mosquito Control on Kaua'i to Save Native birds. I thank everyone involved in the discussion making process, and all your efforts to save Kaua'i Forest Birds. They're worth it.

Thank you,
Chuck Miller, Ohio Certified Naturalist
Medic44057@gmail.com

From: [Leah Miller](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Support of Wolbachia IIT
Date: Thursday, October 12, 2023 7:40:59 AM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance on East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kauai.

Please, for our manu.

Best regards,
Leah Miller (she/her)
253-376-9492

From: [Diana Miller](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Help save Hawai'i's birds
Date: Sunday, October 8, 2023 8:11:23 PM

The honeycreepers that still survive today live at high elevations, where it is too cool for mosquitoes. Rising temperatures are widening the mosquitoes' habitat, however, and every year they move higher up the mountain slopes—and kill birds as they go.

Something needs to be done to deal with these non-native mosquitoes. I fully support the bio-control proposed to reduce mosquito populations.

thank you
diana miller
16-1582 Koloa Maoli Rd
Kurtistown. HI 96760
808-345-0696
diana411@gmail.com

From: [kyle.mira](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 11:58:10 AM

Hi I don't really have a testimony but is there any way I can help provide something to move this plan forward??

Sent from my iPhone

From: [Bret Mossman](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Wednesday, October 11, 2023 2:49:36 PM

Aloha Chair Chang and members of the board.

I want to send a most sincere mahalo for your actions to approve the Wolbachia IIT for use in east Maui this last summer. That action will undoubtedly have a major impact in the recovery of the native birds of Maui. Unfortunately however the work is not yet done, a similar approval is needed for the island of Kaua'i to help save its imperiled birds.

As a Kānaka, bird biologist, and resident of Hawai'i I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i.

Mahalo nō,

Bret Nainoa Mossman

From: [mikyla nakila](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 8:56:18 AM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for east Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kauai.

Mahalo,
Mikyla Nakila

**Testimony of The Nature Conservancy
In Support of Agenda Item C-1, "Request Approval of Final Environmental Assessment and
Authorization for the Chairperson to Issue a Finding of No Significant Impact for the 'Use of
Wolbachia-Based Incompatible Insect Technique for the Suppression of Non-Native Southern
House Mosquito Populations on Kaua'i.'"**

**Hawai'i Board of Land and Natural Resources
October 13, 2023, 9:15 AM
Kalanimoku Building, 1151 Punchbowl St., Room 132 and via Teleconference**

Aloha Chair Chang and Board Members:

The Nature Conservancy (TNC) of Hawai'i and Palmyra strongly supports the Hawai'i Department of Land and Natural Resources' (DLNR) proposal to prevent the extinction of endangered native forest birds by suppressing populations of the invasive *Culex quinquefasciatus* mosquito on Kaua'i. **We ask the Board to approve the Final Environmental Assessment (EA) and authorize the Chairperson to issue a Finding of No Significant Impact.**

Native Hawaiian forest birds are imperiled by the spread of avian malaria which is carried into their last remaining habitat and transmitted to the birds by invasive mosquitoes. This disease caused waves of extinctions after it was introduced in the early 1900s and the continued impacts have been tracked for decades by researchers and land managers alike. Analysis of long-term survey data has showed that six of the eight native forest bird species on Kaua'i have significantly declined in abundance over the past 25 years (Paxton et al. 2016). These declines coincide with increases in mosquitoes and avian malaria prevalence within the uppermost elevations of forest bird habitat on Kaua'i (Atkinson et al. 2014). The two rarest species, the 'akikiki and 'akeke'e, have undergone dramatic declines in recent years and are at risk of imminent extinction (Paxton et al. 2022). Landscape-scale mosquito control, as described in this EA, is needed to prevent extinction of these species in the wild.

Historically, pesticide application and management of breeding habitat were the only options for controlling mosquitoes, neither of which are appropriate for controlling mosquitoes in the forest habitat where Hawai'i's endemic forest birds persist. But the Incompatible Insect Technique (IIT) approach leverages naturally occurring bacteria within the *Culex* mosquitoes and releases of "incompatible" male mosquitoes to suppress *Culex* populations. Note, male mosquitoes are nectar feeders and do not bite humans or wildlife, nor are mosquitoes important for native species or ecosystem function in Hawai'i.

We are excited to have an option for saving our birds from mosquito-borne disease that is safe for animals and humans alike. Decades ago, IIT was developed for agricultural pest and human disease

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Duncan MacNaughton Jean E. Rolles Crystal K. Rose Nathan E. Smith

Founders: Samuel A. Cooke Herbert C. Cornuelle

control, and it went through rigorous vetting and regulatory approvals to be applied safely in human-inhabited areas. This project is proposing to release incompatible male *Culex* mosquitoes in the remote mountain forests of Kaua'i.

IIT is a good option for disrupting the avian malaria disease crisis imperiling Hawai'i's endemic forest birds: it is specific to only one species of mosquito, it does not introduce toxicants to the environment, and the removal of introduced mosquitoes will not impact the native food web in Hawai'i's forests. Furthermore, this action would not introduce any new organisms to Hawai'i. Wolbachia, the genus of intracellular bacteria naturally occurring in *Culex quinquefasciatus*, prevents reproduction when mating male and female mosquitoes carry incompatible strains.

We agree with DLNR that an EA is appropriate for this project as there is no significant environmental impact expected with IIT suppression of *Culex quinquefasciatus*. TNC is confident that the risks and impacts assessed by DLNR and the U.S. Fish and Wildlife Service (USFWS) in the Kaua'i Mosquito Suppression EA are comprehensive of this project, and we encourage you to support this strategy. The USFWS issued a Finding Of No Significant Impact on September 22, 2023 for the Kaua'i EA in compliance with the National Environmental Policy Act (NEPA), the national equivalent to the Hawai'i Environmental Policy Act (HEPA).

If we do not act now, we will see the extinction of multiple native bird species within ten years, and as soon as one year. TNC, DLNR and many members of Hawai'i's conservation community have dedicated significant time and resources to provide safe habitat for Hawai'i's native forest birds through management of preserves including fencing, ungulate removal, weed control, native tree restoration, and predator control. Avian malaria vector control through mosquito suppression is the key piece that can reverse the downward population trends our birds are experiencing while keeping them in their forest home. **Please support and approve issuance of a Finding of No Significant Impact for the Kaua'i EA before it is too late for our birds.**

Mahalo for your support and stewardship of Hawai'i's natural resources.

The Nature Conservancy of Hawai'i and Palmyra is a non-profit organization dedicated to the preservation of the lands and waters upon which all life depends. The Conservancy has helped protect more than 200,000 acres of natural lands in Hawai'i and Palmyra Atoll. We manage 40,000 acres in 13 nature preserves and work in over 50 coastal communities to help protect and restore the nearshore reefs and fisheries of the main Hawaiian Islands. We forge partnerships with government, private parties, and communities to protect forests and coral reefs for their ecological values and for the many benefits they provide to people.

From: [Ilana Nimz](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda C-1
Date: Monday, October 9, 2023 1:29:46 PM

Aloha BLNR,

I am submitting testimony for Agenda Item C-1, encouraging the Board to issue a Finding of No Significant Impact regarding the mosquito suppression approach to protect the native birds of Kaua'i. This approach will reduce mosquito populations which will give the native and critically threatened forest birds a chance at recovery.

It is imperative the BLNR vote in favor of this technique to prevent the extinction of another endemic bird, and approve the final EA.

-Ilana Nimz

--

Ilana Nimz, MSc.
Wildlife Biologist, Avian Specialist
ISA Certified Arborist & Tree Worker WE-11029AT
Cell: 808-392-7946

From: santorinie@netscape.net
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO BLNR 10/13/23 AGENDA ITEM c1!!!
Date: Thursday, October 12, 2023 3:48:40 AM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Elaine Oehmich
Indiana

From: [Sarah Belmont](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony
Date: Thursday, October 12, 2023 12:43:17 AM

STOP INJECTED MOSQUITOES ON KAUAI. I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment! Mahalo.
Sarah

[Sent from Yahoo Mail on Android](#)

From: [Patty Weber](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I'm opposed to the BLNR 10/13/23 agenda item C1
Date: Thursday, October 12, 2023 3:55:38 AM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Patty Weber

From: [Ryan Anawaty](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda Item C1
Date: Thursday, October 12, 2023 6:10:28 AM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL Enviromental Impact Study before moving forward with this experiment!

MAHALO,
RYAN

From: [james andy](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment! PLEASE AND THANKYOU!
Date: Wednesday, October 11, 2023 11:04:26 AM

From: [Alarik Arenander](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Thursday, October 12, 2023 8:16:24 AM

I'm strongly **OPPOSED** to the bacteria-infected mosquito release project. **There are serious risks of these mosquitoes which is still being litigated in court.** Kauai and its natural habitat is being used again as a scientific petri dish to carry out experiments that are of dubious value with long term dangerous consequences... **THERE IS NO NEED FOR ACCEPTANCE AT THIS POINT.** This biological experimentation is **NOT SCIENTIFIC**. It lacks control parameters and containment. The company thinks if things go wrong it will be contained to Kauai. Not so... whatever starts here will be released and spread by human and animal behavior. It is a dangerous experiment on our islands, with unknown longterm effects,

A Finding of No Significant Impact is **NOT ACCEPTABLE** for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i."
An Environmental Impact Statement is warranted.

Does this panel think it has the examination and professional qualifications and experience to properly deal properly with this issue. The court situation is the current best route to resolve the many unknowns and risks to Kauai and its future.

Mahalo,
Alarik
Kalaheo resident and voter, long term brain research scientist. Past faculty of UCLA.
Alarik Arenander, PhD
808-482-4562
alarik108@gmail.com
skype: VedicBrain

Anti-AgingCompany.com
NatureMade4U.com
Ebrainmatrix.org
TheLeadersBrain.org

From: [Hieromonk Bartholomew](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Wolbachia Injected Mosquitoes in Kauai
Date: Thursday, October 12, 2023 6:12:13 AM

I strenuously object to the wild release of mosquitoes anywhere but mist especially anywhere in Hawaii.

I request the zoom link to object orally.

Hieromonk Bartholomew

Diplomat and Privy Counsel
The Kingdom of Hawai'i
Ko Pae A'ina

always pursue what is good both for yourselves and for all.

From: [Claire Bear](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO BLNR C1 MOSQUITO!
Date: Thursday, October 12, 2023 8:21:11 AM

I am OPPOSED to the BLNR C1 10/13/23 mosquito release experiment! STOP EXPERIMENTING ON HAWAII! Are you guys insane?! You're gonna make RESISTANCES, every time someone introduces something to Hawaii IT GOES BAD! STOP IT. You don't know what the outcome can be!! This is an EXPERIMENT with lives of humans and animals!!!! STOP IT!

From: [Elena Begunova](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Hawaii resident opposed to the BLNR 10/13/23 agenda item C1
Date: Tuesday, October 10, 2023 7:12:46 PM

To whom it may concern,

My name is Elena Begunova, I am a Hawai'i resident since 2020. I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.

I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i."

I demand an Environmental Impact Statement.

Sincerely,

Elena Begunova

From: [Renee Berg](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Blnr agenda item C1
Date: Wednesday, October 11, 2023 7:13:44 PM

To Whom it may concern,

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Sincerely,
Renee Berg

[Sent from Yahoo Mail for iPhone](#)

From: [Marilyn Biernot-Hess](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] objections to tampered mosquito release
Date: Thursday, October 12, 2023 5:27:45 AM

I don't agree with the release of tampered mosquitos.
There needs to be a full environmental impact statement regarding the
release before it happens!

Sincerely,
Marilyn Biernot-Hess

From: [Andrew](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I oppose experimental mosquitos
Date: Wednesday, October 11, 2023 6:31:10 PM

I am just writing to express my opposition to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

sincerely,
Andrew Blease

From: [cronos336](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I'm totally opposed to the BLNR 10/13/23 agenda item C1.
Date: Tuesday, October 10, 2023 7:19:28 PM

It is an insane experiment and it will put in question sanity of those who would allow this to happen to us, our keikis and our environment for generations.

I'm totally opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed.

Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i."

I demand an Environmental Impact Statement.

Semyon Blimes

From: [The Board](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 meeting testimony for agenda item C1
Date: Tuesday, October 10, 2023 5:02:38 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement

From: [Dale Bond](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 7:12:53 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on the Hawaiian islands. This type of experimentation needs to stop.

Dale

From: [Carolyn Bowman](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose agenda c1
Date: Thursday, October 12, 2023 7:09:25 AM

To whom it may concern, I oppose the agenda c1 let me know if their is a petition I can sign

Sent from my iPhone

From: [Tungane Brown](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposing to BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 5:39:34 PM

Dear sir / madam

I am opposed to the BLNR 13 October 2023 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands.

Thank you

Nane

From: [Yai Buranakul](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opinion on mosquito release project
Date: Thursday, October 12, 2023 2:35:44 AM

I am opposed to the BLNR 10/13/23 agenda item C1. This bacteria infested mosquito release project is a threat to the Hawaiian people and its fauna. It appears to be a mad scientist experiment, so please oppose this experiment. Full EIS must be done before this experiment should go forward because it has the potential to damage the public in multiple ways. Those who support such a covert project should this go through will BE PROSECUTED to the extent of the law.

May you be given proper wisdom regarding these matters soon.

Yai Buranakul, MD

From: [Robyn Cadrain](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR AGENDA ITEM C1
Date: Wednesday, October 11, 2023 12:53:14 PM

I am opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a DANGEROUS EXPERIMENT on the islands of Hawaii. We MUST have a FULL EIS before moving forward!

Sent from my iPhone

From: [Michal Anna](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 1:56:34 AM

To whom it may concern,

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Mahalo,

Concerned Hawaii Resident,
Micháel Carrillo

From: loans.arch@gmail.com
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oct 13 BLNR C-13- NO
Date: Wednesday, October 11, 2023 1:54:59 PM

Ok, really? Wolbachia Injected mosquitos to aid in stopping the transfer of malaria through the native birds without an unknown outcome? Why would you even believe that the public will believe this much less the scientists? Monitoring the outcome is outside your scope and this could kill the birds....and humans? Really. We are so on to you. Just stop releasing injected mosquitos in Maui, Kauai, and known parts of the mainland including Philadelphia, Maryland, Texas and Florida.

I strongly oppose BLNR's Agenda Item C-1 for Oct 13th., FRIDAY the 13th. A tropical disease specialist has warned against it (Dr. Lauren Payne).

Do not let money be the reason for your destructive decisions.

Thank you for listening.

Carol

From: [Deva Chappell](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I am very opposed to the BLNR 10/13/23 agenda item C1.
Date: Tuesday, October 10, 2023 9:11:00 PM

I am very opposed to the BLNR 10/13/23 agenda item C1.

This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua‘i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.

I do not accept the Finding of No Significant Impact for the “Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua‘i.”

I demand an Environmental Impact Statement.

Thank you,

Dale Chappell

From: [George Chyz](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Tuesday, October 10, 2023 6:05:48 PM

Aloha,

I'm opposed to BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a potentially disastrous experiment that should not be allowed to take place on our islands. Numerous concerns have not been adequately addressed.

- Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed.
- Female mosquitoes that bite, breed, and spread disease will be released.
- This project has the potential to cause the extinction of the native birds it is meant to protect.
- Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.

Therefore, it is clearly incorrect to "Find No Significant Impact" for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." On the contrary, there is actually great potential for a disastrous impact to humans as well as animals.

In conclusion, an Environmental Impact Statement must be made after a thorough investigation is completed. Anything less is irresponsible.

Thank you for protecting the health and vitality of Hawaii Nei.

George W Chyz
213 Hoolawa Rd.
Haiku, HI 96779

From: [Jeanne Coloma](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose agenda item C1
Date: Thursday, October 12, 2023 6:48:16 AM

I oppose agenda item C1 it is a dangerous experiment which should not be allowed on any island of Hawaii.

Stop.

Thank you,
Jeanne Coloma

Sent from my iPhone

From: [Maira Crawford](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito release/ Agenda item C1
Date: Wednesday, October 11, 2023 1:03:25 PM

Dear Elected Officials

I am writing to express my alarm and dismay at the plan regarding the bacteria infected mosquito release project.

It is a highly dangerous experiment on the island and a full EIS must be carried out before moving forward with this experiment.

I am sure that you are fully aware that the world is watching.

Yours faithfully
M Crawford

From: [Rosie Cruz](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] opposed to the BLNR 10/13/23agenda item C1
Date: Wednesday, October 11, 2023 7:00:56 PM

To win it may concern:

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands.

We MUST have a FULL EIS before moving forward with this experiment!

I will refuse to vacation in Hawaii if this is passed

Rosie Cruz

“Only those who have learned the power of sincere and selfless contribution experience life’s deepest joy: true fulfillment.”

– **Tony Robbins**



Social Entrepreneur
Cruz Multimedia Productions LLC
m: 510.755.5605



Warmly,
Rosie Cruz
Xoxo from my heart

From: [Ramon Delgado](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed to BLNR 10-13-2023 Agenda item C1
Date: Wednesday, October 11, 2023 12:50:32 PM

I am opposed to BLNR 10-13-2023 agenda item C1. This bacteria infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment.

Please forward to whom this applies ASAP.

Thank you,
Ramon

From: [Annette Denbeau](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Thursday, October 12, 2023 8:44:26 AM

Good morning,

I'm opposed to the BLNR 10/13/23 agenda item C1.

I have lived at my home in Kapaa for 20 years.

In my lifetime on this Island, our household has purchased: 3 Mosquito Magnets; dozens of Mosquito traps; gallons of Mosquito repellent and lost 2 dogs to heart worms. Mosquitoes make it difficult to work any length of time in our open air downstairs space.

NEVER have I ever thought we didn't have enough mosquitoes.

In fact, in all our years of extensive mosquito experience we have found that they do not improve our environment, nor do they increase the value of our property, nor add to our quality of life.

Never have I thought to myself, "Gee, I wish we had some bloodsucking Mosquitoes around to inject their excrement into my skin so I can show off all my itchy welts."

It's one thing to deal with the current mosquito population, but to add more of an altered variety that would potentially afflict people, pets and our sensitive ecosystem with unknown consequences, is irresponsible.

IF there is some benefit to releasing this species, without boundaries, into the environment, men, women and children of our Island; it should be with FULL DISCLOSURE, including but not exclusive to:

- 1) Environmental Impact Studies identifying the expected short and long term impacts on animal & plant species, water supply etc.
- 2) SCIENTIFIC STUDIES including chemical makeup and any potential contaminants, or biological function disrupters associated with this bug,
- 3) an evaluation from the Department of Health for potential health risks or organ damage;
- 4) a plan to terminate the action at anytime in case of unintended

consequences, even after release ;

5) and adequate education and understanding so EVERY household can make an informed decision to cohabitate with, and control, if necessary, or report damages from these introduced specimens of unknown origin; because EVERY INHABITANT WILL BE AFFECTED, INCLUDING TOURISTS.

I'm not sure why this department thinks itself qualified to carry forward and impose this kind of action, but I assure you, you will be held accountable in accordance with your oath as a public official, and be held personally responsible for any over reaching damages incurred outside your area of expertise and/or purview as covered by your Surety Bond(s).

This does not seem like a wise endeavor and you should protect yourselves and the people you represent from it.

[Sent from the all new AOL app for iOS](#)

From: [Robin Donnelly](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose Injected Mosquitoes in Kauai!
Date: Thursday, October 12, 2023 2:02:45 AM

This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Sent from my iPhone

From: [jean duplanty](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] No to mosquito release
Date: Wednesday, October 11, 2023 2:46:17 PM

To whom this may concern,

I am opposed to BLNR October 13, 2023 agenda item C1. This bacteria infected mosquito release project is a dangerous experiment to the Hawaiian islands.

JDuplanty

[Sent from Yahoo Mail for iPad](#)

From: [Jane Eckerman](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO to bringing mosquitoes
Date: Thursday, October 12, 2023 2:45:33 AM

October 12, 2023
7:44AM CST

To whom it may concern:

This letter is sent to inform you that I am voicing a NO to bring any new mosquitoes to any island in Hawaii.

Many around the world are watching Hawaii closely right now and we will bring anyone to justice who willingly or unwillingly performs any act found harmful or dangerous to the people, environment and wildlife of the Land of Hawaii.

I am a concerned American citizen who pleads to the powers available for the well-being of the wildlife and people of Hawaii.

THIS ACT SHOULD BE POSTPONED UNTIL further notice and the people of the state are allowed to learn more about it and vote regarding any actions done in the State.

With humble best regards,
Jane Eckerman

From: [Elle](#)
To: [DLNR.BLNR.Testimony](#)
Cc: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] TESTIMONY BLNR Meeting Friday, October 13th, 2023 at 9:15am Final Environmental Assessment (FEA) for Kaua'i
Date: Thursday, October 12, 2023 1:33:52 AM

TESTIMONY BLNR Meeting Friday, October 13th, 2023 at 9:15am Final Environmental Assessment (FEA) for Kaua'i

I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

I'm opposed to the BLNR 10/13/23 agenda item C1.

This bacteria-infected mosquito release project is a dangerous experiment on our sacred 'āina.

Concerns about this plan have not been adequately addressed.

There is no documented use of southern house mosquitoes for *Wolbachia* stand-alone field release at this point, and this project would be an irreversible experiment on the island's fragile ecosystems.

Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released.

This project has an incredible potential to cause the extinction of the native birds it is meant to protect.

Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.

Again, I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands.

From: [shaylene fahey](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Wolbachia injected mosquitos
Date: Thursday, October 12, 2023 8:06:22 AM

Please be advised that I Highly Oppose the Bureau of Land & Natural Resources Departments Consideration-and/or approval of the October 13, 2023 Agenda Item #C1 regarding the Release of the Wolbachia Injected Mosquitos!

This Bacteria Infected Mosquito release project is a Dangerous Experiment on our islands and on this entire planet!

We must have a Full ELS, Environmental Impact Study, before moving forward with this experiment!

It is my understanding that the BLNR wants to release millions upon millions of these mosquitos but you claim that you do not have the resources to actually monitor what the affects of this Experiment will be in regards to the birds, wildlife and human life. Furthermore it is my understanding that these Wolbachia Injected Mosquitos are injected with and can transmit diseases like..... Malaria, Avian Malaria, West Nike Virus, Elephantiasis, Encephalitis and the Zika Virus amongst other things known and unknown.

Thank you,
Shaylene Fahey
Volcano, Hawaii

[Sent from Yahoo Mail for iPhone](#)

From: [Esther Felix](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposition to the BLNR 10/13/23 agenda item C1!
Date: Wednesday, October 11, 2023 8:33:48 AM

Aloha BLNR,

I am very opposed to the BLNR 10/13/23 agenda item C1.

This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. **Releases on Kaua'i cannot** be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.

I do not accept the Finding of No Significant Impact for the “Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua‘i.”

I demand an Environmental Impact Statement
Esther Felix

From: [Susan Floyd](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] 10/13/23 agenda item C1
Date: Thursday, October 12, 2023 9:02:25 AM

Pursuant to your idea to release millions of mosquitoes over Kauai (or any of the Hawaiian islands), I highly object to it in any way shape or form. No releasing of any of these ungodly creatures! You will be held responsible for the consequences. And there will be consequences. If you care about the native birds you must not release these mosquitoes!

At the very least, we must have a full EIS be done before even considering this proposal.
Sincerely, Susan Floyd
Volcano, HI.

Sent from my iPhone

From: [Liane Franck](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda item C1
Date: Thursday, October 12, 2023 3:29:56 AM

I am strongly opposed to the BLNR 10/13/23 Agenda item C1. The release of modified mosquitoes is an untested experiment which may have irrevocable negative effects on human and animal health. As mosquitoes are a primary food source for many birds this proposed release is a shot in the dark to Hawaii's ecosystem. Islands because of their more isolated populations are particularly sensitive to disruption of these systems.

Sincerely, Liane Franck

From: [Darci F](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed to 1013203 Item C1
Date: Thursday, October 12, 2023 7:49:50 AM

I'm opposed to the BLNR planned biopesticide mosquito releases on Kauai. This project is an experiment on our island home. There are serious risks, and the outcome is admittedly unknown. The lab-reared mosquitoes will be infected with a different strain of Wolbachia bacteria, which could cause them to become more capable of spreading diseases like avian malaria and West Nile virus (bird and human).

State agencies and wildlife officials are hoping this novel strategy will prevent extinction of native birds, it may cause their extinction, and it could impact human health. Scientific studies document the risks of horizontal transmission, increased pathogen infection, evolutionary events, population replacement, and accidental release of females (who bite and breed). This project would also have significant environmental consequences, including viewscape and noise disturbances, and impacts to the untrammelled, natural qualities of the wilderness character.

I do not accept the Environmental Assessment's Anticipated Finding of No Significant Impact (DEA-AFONSI). The scope, risks, and experimental nature of the plan require detailed, comprehensive studies and documentation of the impacts to our native birds, wildlife, environment, and public health. I demand an Environmental Impact Statement (EIS).

I oppose BLNR release of experimental lab grown mosquitos

--

Darci Frankel

From: [Lana Frutoz](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Stop Wolbachia injected mosquitoes in Kauai
Date: Thursday, October 12, 2023 7:30:06 AM

Testimony: I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment.

This dangerous experiment could impact many other parts of our ecosystem and may not be known for years to come.

Please stop this now.

Respectfully,

Lana C Frutoz

From: [Frantic Ginger Gmail](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony is opposition of the release of Wolbachia-based incompatible insect technique
Date: Tuesday, October 10, 2023 5:03:39 PM

Yours TRULY!!! The girls of Frantic Ginger

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From: [Anna Gloria](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO to BLNR 10/13/23 Agenda Item C1
Date: Wednesday, October 11, 2023 8:40:08 PM

I am **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on the Hawaiian islands. We **MUST** have a FULL EIS before moving forward with this experiment!

You say you want to save the native birds? But there is not even a plan to see if the birds come back. It sounds like a crazed destructive scheme!

I hope there is someone there listening with a heart and soul and the **courage** to stand up to your peers who have taken leave of their senses with such a hurtful project.

Maybe the birds are not well because of short-sighted people such as the ones that plan such ruinous acts.

Anna Gloria
Grass Valley, Calif.

"And let us consider how we may spur one another on toward love, and good deeds." Hebrews 10:24N

From: [Catherine Gordon](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] 10/13/23 Agenda C1
Date: Wednesday, October 11, 2023 11:26:47 AM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Sincerely,
C. Gordon
Cincinnati, OH

From: [veronika_grace](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Stop BLNR agenda item C1
Date: Wednesday, October 11, 2023 5:28:36 PM

To whom it may concern,

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment! Our island ecosystem is too fragile and important and this is too much of a risk. Do the right thing and stop this!

Thank you,
Veronika Grace
2370 W State Rte 89A
Ste 11 414,
Sedona, AZ 86336

From: [Cynthia Groves](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1.
Date: Wednesday, October 11, 2023 3:35:22 AM

BLNR Meeting Agenda item C1
1151 Punchbowl St. Room 132 (Kalanimoku Building),

To whom it may concern:

I stand opposed to the BLNR 10/13/23 agenda item C1 for the following reasons:

. This bacteria-infected mosquito release project is a dangerous experiment on our islands. **Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. It is my understanding that Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect.** Releases on Kaua‘i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I cannot accept the Finding of No Significant Impact for the “Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua‘i.” I stand with others concerned who demand an Environmental Impact Statement.

I live on Oahu currently adjacent to a domestic animal and wildlife park. Genetically, I am predisposed to mosquito bites and this could be dangerous to my health personally let alone to others. This park is inhabited by no less than 100 people per day in the dog park, young children playing soccer, and many of all ages walk the Kawainui Marsh Trail which is adjacent the marsh and its fields. I don't encourage this on Oahu or any of the islands with **premature** release--particularly now that it is being litigated and without a proper Environmental Impact statement.

Sincerely,

Cynthia Groves
Health and Environmental Consultant
cynthiagroves@gmail.com
Mailing address: 150 Hamakua Dr. #340
Kailua, HI 96734
(808) 745-1001

From: [Regina Fuerst](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR Agenda Item C1 - 10/13/23
Date: Thursday, October 12, 2023 12:38:01 AM

Dear Sir or Madam,

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Please keep the Hawaiian Islands as they are and do not destroy your beautiful islands for the future of our keiki.

Many Blessings
Regina Fuerst
Hamburg

From: [Dana Hartley](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Fwd: Injected mosquito
Date: Wednesday, October 11, 2023 10:34:14 PM

BLNR 10/13/23 agenda item C1.

This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

I am opposed to this release on Hawaii causing an unknown result and may not save the spread of malaria !

Concerned American citizen

From: [Barbara Hickman](#)
To: [DLNR.BLNR.Testimony](#); [Barbara Hickman](#)
Subject: [EXTERNAL] Testimony BLNR 10/13/23 Agenda Item C1
Date: Wednesday, October 11, 2023 1:26:54 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This proposed bacteria-infected mosquito release is dangerous to the islands. C1 agenda item requires a Full & Complete Environmental Impact Study before any consideration of such a drastic experiment.

From: [C. Green Hill](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for Agenda item C1
Date: Wednesday, October 11, 2023 8:10:33 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Should damages occur should you release these mosquitos, you will be held accountable.

Take the time to research before releasing a potential harm on our birds and our people.

C.W.

From: [Desiree Hoover](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Please oppose agenda item C1 the dangerous mosquito experiment in Kauai
Date: Wednesday, October 11, 2023 10:11:25 PM

Dear BLNR,

I adamantly want you to oppose agenda item C1 the dangerous mosquito experiment in Kauai. I can't believe this is on the table. It's completely untested and the outcome is totally unknown. Not only could it harm the birds you are trying to protect but any time you release something wild in the environment, it can really through off the ecosystem. Let alone it could affect humans as well, it's all so unknown and not controlled. There are other ways to combat this.

Sincerely,

Desiree Hoover
Concerned Kilauea Resident

From: [Kim](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 Agenda Item C1
Date: Wednesday, October 11, 2023 8:59:57 PM

Aloha, to Whom it may Concern:

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Mahalo nui,
Kimberly Hughes

From: [christine jaffe](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR Agenda Item C1
Date: Wednesday, October 11, 2023 12:38:49 PM

I am opposed to BLNR Agenda Item C1 for October 13, 2023. This is dangerous to the Island.

From: [Susie Jenkins](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I'm opposed to the BLNR 10/13/23 agenda item C1.
Date: Tuesday, October 10, 2023 11:24:35 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

C.S.Jenkins
Kailua Kona

From: [jodie](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO MOSQUITO RELEASE IN HAWAII
Date: Thursday, October 12, 2023 2:58:00 AM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

jodie

The smallest deed is better than the greatest intention.
John Burroughs

Sent with [Proton Mail](#) secure email.

From: [Kira Johnson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/2023 agenda item C1
Date: Thursday, October 12, 2023 5:04:39 AM

I, Kira B. Johnson, am opposed to the BLNR 10/13/2023 agenda item C1. This bacteria infected mosquito release project is a dangerous experiment on Kauai and the Hawaiian islands.

Sincerely,
Kira B. Johnson

Sent from my iPhone

From: [Anne Kamau](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony: BLNR 10/13/23 agenda item C1
Date: Thursday, October 12, 2023 7:47:27 AM

Testimony: I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward. Thank you, Anne Kamau.

From: [jlkinkona](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed to DLNR 10/13/23 agenda item C 1
Date: Thursday, October 12, 2023 8:55:31 AM

I am opposed to the Agenda item C 1.

Mahalo,

Josephine Keliipio
Kailua Kona, Hawaii

Sent with [Proton Mail](#) secure email.

From: [Gail Kelly](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed Agenda Item C1
Date: Tuesday, October 10, 2023 4:45:10 PM

I am opposed to passing the finding of "no significant impact" for the "Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito. The study was deeply flawed from the beginning with the acceptance of past studies in other countries.

It is hard for me to believe that our fragile ecosystem can be ignored by the passing of a gavel. There are too many questions, and not enough evidence, to proceed. We will not only be harming mother nature but our selves. Other science-minded individuals have rushed to the finish line in the past. Let this be an Ah Ha moment and pay attention to your conscience. Don't let fear over ride principles. Vote No, vote not at this time, vote for more information and environmental studies needed. Just say No.

Gail Kelly
15-1101 Kiawe Road
Keaau, HI 96749
8087858443

From: [Lisa Kerman](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda item C1
Date: Wednesday, October 11, 2023 7:03:46 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Sent from my iPhone

From: [Cheryl Keslar](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL]
Date: Thursday, October 12, 2023 3:30:37 AM

I am against the BLNR 10/13/23 itemC1
Cheryl Keslar

From: [Nawahine Kahoopii](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose
Date: Thursday, October 12, 2023 3:58:02 AM

On behalf of the Nawahine Ohana I'm **opposed** to the BLNR 10/13/23agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Sent from my iPhone

From: [Elizabeth Kibble](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Injected mosquitoes
Date: Thursday, October 12, 2023 7:23:11 AM

I definitely do not agree that these injected mosquitoes should be released on Kauai.

The ecosystem here is unique and is already fragile and by releasing new foreign species into this environment will have long term negative impacts/consequences for the fauna and flora.

I do not agree to this proposal to release this species of mosquito on Kauai.

Elizabeth Kibble

Sent from my iPhone

From: [Cherie Kinchloe](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL]
Date: Thursday, October 12, 2023 9:06:44 AM

Vote no on C1.

From: [coastal96](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO mosquito
Date: Thursday, October 12, 2023 2:26:14 AM

Please no mosquitos on Kauai! This is not good for the people, the island, or the planet!
Thank you,
Victoria King

Sent from [Proton Mail](#) for iOS

From: [LINDA KINGSBAUER](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] experiment on Hawaii
Date: Wednesday, October 11, 2023 1:02:07 PM

To whom ever it may concern!
OPPOSING THE BLNR, C1.
STOP THE RELEASE OF THE WAKBAKIA MOSQUITO!!
YOU ARE EXPERIMENTING AND NOT KEEPING TRACK OF THIS MALARIA
MOSQUITO, ON THE PEOPLE OF HAWAII.
THIS IS NOT THE ANSWER.
STOP WITH THIS EXPERIMENT

From: [KRISTIN KIRK](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Please listen
Date: Wednesday, October 11, 2023 11:36:28 AM

Aloha Ohana,

Have we not learned yet ????? Mongoose, deer, green parakeets, buffalo grass, the list goes on... We are a part of nature. We do not control it. We understand too little about the ecosystem and how interactions and nature keeps it's balance. Do we learn? When do we stop putting ourselves and nature at risk by our experiments? Only to discover irrevocable consequences for unknown generations and wildlife to come. This is not controllable.

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Sincerely,
Kristin Kirk

From: [maria kljuce](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO to wolbachia injected mosquito in Kauai
Date: Wednesday, October 11, 2023 5:33:07 PM

I'm **opposed** to the BLNR [10/13/23](#) agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Sincerely marija Kljuce
[Sent from Yahoo Mail for iPad](#)

From: [Kelin Koger](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Don't release
Date: Thursday, October 12, 2023 8:48:49 AM

I appose thé BLNR / C-1. It is not only dangerous to the wildlife but hawaii and the people!

Kelin Braida

From: [michael kolivosky](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO TO THE DANGEROUS AND INSANE BLNR 10/13/23 agenda item C1!!!
Date: Wednesday, October 11, 2023 11:13:47 AM

I'm opposed to the INSANE BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

THIS IS A NON-SENSICAL AND DANGEROUS EXPERIMENT WITH UNKNOWN AND POTENTIALLY IRREVERSIBLE REPERCUSSIONS ON ALL LIFE ON OUR ISLANDS!

NO TO THE DANGEROUS AND INSANE BLNR 10/13/23 agenda item C1!!!

From: [BRENDA KRUEGER](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito Experiment
Date: Thursday, October 12, 2023 2:01:58 AM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Stop experimenting with nature and humans!!

Brenda Krueger BSN RN
Florida

From: [Shirley Lambe](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Do not allow this!
Date: Wednesday, October 11, 2023 8:10:02 PM

Stop!
Please do not proceed with this plan!
I do not support this!

Sent from my T-Mobile 5G Device
Get [Outlook for Android](#)

From: [Lucille Lecker](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda item C1 10/13/23
Date: Thursday, October 12, 2023 4:59:40 AM

Aloha BLNR

I am opposed to agenda item C1 BLNR 10/13/23.

As a resident of Eastmaui . It is troubling to hear that Kaua'i is now facing the release of this man made, lab infected mosquitoes. This project should NOT move forward without an Environmental Impact Statement. We can all agree we care for our native birds, land, environment and people. However this project has no factual evidence or proof that it will even work.

There has been many written and oral testimonies against this project in Kaua'i as well as on Eastmaui. I pray as board members that make decisions for the people and the land that you have not already voted in your heart in favor for this project. But that your heart will be open to hear the voices of the people and the documented facts to this release of mosquitoes that can bring more harm than good.

With respect to those who may vote in favor because of personal, work or conflict of interest due to a non profit organization that you support, this will be a decision that you will need to search your heart. Keeping in mind the many testimonies that are opposed to this project in Kaua'i as well as Eastmaui.

We must stand for Righteousness!

Mahalo
Lucille Lecker (Noe)
Hana, Maui 96713

Sent from Noe's iPhone

From: [Marlies Lee](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] No foreign mosquitoes
Date: Wednesday, October 11, 2023 6:45:15 PM

Aloha BLNR,

No, I don't trust that releasing foreign mosquitoes will be beneficial for any of our islands.

I don't believe that bird species can't be saved any other way like breeding and releasing them.

No, no and no to releasing these lab manipulated mosquitoes.

Not safe at all!!!

Use the money to rebuild Lahaina the Hawaiian way instead

Mahalo

Marlies Lee

Sent from my iPhone

From: [Tina Lia](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR Meeting 10/13/23 9:15am Testimony Agenda Item C1: Oppose
Date: Wednesday, October 11, 2023 7:41:54 PM
Attachments: [2023_0508_Hawaii_Unites_and_Lia_v_BLNR_and_DLNR.pdf](#)

RE: BLNR Meeting 10/13/23 9:15am Testimony Agenda Item C1: Oppose

Hawai'i Unites is a nonprofit organization dedicated to the conservation and protection of our environment and natural resources. We are opposed to the BLNR's 10/13/23 agenda item C1 "DOFAW Request approval of Final Environmental Assessment (FEA) and Authorization for the Chairperson to issue a Finding of No Significant Impact for the 'Use of *Wolbachia*-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai.'" We have an active case in environmental court seeking a ruling to require an Environmental Impact Statement (EIS) for these mosquito releases on Maui. We are in the process of a hearing for a Temporary Restraining Order and Preliminary Injunction to stop the release of bacteria-infected mosquitoes on East Maui. This Kaua'i project cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.

Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. EPA guidelines allow for the release of one female for every 250,000 males. Peer-reviewed studies have shown *Wolbachia* bacteria to increase pathogen infection in mosquitoes and to cause mosquitoes to become more capable of transmitting avian malaria and West Nile virus (bird and human). This project has the potential to cause the extinction of the native birds it is meant to protect, and it could impact the health of the people.

The Kaua'i FEA specifically states that "monitoring the response of forests bird to mosquito suppression via the Incompatible Insect Technique (IIT) mosquito control is outside the scope of the proposed action of this EA." There is no intention by *Birds, Not Mosquitoes* of taking responsibility for the outcome of this mosquito release plan on the birds that are supposed to be the entire focus of this project. This is outrageous. If monitoring the response of endangered birds to the release of bacteria-infected mosquitoes is out of the scope of the proposed action, there's clearly no intention of monitoring the response of people who may be impacted.

This planned project is a dangerous experiment on all life on these islands. These lab-infected mosquitoes come with additional risks, including horizontal transmission of the introduced bacteria strain, irreversible evolutionary events, population replacement, creation of lab-strain females in the wild, horizontal gene transfer, and biopesticide wind drift. Scientific studies document these concerns. The risk of wildland fires caused by aircraft and drones used in the project is also documented in the FEA.

Per the U.S. Department of the Interior Strategy, “*Wolbachia* IIT is a novel tool for conservation purposes and its degree of efficacy in remote forest landscapes is unknown.” This project is an experiment on Hawaii’s people, wildlife, and ‘āina. The outcome is admittedly unknown. The 59,204-acre Kaua’i project area is almost 17% of the entire island, and this would be the second largest *Wolbachia* mosquito release of any kind globally to date (Maui would be the largest at 64,666 acres). There is no prior documented use of southern house mosquitoes for *Wolbachia* stand-alone field release. This plan could be an irreversible catastrophe for the island’s fragile ecosystems.

Diseases that southern house mosquitoes transmit to humans, birds, and other animals include avian malaria, avian pox, heartworm, elephantiasis, West Nile virus, Western equine encephalitis, and St. Louis encephalitis. These mosquitoes are also a potential vector of Zika virus. *Wolbachia* is a complicated and potentially dangerous bacteria. Strains of *Wolbachia* in parasitic worms play a role in elephantiasis, heartworm, and river blindness. Assertions of no human health risks are based on unsound science discredited by the EPA. The FEA for Kaua’i continues to mislead the people about multiple issues, including the introduction of foreign bacteria to the islands. The agencies involved have also failed to assure that there is informed consent of the people of Kaua’i for the release of human disease vectors on their island home.

The FEA’s Cultural Impact Assessment interview transcripts reveal a startling admission:

“BD: So do you guys have a plan to have those males [mosquitoes] removed incase it’s not successful? Or if it has a negative impact on some other species?”

WT: I’m not too sure. That’s a good point. I can ask that question and get back to you on that.”

No mitigation plan has been presented for the unintended consequences of this project. The FEA also fails to address any of tropical disease and vector expert Dr. Lorrin Pang’s specific concerns about the risks of these mosquito releases. Dr. Pang’s background information, concerns, and alternatives are detailed in our [TRO and preliminary injunction](#) court filing (page 372-387). Pang has decades of experience working in the field of tropical disease globally. He has authored close to eighty peer-reviewed articles, over forty of which are focused on mosquito-borne illness. Where are the studies addressing the information he has brought to these agencies’ attention? Horizontal transmission, math models, wind drift of mosquitoes, superinfection, increased pathogen infection and disease-spreading capability, experimentation – these mechanisms all interact with each other and need to be studied both separately and in combination. Further, why have his alternative approaches for mitigating avian malaria not been considered?

There are no documented biosecurity protocols for these mosquitoes, and pathogen screenings are unknown. Our organization filed a FOIA request with the EPA for the Data Evaluation Record (DER) for these biopesticide mosquitoes, including a

confidential attachment. That DER document containing a full review of the manufacturing process, including testing for relevant pathogens, has been withheld from the public and was not included in the FOIA document received from the EPA. This is unacceptable. There should be complete transparency with the details of this bacteria-infected disease vector product that is planned for mass release on our islands.

Who will take responsibility if something goes wrong – the federal government, the State of Hawaii, agency partners, private landowners? The scope, risks, and experimental nature of this plan require a detailed EIS. Safer alternatives haven't been considered. Conflicts of interest haven't been addressed. The University of Hawaii and USGS disclosed in their April, 2022 Technical Report HCSU-103 that the Department of Land and Natural Resources (DLNR) has been funded to build out an insectary where they intend to mass produce lab-altered mosquitoes for release on the islands. This mosquito production at the DLNR insectary is planned to continue "into perpetuity" (forever). The FEA proposing agency's own board has final approval on a project that benefits the proposing agency:

"The state has been funded to develop a small-scale insectary that will be equipped with a containment biobubble to maintain tool efficacy and meet both federal and state permitting requirements regarding an Arthropod Safety Level 2 (ASL-2) facility."

This clear conflict of interest speaks to the real agenda of these agencies selling out the sacred lands of Hawai'i to corporate interests and biotech industry experimentation.

Details about the risks of these lab-infected mosquitoes are documented in our case in environmental court filed May 8, 2023 (attached) and in our Motion for Temporary Restraining Order and Preliminary Injunction filed June 20, 2023:

[Hawaii Unites and Tina Lia v. Board of Land and Natural Resources, State of Hawai'i, and Department of Land and Natural Resources, State of Hawai'i](#)

[Plaintiffs' Motion for Temporary Restraining Order and Preliminary Injunction](#)

We do not accept the Finding of No Significant Impact (FONSI) for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." We demand that the State of Hawaii and its multi-agency partnership *Birds, Not Mosquitoes* complete a detailed, full scope Environmental Impact Statement (EIS) documenting the impacts to the health of the people, native birds, wildlife, and the 'āina.

Aloha,
Tina Lia
Founder
Hawai'i Unites
HawaiiUnites.org

REFERENCES:

Hawaii Unites and Tina Lia v. Board of Land and Natural Resources, State of Hawai'i, and Department of Land and Natural Resources, State of Hawai'i (5/8/23)

https://hawaiiunites.org/wp-content/uploads/2023/05/2023_0508_Hawaii_Unites_and_Lia_v_BLNR_and_DLNR.pdf

Plaintiffs' Motion for Temporary Restraining Order and Preliminary Injunction (6/20/23)

https://hawaiiunites.org/wp-content/uploads/2023/06/2023_0620_Hawaii_Unites_and_Lia_v_BLNR_and_DLNR_Plaintiffs_Motion_for_TRO_Preliminary_Injunction_Filed_All_Documents.pdf

U.S. Department of the Interior Strategy for Preventing the Extinction of Hawaiian Forest Birds (12/15/22)

<https://www.fws.gov/sites/default/files/documents/DOI%20Strategy%20for%20Preventing%20the%20Extinction%20of%20Hawaiian%20Forest%20Birds%20%28508%29.pdf>

“Hawaiian Forest Bird Conservation Strategies for Minimizing the Risk of Extinction: Biological and Biocultural Considerations” – Eben H. Paxton, Megan Laut, Stanton Enomoto, Michelle Bogardus (USGS, UH Hilo, April 2022) (Appendix VI. Wolbachia IIT Implementation Outline, pages 80-85)

<https://dspace.lib.hawaii.edu/server/api/core/bitstreams/8b60e14e-0935-4b61-8339-4107fce3ce91/content>

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IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAII

HAWAII UNITES, a 501(c)(3) nonprofit
corporation; Tina Lia, an individual,

Plaintiffs,

v.

BOARD OF LAND AND NATURAL
RESOURCES, STATE OF HAWAII, and
DEPARTMENT OF LAND AND
NATURAL RESOURCES, STATE OF
HAWAII,

Defendants.

Civil No.
(Environmental Court)

**COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF;
EXHIBITS "A" - "C"**

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

Plaintiffs Hawaii Unites, a 501(c)(3) corporation (“Hawaii Unites”), and Tina Lia, an individual (“Lia”) (collectively, “Plaintiffs”), by and through their attorneys, Margaret Wille & Associates LLC, complain and allege against Defendant Board of Land and Natural Resources, State of Hawai‘i (“Board” or “BLNR”) and Defendant Department of Land and Natural Resources, State of Hawai‘i (“DLNR”) (collectively, “Defendants”) as follows:

INTRODUCTION

1. This action seeks review and relief against Defendants’ violations of the Hawai‘i Environmental Policy Act (“HEPA”), Hawai‘i Revised Statutes (“HRS”) chapter 343, in failing to require an environmental impact statement (“EIS”) for the “Suppression of Invasive Mosquito Populations to Reduce Transmission of Avian Malaria to Threatened and Endangered Forest Birds on East Maui,” a multi-agency partnership project to release biopesticide mosquitoes on 64,666 acres of East Maui. The proposed action in this case is the release of up to 775,992,000 biopesticide lab-reared *Wolbachia*-bacteria-infected mosquitoes per week in the fragile ecosystems of East Maui’s Haleakalā National Park, Ko‘olau Forest Reserve, Hāna Forest Reserve, Hanawī Natural Area Reserve, Kīpahulu Forest Reserve, Makawao Forest Reserve, and Waikamoi Preserve (The Nature Conservancy); as well as in the privately managed lands of East Maui Irrigation Company, LLC; Mahi Pono; and Haleakalā Ranch over a period of “likely at least 20 years.” At the highest frequency, this could result in over 807 billion mosquitoes released in one of the most unique and fragile ecosystems in the world. *See* attached **Exhibit A** (map of project area for release of incompatible mosquitoes).

2. The stated purpose of the mosquito biopesticide project (“experiment”) is to save endangered native birds from avian malaria using the Incompatible Insect Technique (“IIT”) for

mosquito population control. The Final Environmental Assessment (“FEA”) states that the experiment will have no significant impact on the environment. However, documentation and studies from several sources (including government agencies) confirm that the experiment may not even work for its intended purpose and has the potential for significant environmental impacts. Further, the IIT method has never been implemented in the state of Hawai‘i, and the specific experimental technique planned for use in East Maui has never been tried before anywhere in the world. Contrary to the assertions in the FEA, the plan could actually pose serious risks to native birds, wildlife, the ‘āina, and public health.

3. Rather than follow the prescribed process and faithfully comply with HEPA’s mandate that an EIS must be prepared for any proposed action that “may” have a significant impact on the environment, the BLNR disregarded public testimony about the risks of the project, failed to adequately address conflicts of interest brought to their attention by Plaintiffs, improperly denied Plaintiffs a contested case hearing, and rushed approval of the FEA and finding of no significant impact (“FONSI”) for the proposed project, notwithstanding that the final EA dismissed public comments and concerns and disregarded and distorted its disclosure and analysis of impacts in an attempt to justify a FONSI.

4. Defendants’ failure to require an EIS for this proposed experiment violates the letter and purpose of HEPA and its implementing regulations. Moreover, the BLNR’s approval of the final EA and FONSI immediately following the Board’s improper addition to the March 24, 2023 agenda of Plaintiff Lia’s verbal request for a contested case hearing on behalf of Plaintiff Hawaii Unites and the Board’s subsequent vote to deny Plaintiffs’ request without having received or reviewed Plaintiffs’ petition for a contested case hearing, violates the letter and purpose of HEPA, as well as fundamental requirements of administrative procedure and due

process. Defendants' violations in this case nullify HEPA's fundamental purpose: to "ensure that environmental concerns are given appropriate consideration in decision making" so that "environmental consciousness is enhanced, cooperation and coordination are encouraged, and public participation during the review process benefits all parties involved and society as a whole." HRS § 343-1. Appropriate consideration and public participation have both been lacking or denied in the instant case, where the proposal involves a massive experiment with no meaningful mitigation plan in place if things don't go according to plan. It is therefore essential to have a high level of trust and confidence that the planned action has been thoroughly assessed and evaluated.

JURISDICTION AND VENUE

5. This Court has jurisdiction over this matter pursuant to HRS §§ 343-7 "Limitation of actions", 603-21.5 "General", 603-21.9 "Powers", 604A-2 "Jurisdiction", HRS chapter 632 "Declaratory Judgments", and article XI, § 9 of the Hawai'i Constitution.

6. Venue properly lies in this judicial circuit pursuant to HRS § 603-36 "Actions and proceedings, where to be brought" (5) because the claims for relief arose in this circuit and because it is the location where the Defendants are domiciled.

PARTIES

Plaintiffs

7. Plaintiff Hawaii Unites is a 501(c)(3) nonprofit organization dedicated to the conservation and protection of Hawaii's environment and natural resources. The mission of Hawaii Unites is honoring and protecting our sacred connection to the natural world. The organization has conducted extensive research into the science, data, and documentation of the biopesticide mosquito project. Hawaii Unites has raised public awareness about the project

through investigative journalism, direct outreach, public speaking, and media. The organization has become a trusted source for information about the biopesticide mosquito project and is the foremost voice of advocacy for protecting the ‘āina from potential significant impacts and for requiring an environmental impact statement.

8. The recreational, educational, aesthetic, spiritual and subsistence interests of Hawaii Unites’ officers and supporters are harmed by Defendants’ failure to ensure full and proper disclosure of the proposed project’s harmful environmental and cultural impacts and available mitigation and alternatives, because the proposed project would be allowed to move forward without candid and transparent consideration and analysis of these issues.

9. Hawaii Unites’ officers and supporters live, work, and recreate in and around East Maui. Hawaii Unites’ officers and supporters are concerned about how the proposed biopesticide mosquito project will affect their local environment and public health. A healthy environment is necessary for Hawaii Unites’ officers and supporters to live, work, and fully participate in recreational activities without harm or fear of harm to their health or the health of their children. Hawaii Unites advocates for Hawaii’s environmental laws to be faithfully followed and for local community concerns to be meaningfully included in lasting decisions directly affecting Maui’s community.

10. Hawaii Unites advocates for the rights of Native Hawaiians to practice their customary and traditional cultural practices, as they have done for generations, and to use the East Maui project area for subsistence to feed and support their families. A healthy East Maui environment is essential for Native Hawaiians to engage in subsistence activities, and to pass on cultural traditions to future generations. Clean ecosystems are critical for Native Hawaiian cultural practices. The cultural interests of Native Hawaiians are harmed by Defendants’ failure

to ensure full and proper disclosure of the proposed project's harmful environmental and cultural impacts and available mitigation and alternatives, because the proposed project would be allowed to move forward without candid and transparent consideration and analysis of these issues.

11. The rights of Hawaii Unites' officers and supporters relevant to the natural areas of the project area are protected by the Hawai'i State Constitution and state law. Hawaii Unites' officers and supporters have rights to a clean and healthful environment under article XI, section 9 of the Constitution, which mandates enforcement of these rights through appropriate legal proceedings whenever any party, public or private, makes binding decisions under "laws relating to environmental quality, including control of pollution and conservation, protection and enhancement of natural resources."

12. In 2023, Hawaii Unites launched a petition through Change.org to "Demand an Environmental Impact Statement for the Experimental Mosquito Release on Maui" which, as of March 24, 2023, had received more than 2,500 signatures. Hawaii Unites' officers and all petition signatories residing in Hawai'i, including those in East Maui, are directly affected by the actions of Defendant DLNR in proposing and determining the project of landscape-scale biopesticide mosquito releases in the project area covering 64,666 acres of East Maui, and by the actions of Defendant BLNR in approving the EA and issuing a FONSI for the project.

13. Hawaii Unites submitted written and oral testimony to the BLNR for the agenda item of the proposed biopesticide mosquito release project at both the March 10, 2023, and the March 24, 2023, BLNR meetings. This testimony documented numerous risks to Maui's environment, native birds, wildlife, and public health. Peer-reviewed studies and expert opinions were referenced, along with the multi-agency partnership's own documents. Hawaii Unites'

testimony for the March 24, 2023, BLNR meeting documented additional procedural errors, specific conflicts of interest, potential lack of permitting, failure to receive United States Environmental Protection Agency (“EPA”) approval for use of the mosquitoes, and EPA discreditation of the EA’s cited article on human health risks.

14. Plaintiff Tina Lia is the founder of Hawaii Unites and current Board President. She resides on Maui, the island where the proposed biopesticide mosquito experiment area is located, and has submitted testimony since June, 2022, to the State of Hawai‘i Department of Agriculture Board of Agriculture and the BLNR, along with providing comments on the State of Hawai‘i Department of Agriculture’s EPA Request for Exemption of Federal and State Agencies for Use of a Pesticide Under Emergency Conditions Section 18 of FIFRA Specific Exemption (“EPA Application for Emergency Exemption”), and on the draft environmental assessment (“DEA”) for the project. These testimonies and comments documented serious risks of the project and the potential for significant environmental impact. Plaintiff Lia has also attended public meetings held by project agency partners since January 2023 and has voiced questions and concerns regarding the details and the risks of the project at those meetings.

15. Plaintiff Lia, on behalf of Hawaii Unites, verbally requested a contested case hearing for agenda item C-2 “Request Approval of Final Environmental Assessment and Authorization for the Chairperson to Issue a Finding of No Significant Impact for the ‘Suppression of Invasive Mosquito populations to Reduce Transmission of Avian Malaria to Threatened and Endangered Forest Birds on East Maui’” at the BLNR March 24, 2023, meeting. The BLNR then improperly added Hawaii Unites’ request for a contested case hearing to the agenda at the March 24, 2023, meeting. Without having received or reviewed Hawaii Unites’ petition for a contested case hearing which was to be submitted to the BLNR within ten days of

the verbal request, the BLNR then voted unanimously at the March 24, 2023, meeting to deny Hawaii Unites' request for a contested case hearing, thereby denying Hawaii Unites the right to due process. The BLNR stated that there was "no basis" and that the remedy was to "sue under Chapter 343." The BLNR subsequently voted unanimously to approve the final EA and issue a FONSI for the biopesticide mosquito project at the March 24, 2023, meeting. On March 27, 2023, Hawaii Unites filed a Sunshine Law Appeal with the State of Hawai'i Office of Information Practices (OIP) requesting an investigation by the OIP into the BLNR for their violation of HRS §92-7 at their meeting on March 24, 2023.

16. On March 13, 2023, Plaintiff Lia filed a complaint on behalf of Hawaii Unites with the State of Hawai'i Office of the Ombudsman, requesting an investigation into the BLNR for interference with the public's ability to testify at the BLNR meeting on March 10, 2023. Per Tina Lia's complaint, the BLNR Secretary emailed incorrect and inoperative information for providing video testimony at the meeting. The BLNR then rearranged the agenda items at the March 10, 2023, meeting in random order with no explanation to the public waiting to testify. Testifiers for the biopesticide mosquito project agenda item were made to sit through the entire eight-hour meeting, reduce their testimony from three minutes to two minutes each, and listen to the BLNR members joking and laughing about the postponement of the biopesticide mosquito project agenda item.

17. Hawaii Unites has repeatedly presented documented, compelling evidence of the risks and impacts of the biopesticide mosquito project to the BLNR. Rather than acknowledge and address the organization's concerns, the BLNR has acted in a consistently dismissive and disruptive manner towards this testimony. The rights of Hawaii Unites, of the organization's

supporters, and of the public, to open governmental processes have been infringed upon by the BLNR in their effort to silence discussion about the risks and impacts of the project.

18. BLNR's acceptance of DLNR's final EA and FONSI unlawfully allows DLNR and its multi-agency partnership *Birds, Not Mosquitoes* ("BNM") to avoid preparing an EIS fully analyzing and disclosing the proposed project's environmental and cultural impacts as well as available mitigation and alternatives, as HEPA requires. The failure to require an EIS impairs the individual and organizational interests of Hawaii Unites' officers and supporters in using, enjoying, and protecting the ecological and cultural resources in the East Maui project area.

19. Defendants' failure to fully and properly assess the environmental impacts of the proposed biopesticide mosquito project in an EIS as HEPA requires deprives Hawaii Unites, its officers, its supporters, the broader East Maui community and general public, and approving agencies of the information and analysis that would be generated and provided through a valid HEPA process, and threatens the further actions of the proposed project without the information disclosure, community input and engagement, and analysis of environmental and cultural impacts and mitigation measures and alternatives that HEPA mandates.

Defendants

20. Defendant DLNR is responsible for managing, administering, and exercising control over the State's public lands, the water resources, ocean waters, navigable streams, coastal areas (excluding commercial harbor areas), and minerals and all other interests therein. HRS §§ 171-3.

21. Defendant BLNR is the executive board that heads DLNR. *Id.* §§ 26-15(a), 171-3(a). BLNR is charged with exercising and performing "every power and duty conferred by law

and required to be performed” by DLNR. *Id.* § 26-38; *see also id.* § 171-6 (“[T]he board of land and natural resources shall have the powers and functions granted to the heads of departments.”).

22. BLNR’s powers and duties broadly include the authority to “adopt rules”; “appoint hearing officers to conduct public hearings”; bring enforcement actions; and establish “restrictions, requirements, or conditions . . . relating to the use of particular land being disposed of, the terms of sale, lease, license, or permit, and the qualifications of any person to draw, bid, or negotiate for public land.” *Id.* § 171-6. Under HRS chapter 171, “land” is defined to include “all interests therein and natural resources including water.” *Id.* § 171-1.

23. Since 1964, the BLNR has adopted and administered land use regulations for the Conservation District pursuant to the State Land Use Law (Act 187) of 1961. Act 187 defined Conservation as meaning the protection of watersheds and water supplies; preserving scenic areas; providing park lands, wilderness and beach reserves; conserving endemic plants, fish, and wildlife; preventing floods and soil erosion; forestry; and other related activities. The Conservation District has five subzones: Protective, Limited, Resource, General and Special. The first four subzones are arranged in a hierarchy of environmental sensitivity, ranging from the most environmentally sensitive (Protective) to least sensitive (General). The Special subzones defines a unique land use on a specific site. The use of Conservation District lands is regulated by Title 13 Chapter 5 of the Hawai‘i Administrative Rules (“HAR”) and Chapter 183C of the Hawai‘i Revised Statutes. These rules and regulations identify land uses that may be allowed by discretionary permit as well as impose fines for violations. *See* HAR § 13-5; HRS § 183C.

24. The Chairperson of the DLNR has the authority to declare exempt from the preparation of an environmental assessment those department actions that are included in the DLNR exemption list when the BLNR has delegated authority to conduct those actions. In June

2022, DLNR filed an exemption notice regarding the preparation of an environmental assessment under the authority of Chapter 343, Hawai‘i Revised Statutes (HRS) and Section 11-200.1-17, HAR, to conduct limited import of male mosquitoes for preliminary transport trials and mark release recapture studies. *See* HRS § 343; HAR § 11-200.1-17.

25. BLNR is the “agency that issues an approval prior to implementation of an applicant action” for the use of state lands for the project including a Conservation District Use Permit and management plan. According to the final EA, the HRS §343-5(a) “trigger(s)” for the project include:

- (1) Propose the use of state or county lands or the use of state or county funds
- (2) Propose any use within any land classified as a conservation district

BLNR is thus the acknowledged and undisputed lead “approving agency” for this proposed biopesticide mosquito project under HEPA. Haw. Admin. R (“HAR”) § 11-200.1-2. As the “approving agency,” BLNR is responsible for determining “whether the anticipated effects constitute a significant effect” and “the need for an EIS.”¹

26. Under article XI, sections 1 and 7 of the Hawai‘i Constitution, Defendants have public trust duties to conserve and protect the state’s natural resources for present and future generations. *See Kaua‘i Springs, Inc. v. Planning Comm’n*, 133 Hawai‘i 141, 172, 324 P.3d 951, 982 (2014).

27. Under article XII, section 7 of the Hawai‘i Constitution, Defendants are “obligated to protect customary and traditional rights to the extent feasible.” *Public Access*

¹ Office of Environmental Quality Control, State of Hawai‘i, *Guide to the Implementation and Practice of the Hawaii Environmental Policy Act* 14, 16 (2004), available at https://files.hawaii.gov/dbedt/erp/OEQC_Guidance/2012-GUIDE-to-the-Implementation-and-Practice-of-the-HEPA.pdf (– last visited on May 7, 2023); *see also* HRS § 343-5(e)

Shoreline Haw. v. Haw. Planning Comm'n, 79 Hawai'i 425, 437, 903 P.2d 1246, 1258 (1995); see also *Ka Pa'akai o ka 'Āina v. Land Use Comm'n*, 94 Hawai'i 31, 35, 7 P.3d 1068, 1072 (2000).

LEGAL FRAMEWORK

28. HRS chapter 343, entitled “Environmental Impact Statements” and also known as the Hawai'i Environmental Policy Act or HEPA, is the cornerstone of Hawai'i's statutory environmental protections. The express purpose of HEPA is to “establish a system of environmental review which will ensure that environmental concerns are given appropriate consideration in decision making.” *Id.* § 343-1.

29. Process is the bedrock principle underlying HEPA. The legislature found that the environmental review process “will integrate the review of environmental concerns with existing planning processes of the State and counties and alert decision makers to significant environmental effects which may result from the implementation of certain actions.” *Id.* “[T]he process of reviewing environmental effects is desirable because environmental consciousness is enhanced, cooperation and coordination are encouraged, and public participation during the review process benefits all parties involved and society as a whole.” *Id.*

30. Timing is critical to the HEPA process. Environmental review shall occur “at the earliest practicable time,” before a proposed action may proceed to “assure an early, open forum for discussion of adverse effects and available alternatives, and that the decision-makers will be enlightened to any environmental consequences of the proposed action prior to decision-making.” HAR § 11-200.1-1(b). Environmental review documents “must be prepared early enough so that it can serve practically as an important contribution to the decision making process and will not be used to rationalize or justify decisions already made.” *Citizens for*

Protection of N. Kohala Coastline v. Cnty. of Hawai‘i, 91 Hawai‘i 94, 105, 979 P.2d 1120, 1131 (1999) (internal citation omitted).

31. HEPA applies to nine categories of actions, including those that propose the “use of state . . . lands,” or “any use within any land classified as a conservation district . . . under [HRS] chapter 205.” HRS § 343-5(a)(1), (2). Whenever any person (termed an “applicant”) proposes a covered action that requires agency approval, the approving agency “shall assess the significance of the potential impacts of the action to determine the level of environmental review necessary for the action.” HRS § 343-2; HAR § 11-200.1-14(b).

32. HEPA requires the preparation of an EIS for any action that “*may* have a significant effect on the environment.” HRS § 343-5(c) (emphasis added). The Hawai‘i Supreme Court has made clear that under the “may have a significant effect” standard, “plaintiffs need not show that significant effects will in fact occur but instead need only raise **substantial questions whether a project may have a significant effect.**” *Unite Here! Local 5 v. City & Cnty. of Honolulu*, 123 Hawai‘i 150, 178, 231 P.3d 423, 451 (2010) (internal citations omitted)(emphasis in original).

33. A “significant effect” is defined as “the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State’s environmental policies or long-term environmental goals as established by law, or adversely affect the economic welfare, social welfare, or cultural practices of the community and State.” HRS § 343-2; *see also* HAR § 11-200.1-2.

34. In determining whether an action may have a significant impact on the environment, “the agency shall consider every phase of a proposed action, the expected impacts,

and the proposed mitigation measures.” HAR § 11-200.1-13(b). The agency must consider certain “significance criteria” outlined in HAR § 11-200.1-13. “[A]n action *shall be determined to have a significant effect on the environment if it may,*” among other factors:

- (1) Irrevocably commit a natural, cultural, or historic resource;
- (2) Curtail the range of beneficial uses of the environment;
- (3) Conflict with the State’s environmental policies or long-term environmental goals established by law;
- (4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;
- (5) Have a substantial adverse effect on public health;
- (6) Involve adverse secondary impacts, such as population changes or effects on public facilities;
- (7) Involve a substantial degradation of environmental quality;
- (8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;
- (9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;
- (10) Have a substantial adverse effect on air or water quality or ambient noise levels;
- (11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or

...

HAR § 11-200.1-13(b).

The criteria are expressly listed in the disjunctive. Thus, the existence of a single factor is sufficient to require preparation of an EIS. *See id.*

35. An EIS is “an informational document . . . which discloses the environmental effects of a proposed action, effects of a proposed action on the economic welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.” HRS § 343-2. Content requirements inform the substance of an EIS and are set forth in HAR §§ 11-200.1-24, -27.

36. An EIS generally must “fully declare the environmental implications of the proposed action and shall discuss all reasonably foreseeable consequences of the action,” as well as “responsible opposing views, if any, on significant environmental issues raised by the proposal.” *Id.* § 11-200.1-24(a). An EIS must discuss “significant . . . adverse impacts,” including cumulative impacts and secondary impacts, as well as proposed mitigation measures and alternatives considered. *Id.* §§ 11-200.1-24(d)(2), (3), (4). “Impacts” may include “ecological effects (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic effects, historic effects, cultural effects, economic effects, social effects, or health effects, whether primary, secondary, or cumulative.” *Id.* § 11-200.1-2.

37. An EIS must also contain a “discussion of the alternative of no action as well as reasonable alternatives that could attain the objectives of the action,” including “a rigorous exploration and objective evaluation of the environmental impacts of all such alternative actions,” with particular attention to “alternatives that might enhance environmental quality or avoid, reduce, or minimize some or all of the adverse environmental effects, costs, and risks of the action.” *Id.* § 11-200.1-24(h).

38. An EIS shall also include analysis of the probable impact of the proposed action on the environment, including “consideration of all consequences on the environment, **including direct and indirect effects**” and “[t]he interrelationships and cumulative environmental impacts of the proposed action and other related actions.” *Id.* § 11-200.1-24(l) (**emphasis added**). The EIS shall address “all probable adverse environmental effects that cannot be avoided,” including any adverse effects such as threats to public health or “other consequences adverse to environmental goals or guidelines” and shall clearly set forth “the rationale for proceeding with a proposed action, notwithstanding unavoidable effects.” *Id.* § 11-200.1-24(o).

39. Acceptance of a required final EIS is “a condition precedent to approval of the request and commencement of the proposed action.” HRS § 343-5(e).

40. If an applicant or approving agency anticipates that a proposed action will not have a significant effect on the environment, a draft EA may be prepared and submitted for public review and comment. *See* HAR §§ 11-200.1-2 (defining draft environmental assessment); -14(d), -19. Such an EA must be prepared “at the earliest practicable time to determine whether an environmental impact statement shall be required.” HRS §§ 343-2, -5(e).

41. Alternatively, if the agency determines that an EIS is likely to be required, “the agency may authorize the applicant to choose not to prepare an environmental assessment and instead prepare an environmental impact statement.” *Id.* § 343-5(e).

42. The content requirements of an EA are far less comprehensive than that of an EIS. *Compare* HAR §§ 11-200.1-18, -21, *with id.* §§ 11-200.1-24, -27. HEPA defines an EA as “a written evaluation to determine whether an action may have a significant effect.” HRS § 343-2. Content requirements that inform the substance of an EA are set forth in HAR §§ 11-200.1-18, -21.

43. An EA generally must contain a “general description of the action’s technical, economic, social, cultural, historical, and environmental characteristics,” as well as a “summary description of the affected environment,” “identification and analysis of impacts and alternatives considered,” and “proposed mitigation measures.” *Id.* §§ 11-200.1-18(d), -21.

44. With regard to the preparation of EAs and EISs, HEPA’s implementing rules prioritize “substance of the information conveyed” rather than the particular form or length of the document. HAR § 11-200.1-1(c)(1). “EAs, and EISs are meaningless without the conscientious application of the environmental review process as a whole, and shall not be merely a self-serving recitation of benefits and a rationalization of the proposed action.” *Id.* § 11-200.1-1(c).

45. Whenever an applicant proposes an action, “the authority for requiring an EA or EIS, making a determination regarding any required EA, and accepting any required EIS shall rest with the approving agency that initially received and agreed to process the request for an approval.” *Id.* § 11-200.1-7(c); *see also* HRS § 343-5.

46. After preparing, or causing to be prepared, a final EA, reviewing any public and agency comments, and applying the significance criteria in HAR § 11-200.1-13, the approving

agency shall issue either a notice of a FONSI or an EIS preparation notice (“EISPN”). HAR § 11-200.1-22(a).

47. If the approving agency determines that a proposed action is not likely to have a significant effect, it shall issue a notice of a FONSI. *Id.* § 11-200.1-22(b). A “finding of no significant impact” is defined as “a determination based on an environmental assessment that the subject action will not have a significant effect and, therefore, will not require the preparation of an environmental impact statement.” HRS § 343-2. If, however, the approving agency determines that a proposed action “*may* have a significant effect, it *shall* issue an EISPN.” HAR § 11-200.1-22(c) (**emphasis added**); HRS § 343-5(e)(3). An EISPN is “a determination that an action may have a significant effect on the environment and, therefore, will require the preparation of an EIS.” HAR § 11-200.1-2.

48. The agency shall file notice of the agency’s determination with the office of planning and sustainable development, which, in turn, publishes the agency’s determination for the public’s information. HRS § 343-5(e). The notice “shall indicate,” among other information, the “[r]easons supporting the determination.” HAR § 11-200.1-22(e).

49. HEPA provides for judicial challenge of a determination that an EIS is not required for a proposed action within 30 days after the public has been informed of the determination. HRS § 343-7(b).

RELEVANT BACKGROUND FACTS

Natural and Cultural Significance of East Maui

50. The National Park Service (“NPS”) and DLNR identified the project area through a collaborative process, during which all public lands within much of the current and historic ranges of threatened and endangered forest birds on East Maui were evaluated for inclusion. The

project area includes areas downslope from many birds' current ranges that may serve as high-density mosquito breeding grounds from which mosquitoes may move upward in elevation into native forest bird habitat.

51. The upper elevation limit of the project area was defined by the boundary of the park along the north slope and Palikū Ridge between Pōhaku Pālaha and Kuiki, separating native forest from Haleakalā Crater. The lower limit of the project area, 1,969 feet above sea level, is the low elevation range of vulnerable native forest birds, such as the 'apapane and 'i'iwi, except within the boundaries of the park in the lower Kīpahulu Valley and Ka'apahu where the project area extends to sea level. *Judge et al.* (2019).

52. The project area includes approximately 64,666 acres, including NPS land (12,042 acres), DLNR lands in forest reserves and natural area reserves (37,989 acres), adjacent lands privately managed in a conservation easement by The Nature Conservancy (8,606 acres), East Maui Irrigation Company, LLC (4,409 acres), Haleakala Ranch (393 acres), and Mahi Pono (1,227 acres) lands managed for conservation. *See attached Exhibit B* (table of project area acreage and management).

53. NPS Management Policies 2006 and Director's Order 47 require the agency to manage, preserve, and restore park acoustical environments and soundscapes. These policies require the NPS to protect and restore the natural soundscapes of parks, including those that have been affected by unnatural and unacceptable noise. In addition to these policies, the park's Foundation Document ("NPS 2015b") identifies natural sounds as one of the fundamental resources and values of the park. As discussed in the Foundation Document, natural soundscapes are vital components of a healthy, intact, biological community, that play an important role in wildlife communication and behavior and are critical to effective wilderness

management. In addition, natural soundscapes are highly desired by park visitors. As a fundamental resource and value, natural soundscapes are “warranted primary consideration during planning and management processes” (NPS 2015b). The natural acoustic environment of the park is a key fundamental resource and value, and is important for wildlife, visitors, and Native Hawaiian ceremonies. Because of this importance, the park has invested in over three decades of extensive acoustic monitoring, scientifically documenting the acoustic environment and where human-caused noise may impact key resources. Overall, the findings of these studies revealed that across the park, the acoustic environment is generally in good condition, while aircraft are documented as the most prevalent noise source affecting the soundscape. *NPS Management Policies* (2006); *NPS Director’s Order 47*; *NPS Foundation Document 2015b*; *Wood* (2015); *Lee et al.* (2016).

54. The Wilderness Act of 1964 established the National Wilderness Preservation System, which is currently comprised of over 800 congressionally designated wilderness areas and over 111 million acres. Congress passed the Act in order to preserve and protect certain lands “in their natural condition” and “to secure for the present and future generations the benefits of wilderness.” The Wilderness Act and NPS policy mandate preservation of wilderness character, which includes five tangible qualities: untrammeled, natural, undeveloped, outstanding opportunities for solitude or primitive and unconfined recreation, and other features of value. The Haleakalā Wilderness is designated by federal statute, and there is no wilderness on state or private lands. *The Wilderness Act of 1964*.

55. An untrammeled wilderness is one that is unhindered and free from the intentional actions of modern human control or manipulation. A natural wilderness is one where ecological systems are substantially free from the effects of modern civilization. An undeveloped

wilderness retains its primeval character and influence and is essentially without permanent improvements or modern human occupation. Wilderness provides outstanding opportunities for recreation in an environment that is relatively free from the hindrance of modern society. The ability to experience solitude is an integral component of wilderness, while opportunities for primitive and unconfined recreation make the wilderness experience unique.

56. The Wilderness Act states that wilderness “may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.” Haleakalā, a major geographical and cultural landmark of East Maui, remains intrinsically tied to contemporary Native Hawaiian culture by tangible and intangible cultural resources and values, place names, landscape features, and oral traditions and history. Additionally, the summit of Haleakalā, Kīpahulu Valley, and Kaupō Gap are eligible for the National Register of Historic Places as Traditional Cultural Properties for their association with the cultural landscape of Maui, primarily due to the known uses, oral history, mele (Hawaiian songs and chants), and legends associated with these areas. *The Wilderness Act of 1964*.

57. The fundamental purpose of Haleakalā National Park is to offer opportunities for public education and enjoyment. Residents and visitors come to the park to participate in a range of recreational activities, including viewing sunrise and sunset, hiking, swimming, bicycling, attending ranger programs, scenic flights or driving, stargazing and astronomy, birdwatching, and camping.

58. The DLNR Forest Reserve System was initially created to protect and restore watersheds in Hawai‘i. Today, the DLNR’s Division of Forestry and Wildlife (“DOFAW”) manages the forest reserves for conservation and public benefits in addition to the original watershed protections. Multiple management objectives include native ecosystem protection,

endangered species recovery, forest restoration, public recreation, forest products, opportunities for cultural practices, and archaeological preservation. The project area includes Ko‘olau Forest Reserve, Hāna Forest Reserve, Kīpahulu Forest Reserve, and Makawao Forest Reserve.

59. Hanawī Natural Area Reserve is located on the wet slopes on the north flank of Haleakalā. It contains a rare subalpine grassland as well as montane and lowland semi-wet and wet grasslands and forests. Rare plants and endangered birds are also protected by this reserve. The Natural Area Reserves System (“NARS”) was created to preserve and protect representative samples of Hawaiian biological ecosystems and geological formations. The Natural Area Reserves (“NARs”) are managed by the DLNR DOFAW Native Ecosystem and Protection Program. Areas that are designated as NARs are protected by rules and management activities designed to maintain and restore native ecosystems intact, so a sample of that natural community would be preserved. NARs are some of Hawai‘i’s most valued, pristine, and biologically diverse forests, coastal areas, and marine ecosystems. *DLNR (1997)*.

60. Public access to The Nature Conservancy’s Waikamoi Preserve is limited to guided hikes, educational and service trips, and scientific research. The Nature Conservancy (“TNC”) typically leads public hikes into Waikamoi Preserve one to two times per month throughout the year with a maximum of 15 participants. In addition, approximately one volunteer work trip is conducted once a month, and TNC typically provides trips into the preserve twice a month, once for local groups, and once a month for donors or other special guests.

61. Twenty-seven plant species listed as endangered under the federal Endangered Species Act (“ESA”) and HRS Chapter 195D occur within the project area. Fourteen of these species are found on park land within the project area, 11 on state land, and 11 are found on

TNC-managed lands. One of these 27 listed plant species, hāhā (*Cyanea kunthia*), is known to occur on lands managed by all three entities (i.e., park, state, and TNC) within the project area. The majority of the listed plant species occurring in the project area are found in lowland or montane, wet to mesic forests. The project area includes designated critical habitat for 37 federally listed plant species on park, state, and TNC-managed lands. Nineteen of the listed plant species with designated critical habitat that overlap the project area also have known occurrences within the project area. *Endangered Species Act*; HRS § 195D; U.S. Fish and Wildlife Service 2022b.

62. The ecosystems of East Maui and the project area include numerous intermittent and perennial streams, bogs, small montane lakes, and rainforest that provide habitat for native birds, bats, invertebrates, and aquatic organisms. The upper elevation habitats from approximately 3,900 feet to 6,400 feet are characterized as very wet, high-quality native-dominated rainforest. Nine species of federally listed threatened and endangered wildlife (one insect, eight bird species, and one mammal) are known to occur within the project area. Threatened and endangered wildlife species in the project area include the native damselfly, Hawaiian honeycreepers (kiwikiu, ‘ākohekohe, ‘i‘iwi), nēnē (Hawaiian goose), seabirds (albatross, petrel, shearwater, and storm-petrel), and ‘ōpe‘ape‘a (Hawaiian hoary bat). *Price et al.* (2007).

63. The East Maui project area is legendary in Hawaiian tradition and central to the community’s cultural identity. Healthy ecosystems are vital to the perpetuation of Native Hawaiian cultural and spiritual practices and values, such as ritual blessings and the preservation of culturally significant landmarks and sacred sites.

64. Hawaiians, like most indigenous and local communities, ascribe great cultural value to the natural resources in the environment around them. There are numerous plant resources used for cultural practices throughout the project area. There are also the native birds, which are highly valued and prized by practitioners. Their importance to mo‘olelo and mele (Hawaiian songs and chants) makes their preservation important to continuing cultural practices. Game in the project area is regularly gathered by hunters for subsistence purposes. Hunting is a cultural practice, including the hunting of non-native ungulates. This game is hunted by local practitioners and used to feed their families and communities.

65. There are several mo‘olelo (traditional accounts, stories, histories) that discuss the uplands and forested regions of the East Maui (Maui Hikina) project area.

DLNR’s Proposed Biopesticide Mosquito Project

66. DLNR, the proposing/determining agency for the biopesticide mosquito project, and its multi-agency partnership *Birds, Not Mosquitoes* plan to release up to 775,992,000 biopesticide lab-reared *Wolbachia*-bacteria-infected mosquitoes per week on Maui. The life of the plan, as stated in the final EA, is “likely at least 20 years.” This mosquito project is presented as an effort to save endangered native birds from avian malaria.

67. BNM is a collaboration of state, federal, and private non-profit partners evaluating the potential for control of mosquitoes on a landscape-scale in Hawai‘i. BNM includes representatives from DLNR, Hawai‘i Department of Health, U.S. Fish and Wildlife Service, University of Hawai‘i, U.S. Geological Survey, National Park Service, American Bird Conservancy, The Nature Conservancy of Hawai‘i, Coordinating Group on Alien Pest Species, and Island Conservation. The purpose of BNM is to coordinate and advance efforts to develop,

permit, test, and register for conservation for use as a biopesticide a strain of *Culex quinquefasciatus* (“southern house mosquito” or “*Culex q.*”) carrying *Wolbachia* bacteria.

68. The stated purpose of the biopesticide mosquito project is to substantially suppress or eliminate southern house mosquitoes and, thus, avian malaria in threatened and endangered forest bird populations on East Maui, thereby reducing extinction risks and contributing to the recovery of these species. The action consists of repeatedly releasing incompatible male mosquitoes using IIT with the intent of reducing the reproductive potential of wild mosquitoes. This method of IIT is known as population suppression.

69. The primary biopesticide mosquito release method would be by drones, with additional releases by helicopter and ground methods. Mosquitoes would be released throughout the 64,666-acre East Maui project area at up to 134 drone flights per week, causing viewscape impacts and noise disturbances to forest bird breeding and nesting. The project would have significant environmental consequences, including impacts to the untrammeled, natural qualities of the wilderness character and impacts to the outstanding opportunities for solitude or primitive and unconfined recreation. See attached **Exhibit C** (table of estimated number of drone flight hours and round-trip flight per treatment (releasing mosquitoes at each location) and per week (assuming 2 treatments per week) per land manager).

70. According to the FEA, treatments of up to 6,000 mosquitoes per acre would occur up to twice per week, amounting to potentially over 40 billion invasive biopesticide mosquitoes released per year on the island of Maui for likely at least 20 years. These mosquitoes would be released in biodegradable packages that would litter the canopy and forest floor for as long as they remain in the environment. Per the final EA, “many thousands of release packets would be dropped across the project area throughout the duration of the project.”

71. The State of Hawai'i Department of Agriculture (“HDOA”) regulates the importation of animals and microorganisms, and the use of pesticides in the state. The EPA oversees registration of new pesticides.

72. Microorganisms that control pests (microbial pesticides) are called biopesticides. Biopesticides are regulated by the EPA. *Wolbachia* bacteria is a microorganism. The mosquito species planned for *Wolbachia* bacteria microorganism infection, *Culex quinquefasciatus*, has never been used for stand-alone IIT field release. Before the EPA approves a biopesticide, an applicant must submit information about the mode of action along with scientific data on its efficacy and safety, including potential environmental impacts. These data are typically obtained through an Experimental Use Permit (“EUP”). The EPA has not issued an EUP for the biopesticide mosquitoes for this project. 7 U.S.C. §136 et seq. (1996).

73. After an EUP has been approved by the EPA, importing the biopesticide mosquitoes infected with the *Wolbachia* bacteria into the state requires a permit from the HDOA. The permit application requires the applicant to describe the reason for the introduction, persons responsible, locations where the microorganism will be kept, methods for disposal, and potential environmental impacts. HRS §150A-6.3.

74. An Emergency Exemption is a provision in the Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) under which the EPA can grant temporary exemption to a state or another federal agency to allow the use of a pesticide product not registered for that particular use. In October 2022, the HDOA submitted an EPA Request for Exemption of Federal and State Agencies for Use of a Pesticide Under Emergency Conditions Section 18 of FIFRA Specific Exemption (“EPA Application for Emergency Exemption”). The EPA Application for Emergency Exemption is to authorize the use of *Wolbachia pipientis*, strain wAlbB, contained in

live adult male *Culex q.* mosquitoes. The biopesticide is referred to as “DQB Males,” and it is noted that the “EPA Registration Number is pending.” The use of the biopesticide is to control *Culex q.* mosquitos, the vector of avian malaria, for conservation uses in Hawai‘i by the HDOA.

75. The EPA Application for Emergency Exemption states: “The DQB line of mosquitoes was developed through transfection of *Wolbachia pipientis* wAlbB isolated from *Ae. albopictus* KLP strain mosquitoes originating from Kuala Lumpur, Malaysia into *Culex quinquefasciatus* Palmyra strain mosquitoes originating from Palmyra Atoll. Prior to transfection, the naturally occurring wPip infection was removed from the Palmyra strain through antibiotic treatment using tetracycline and rifampicin...”

76. The HDOA’s EPA Application for Emergency Exemption was announced as approved by the EPA on April 27, 2023.

77. In October 2022, the HDOA Plant Quarantine Branch issued a permit to DLNR to allow for the import of southern house mosquitoes for mosquito control projects. The permit would need to be amended for broad-scale implementation of releases as part of this project.

78. The Advisory Committee on Plants and Animals’ recommendation to approve import and release of *Culex q.* mosquitoes should be null and void due to the conflicts of interest of committee members pursuant to HRS § 84-14. The *Hawai‘i State Ethics Commission Ethics Guide for State Board and Commission Members* states that members must not take official action affecting a business in which they have “financial interest.” “Financial interest” in a business includes “employment.” Whether a business can be a government agency is unstated. The following members of the Advisory Committee on Plants and Animals unanimously voted on June 9, 2022, to recommend approval of the import permit:

- (1) Darcy Oishi, Committee Chairperson, Hawai‘i Department of Agriculture (HDOA)
- (2) Dr. Maria Haws, Professor of Aquaculture, Pacific Aquaculture & Coastal Research Center, University of Hawai‘i at Hilo
- (3) Cynthia King, Entomologist, Division of Forestry & Wildlife, Department of Land & Natural Resources (DLNR), Ex Officio Member Designated Representative
- (4) Gracelda Simmons, Environmental Management Program Manager, Hawai‘i Department of Health, Ex Officio Member Designated Representative
- (5) Thomas Eisen, Planner, Environmental Review Program, Department of Business, Economic Development and Tourism, Ex Officio Member Designated Representative
- (6) Joshua Fisher, Wildlife Biologist, U. S. Fish and Wildlife Service (USFWS)
- (7) Dr. Samuel Ohu Gon III, Senior Scientist and Cultural Advisor, The Nature Conservancy - Hawai‘i (TNC)

Of the seven voting members’ agencies, only those of Thomas Eisen and Darcy Oishi are not partner agencies in *Birds, Not Mosquitoes*. As employees of partner agencies, Dr. Maria Haws (University of Hawai‘i), Cynthia King (DLNR), Gracelda Simmons (Hawai‘i Department of Health), Joshua Fisher (USFWS), and Dr. Samuel Ohu Gon III (TNC) all have potential conflicts of interest. Both Dr. Samuel Ohu Gon III and Cynthia King are also members of the *Birds, Not Mosquitoes* steering committee. The purpose of the steering committee, as stated in the National Fish and Wildlife Foundation Hawai‘i Conservation Business Plan, includes coordinating permits for this project. See HRS § 84-14; *Hawai‘i State Ethics Commission Ethics Guide for*

State Board and Commission Members (2023); National Fish and Wildlife Foundation Hawai'i Conservation Business Plan (2021).

79. An Environmental Risk Assessment for this biopesticide has not been conducted by the EPA to determine the environmental, ecological, and human health risks.

80. This project may have been improperly segmented. HAR § 11-200.1-10 – “Multiple or phased actions”, provides:

A group of actions shall be treated as a single action when:

- (1) The component actions are phases or increments of a larger total program;
- (2) An individual action is a necessary precedent to a larger action;
- (3) An individual action represents a commitment to a larger action; or
- (4) The actions in question are essentially identical and a single EA or EIS will adequately address the impacts of each individual action and those of the group of actions as a whole.

On June 17, 2022, BLNR Chairperson Suzanne D. Case signed an exemption notice for “Mosquito Control Research Using *Wolbachia*-based Incompatible Insect Technique.” The final EA states that the DLNR filed the exemption notice “to conduct limited import of male mosquitoes for preliminary transport trials and mark release recapture studies.” Per HEPA, “a proposed action must be described in its entirety and cannot be broken up into component parts, which if each is taken separately, may have minimal impact on the environment. Segmenting a project generally is forbidden.” Because the project has been improperly segmented in this way, there have been no details or analysis of the preliminary trials or the mark release recapture studies. There has been no disclosure as to what type of mosquito is being transported, where the mosquitoes are being transported from, and whether or not the mosquitoes are being tested

for pathogens prior to transport. All actions of the mosquito project - including trial imports, mark release recapture studies, and field releases – should be addressed in one EIS. HAR § 11-200.1-10; *Hawai‘i Environmental Policy Act Citizen’s Guide* (2014).

81. Federal documentation connected to this project states that “TNC committed to collecting and providing some of the initial costs to deploy *Wolbachia* IIT for the first site in Hawai‘i through a contract with Verily Life Sciences, a subsidiary of Google.” The DLNR’s June 9, 2022, field release import request for this proposed biopesticide mosquito project lists the shippers of the commodity “Various Shipments of the Southern House Mosquito, *Culex quinquefasciatus* (Diptera: Culicidae), inoculated with Strains of *Wolbachia* Bacteria” as Stephen Dobson, MosquitoMate, Inc., Lexington KY; and Verily Life Sciences, South San Francisco CA. Verily Life Sciences (“Verily Life Sciences, LLC” or “Verily”) is a subsidiary of Google’s parent company, Alphabet Inc. *U.S. Department of the Interior Strategy for Preventing the Extinction of Hawaiian Forest Birds* (2022).

82. Federal documentation connected to this project confirms that “although used world-wide for human health, *Wolbachia* IIT is a novel tool for conservation purposes and its degree of efficacy in remote forest landscapes is unknown.” *U.S. Department of the Interior Strategy for Preventing the Extinction of Hawaiian Forest Birds* (2022).

Documented Risks and Potential Significant Impacts of the Biopesticide Mosquito Project

83. This plan is an experiment on our island home. There are serious risks, and the outcome is admittedly unknown.

84. The species planned for use in this project, *Culex quinquefasciatus*, has never been used for a stand-alone Incompatible Insect Technique (IIT) biopesticide mosquito field release. The *Culex q.* mosquito has never been lab-bred and *Wolbachia*-bacteria-infected and

then released for mosquito suppression or population replacement. Although *Culex q.* was lab-bred and infected with *Wolbachia* in a 2020 study by Ant et al., the mosquitoes were not released for the purpose of mosquito suppression or population replacement. Ant et al. were studying the ability to make the mosquitoes incompatible, but they did not release any *Culex q.* mosquitoes. *Wolbachia* transinfections in *Culex quinquefasciatus* generate cytoplasmic incompatibility (2020).

85. Landscape level control of *Culex quinquefasciatus* mosquitoes using the Incompatible Insect Technique (IIT) has never been done before. Even with *Aedes* mosquitoes, the largest project area was 724 acres. The East Maui project area is 64,666 acres. This means that the East Maui project area would be the largest area ever to be used for any IIT - over 89 times larger than the current 724-acre maximum. The largest release area to date globally for a mosquito suppression project was the Fresno DeBug project which released in an area of 724 acres, and the release was of *Aedes aegypti* mosquitoes. The only known time that the southern house mosquito was released for mosquito suppression was a 1982 study in India by Curtis et al. that used *Wolbachia* with a translocation that induced sterility. Because of the translocation, this was not a "stand-alone" project. The closest study to using *Culex q.* with *Wolbachia* to suppress mosquitoes was the 1967 Laven study in Okpo ("Okpho"), Burma ("Myanmar"), which was done with *Culex pipiens fatigans*, a species closely related to *Culex quinquefasciatus*. Crawford et al. (2020); Curtis et al. (1982); *Eradication of Culex pipiens fatigans through Cytoplasmic Incompatibility* (Laven, 1967).

86. Tropical disease and vector expert Dr. Lorrin Pang, speaking as a private citizen, has expressed concerns about horizontal transmission ("horizontal spread" or "horizontal transfer") of the introduced *Wolbachia* bacteria strain to wild mosquitoes and other insects,

including other insect vectors of disease. Horizontal transmission is defined as the spread of an infectious agent from one group or individual to another, directly or indirectly. Dr. Lorrin Pang (“Pang” or “Dr. Pang”) has authored over 75 publications in peer-reviewed medical journals covering a broad range of studies such as malaria, dengue, rabies, rat lungworm, and COVID. He’s been an advisor and voting member of the U.S. Congress Medical Research Program for the past several years, serving on committees for infectious diseases - many of which are mosquito-borne. From 1985-2005, he worked with the WHO and Walter Reed Institute’s Malaria Program, focusing on global malaria control efforts through interventions combining diagnostics, chemotherapeutics, vector control, and vaccine development. As a public health leader on the islands, he has mitigated mosquito-borne illnesses - including dengue and Zika - for over two decades. Pang was honored for his life-saving intervention in Hawaii’s dengue fever outbreak. In regard to this project, Dr. Pang has stated “Hawai‘i has a bad history of invasive species entering and spreading unabated, including their spread of infectious diseases.”

Wolbachia Mosquitoes in Hawaii: Unsettled Science Part 2 (2022).

87. Peer-reviewed studies document horizontal transmission of *Wolbachia* bacteria. The evidence of horizontal spread of *Wolbachia* shows that the bacteria go not only to sexual cells, but also to somatic cells (non-sexual cells of the body). *Wolbachia* can also live outside of intra-cellular systems for several months. *Wolbachia infection in wild mosquitoes (Diptera: Culicidae): implications for transmission modes and host-endosymbiont associations in Singapore* (2020); *Wolbachia Horizontal Transmission Events in Ants: What Do We Know and What Can We Learn?* (2019); *The Intracellular Bacterium Wolbachia Uses Parasitoid Wasps as Phoretic Vectors for Efficient Horizontal Transmission* (2015).

88. Horizontal transmission of the *Wolbachia* bacteria can occur through mating, shared feeding sites, and serial predation of larva in standing water breeding sites.

89. Peer-reviewed studies have shown *Wolbachia* bacteria in mosquitoes to cause increased pathogen infection and to cause mosquitoes to become more capable of spreading diseases such as avian malaria and West Nile virus. West Nile virus can infect birds and humans. This project has the potential to cause the extinction of endangered native birds, and it could impact human health. *Wolbachia Can Enhance Plasmodium Infection in Mosquitoes: Implications for Malaria Control?* (2014); *Wolbachia Enhances West Nile Virus (WNV) Infection in the Mosquito Culex tarsalis* (2014).

90. *Wolbachia* bacteria is parasitic, manipulating the reproductive biology of the host to increase its own transmission. Parasitic organisms can also alter the behavior of the hosts they live inside, and it is unknown how this might affect our native bird habitats. *Parasites brainwash grasshoppers into death dive* (2005).

91. The final EA fails to adequately address the accidental release of lab-bred *Wolbachia*-infected females who bite, breed, and spread disease.

92. The final EA's assertion that released mosquitoes pose no risk to human health is based on unsound science. The 2010 article by Popovici et al. cited in the final EA has been discredited by the EPA. *Assessing key safety concerns of a Wolbachia-based strategy to control dengue transmission by Aedes mosquitoes* (2010); *April 24-26, 2018, Meeting of the Human Studies Review Board*; *April 24-26, 2018, EPA Human Studies Review Board Meeting Report*.

93. The final EA fails to adequately address the potential for the release of biopesticide mosquitoes to cause unexpected evolutionary events and population replacement. *Wolbachia infection in wild mosquitoes (Diptera: Culicidae): implications for transmission*

modes and host-endosymbiont associations in Singapore (2020); Wolbachia-mediated sterility suppresses Aedes aegypti populations in the urban tropics (2021).

94. The final EA fails to address biopesticide drift – the movement of biopesticide mosquitoes through wind to unintended areas.

95. The final EA fails to adequately address the potential for horizontal gene transfer between the *Wolbachia* endosymbiont and the host. Horizontal gene transfer in this context would be the movement of genetic material (“DNA”) from *Wolbachia* into the southern house mosquito, or other host, genome. Horizontal gene transfer is the movement of genetic information between organisms, a process that includes the spread of antibiotic resistance genes among bacteria (except for those from parent to offspring), fueling pathogen evolution.

Horizontal gene transfer between Wolbachia and the mosquito Aedes aegypti (2009); Horizontal Gene Transfer (2015).

96. There are no documented biosecurity protocols in the final EA for the biopesticide mosquitoes used in this project.

97. There are no documented pathogen screenings in the final EA for the biopesticide mosquitoes. No assurances have been made that the biopesticide mosquito labs contracted for this project will be testing the lab-bred mosquitoes for human diseases, avian diseases, or other animal diseases to ensure that they are pathogen-free prior to shipping to Hawai‘i for field release. Lab-bred mosquitoes are blood-fed from sources that are not identified in the final EA. These mosquitoes could be transporting pathogens into Hawai‘i.

98. Male mosquitoes transmit bacteria and pathogens to females. Infected females can spread disease to birds (including endangered native birds), other animals, and humans.

99. Male *Culex q.* mosquitoes are known to spread viruses to female mosquitoes through mating (e.g., St. Louis encephalitis virus), as has been shown for dengue virus in *Aedes albopictus* mosquitoes. *Venereal Transmission of St. Louis Encephalitis Virus by Culex quinquefasciatus Males (Diptera: Culicidae)* (1990); *Sexual transmission of dengue viruses by Aedes albopictus* (1987).

100. As this project involves the interstate transport of *Culex q.* mosquitoes, a known vector of poultry diseases, there are potential impacts to local poultry farms and egg production in Hawai‘i. There is no mention in the final EA of United States Department of Agriculture (“USDA”) inspection of the biopesticide mosquito lab insectary/insectaries. There is no mention in the final EA of a USDA permit (e.g., OV VS 16-6 permit from APHIS) for the interstate transport of poultry pathogen vectors. The USDA Animal and Plant Health Inspection Service (“APHIS”) states: “The Veterinary Services, Organisms and Vectors (OV) Permitting Unit regulates the importation into the United States, and interstate transportation, of organisms and vectors of pathogenic diseases of livestock and poultry. The Code of Federal Regulations, in 9 CFR, §122.2, mandates that ‘no organisms or vectors shall be imported into the United States or transported from one State or Territory or the District of Columbia to another State or Territory or the District of Columbia without a permit.’” Given that interstate transport of the vector (live *Culex q.*) is planned to occur, and those *Culex q.* may contain a highly contagious poultry pathogen, namely avian pox virus, this transport would require a federal permit. *USDA Animal and Plant Health Inspection Service (APHIS): Organisms and Vectors Guidance & Permitting* (2022); 9 CFR, § 122.2; *Detection and molecular characterization of Avipoxvirus in Culex spp. (Culicidae) captured in domestic areas in Rio de Janeiro, Brazil* (2022).

101. The final EA lists numerous potential impacts that require mitigation measures. These impacts are not adequately addressed. Concerns include, but are not limited to: wildland fire ignition by helicopters; helicopter rotor wash; spread of invasive weeds; transport and establishment of introduced invasive weeds and diseases/pathogens; disturbances to native and special status plants and acceleration of erosion; noise-producing activities adversely affecting native wildlife; noise disturbances and other impacts to special status wildlife species, including disturbances to nesting and roosting; adverse impacts within critical special status species habitats; disturbances of traditional cultural practices; threats to human health and safety; noise impacts on landowners, communities, wilderness, and sensitive environmental resources; noise and viewscape impacts on the visitor experience; and impacts to the wilderness character.

102. The final EA does not adequately address the potential impacts of up to 134 drone flights per week over the project area for the life of the plan - likely at least 20 years as stated in the final EA. These impacts include risks to threatened and endangered wildlife species in the project area, namely the native damselfly, Hawaiian honeycreepers (kiwīkiu, ‘ākohekohe, ‘i‘iwi), nēnē (Hawaiian goose), seabirds (albatross, petrel, shearwater, and storm-petrel), and ‘ōpe‘ape‘a (Hawaiian hoary bat). Drone hovering; risks of breeding birds being flushed from active nests; disturbances of day roosting Hawaiian hoary bats; and risks of disturbing bat pup rearing are all noted impacts. The final EA notes that the sound produced by each drone “is similar to loud highway noise,” that “drone noise could possibly be loud enough to disrupt conversations,” and that aircraft wildlife collisions could happen. The document states that “it is possible that a drone could inadvertently fly into a flock of birds.”

103. The final EA states that “mosquitoes would likely be released in small biodegradable packages designed to open upon contact with the canopy or forest floor,” and that

“these mosquito packages (dropped via aerial means) would result in an impact to the undeveloped quality of wilderness for as long as they remain in the environment (until they biodegrade).” The environmental effects of dropping mosquito packaging in the project area are not adequately addressed in the final EA. The final EA states that the final design of the mosquito packaging “has not been decided upon” and that “until a final product is designed, specific decay rates or other relevant variables are not known.” The final EA further states that “many thousands of release packets would be dropped across the project area throughout the duration of the project.”

104. Dr. Pang has noted that there is a significant difference between the standard Sterile Insect Technique (“SIT” or “standard SIT”) strategies used in the past that were based on radiation or chemicals, and the relatively new Incompatible Insect Technique (IIT). The mathematical models may be similar for estimating threshold criteria to affect mosquito population dynamics, but standard methods of sterility are not bacterial life forms that might escape horizontally and amplify in other ecological niches. According to Pang, “While sterility models can predict the thresholds needed to exterminate a species (in this case insects), the radiation sterility factor (standard SIT) does not behave the same as a life form (i.e., *Wolbachia* bacteria). There is very different modeling for the target insect - but more importantly, for the unintended groups to which the bacteria horizontally spread. How is this supposed to be self-contained? Horizontal spread has the potential to be a disaster that cannot be recalled. The bacterium is a life form, and you might not be able to turn back the clock by simply shutting off the male mosquito ‘fountains.’” *Wolbachia Mosquitoes in Hawaii: Unsettled Science Part 2* (2022).

105. The potential negative impacts of introducing an invasive species to the islands have not been adequately addressed in the final EA.

106. The final EA fails to include the completion of a feasibility study to provide a detailed analysis that considers all of the critical aspects of the proposed project in order to determine the likelihood of it succeeding, and fails to establish, under the precautionary principle, that the proposed activity will not result in significant harm.

107. Once this biopesticide mosquito release plan starts, it is irreversible.

108. The scope, risks, and experimental nature of the project require detailed, comprehensive studies and documentation of the impacts to our native birds, wildlife, environment, and public health. The subject action will have a significant effect, and therefore, requires the preparation of an EIS.

HEPA Review Process

109. It is undisputed that HEPA applies to DLNR's proposed biopesticide mosquito project, which uses state lands and lands within the conservation district.

110. In November 2022, the DLNR transmitted a draft EA and anticipated finding of no significant impact ("DEA-AFONSI" or "DEA-AFNSI" or "AFNSI") for the biopesticide mosquito project, "Suppression of Non-native Wild Mosquito Populations to Reduce Transmission of Avian Malaria to Threatened and Endangered Forest Birds on East Maui," to the State of Hawai'i Office of Planning and Sustainable Development Environmental Review Program ("ERP") for publication in *The Environmental Notice*.

111. On December 8, 2022, the DEA-AFONSI ("AFNSI") was published by the ERP in *The Environmental Notice*. The statutory 30-day public review and comment period for the DEA-AFONSI started on the publication date, December 8, 2022. Pursuant to HRS Chapter

343, comments were due by January 9, 2023. The National Park Service, in collaboration with the DLNR, accepted comments through their website link and by mail through January 23, 2023, extending the public review and comment period.

112. Following the December 8, 2022, publication of the DEA-AFONSI, and prior to the January 23, 2023, deadline for comments, Hawaii Unites Founder and President Tina Lia submitted a comment on behalf of the organization. This comment was submitted online, as well as by United States Postal Service priority mail. Both the online comment and the mailed hard copy were received and accepted by the National Park Service. Hawaii Unites' comment on the DEA-AFONSI documented risks of the project, including but not limited to, the experimental nature of the plan, lack of EPA registration of the biopesticide mosquitoes; dangers of horizontal transmission of the introduced bacteria strain, increased pathogen infection in mosquitoes, irreversible evolutionary events, population replacement, accidental release of lab-reared ("lab-strain-infected") females, creation of lab-strain-infected females in the wild, horizontal gene transfer, biopesticide drift, and mosquitoes becoming more capable vectors of avian malaria and West Nile virus. Peer-reviewed studies were included for reference. Specific concerns voiced by tropical disease and vector expert Dr. Lorrin Pang, speaking as a private citizen, were described in detail, with a focus on the risks of horizontal transmission of the lab bacteria.

113. While the accidental release of misidentified lab-reared female mosquitoes was not addressed at all in the draft EA, Hawaii Unites' DEA-AFONSI comment provided documentation from the DLNR's "Permit Application for Restricted Commodities into Hawaii" for import of the mosquitoes, as well as figures published online by the EPA, stating the expected accidental release rate of one *Wolbachia*-bacteria-infected female for every 250,000 males. Hawaii Unites noted that with the potential release of up to 775,992,000 biopesticide

mosquitoes per week on Maui, this would calculate to up to 3,103 lab-strain-infected females released on the island per week, and each of those 3,103 females could produce a conservative estimate of 160,000 more females in her eight-week lifespan, amounting to potentially 496,480,000 lab-strain-infected females within each eight-week lifespan of the initial accidental release scourge. Female mosquitoes bite and spread disease. Lab-strain-infected females can breed with the lab-strain-infected males released, and population replacement can occur. Wild females can also become lab-strain-infected through horizontal transmission, further exacerbating population replacement risks. Hawaii Unites' DEA-AFONSI comment highlighted these concerns, along with the potential for the *Wolbachia* bacteria to cause increased pathogen infection in the mosquitoes, concluding, "What if the entire mosquito population becomes more capable of transmitting disease to birds, humans, and other wildlife?"

114. Hawaii Unites' DEA-AFONSI comment addressed concerns regarding potential impacts requiring mitigation measures per the draft EA, including but not limited to, noise disturbances and other impacts to special status wildlife species, spread of invasive weeds, disturbances to native and special status plants and acceleration of erosion, impacts to wilderness character; and threats to endangered species, including disturbances to nesting and roosting of Hawaiian forest birds and Hawaiian hoary bats, and the possibility that a drone could inadvertently fly into a flock of birds. Hawaii Unites' comment also noted that the effects of the release of mosquito packaging on the environment and wildlife are not addressed in the draft EA.

115. Concerns of Native Hawaiian lineal descendants and cultural experts, along with the issue of Environmental Justice, were addressed in Hawaii Unites' DEA-AFONSI comment. Hawaii Unites stated: "In the EA's 'Cultural Impact Assessment' section, seven Native Hawaiian lineal descendants and recognized cultural experts were interviewed. All expressed

concerns about the impacts of the project, focused on the effects it could have on cultural resources and traditions, native birds, public health, wildlife, and our fragile ecosystems. Additional concerns include the experimental aspect of the project; the state’s history of creating new problems by bringing in invasive species such as the mongoose; the sensitivity of the project area, with people depending on native flora and fauna for their livelihoods; impacts on other animals like ‘ōpae (shrimp) and ‘o‘opu (goby fish) that live in streams; whether or not adequate studies or research have been done; residual effects on other insects; impacts on native plants used for lei making, weaving, and other cultural practices; impacts on water sources; impacts on other islands from water sources connected through tides and currents; and the need to keep the public informed. The state’s assessment concludes, ‘If the project and concerns about the use of this biocontrol discourage practitioners from conducting their traditional or customary practices, it would be an adverse effect to these cultural activities.’ As a result of their location, cultural practices, and other factors, Native Hawaiians may have atypical or disproportionately high and adverse human health impacts and environmental effects from exposure to the biopesticide.”

116. Hawaii Unites’ DEA-AFONSI comment stated, “Adequate studies and research have not been conducted; and safer, less experimental alternatives have not been considered.”

117. On March 17, 2023, the DLNR posted the final EA for the biopesticide mosquito project on their website. The final EA included a recommendation that the Board approve the final EA, authorize the Chairperson to issue a FONSI, and authorize the Chairperson to publish a FONSI for the final EA in the ERP’s *The Environmental Notice*. The final EA also included an Appendix H: “Responses to Substantive Public Comments on Environmental Assessment.” Appendix H addressed public comment concerns, including but not limited to, insufficient analysis and the lack of preparation of an EIS, potential impacts to public health and increased

risk of disease transmission, adverse impacts of introduced biological control mechanisms, insufficient study of the proposed action, introduction of foreign *Wolbachia* bacteria to an environment on Maui where it currently does not occur, the proposed project being an experiment that has not been implemented prior, the release of female mosquitoes, the risk of *Wolbachia*-infected mosquitoes increasing disease transmission to humans (e.g., malaria, dengue fever, yellow fever, Zika virus, West Nile virus), horizontal transfer of *Wolbachia* to other mosquitoes or insect species non-maternally, horizontal gene transfer, Native Hawaiian concerns and Environmental Justice, impacts to bats and dragonflies, the environmental effects of dropping mosquito packaging in the project area, and unanticipated outcomes and the need to implement a monitoring and response plan.

118. The potential significant impacts of the project to the environment, wildlife, and public health have not been adequately studied, and Appendix H of the final EA does not adequately address public comment and concerns. These comments and concerns include, but are not limited to:

- The creation of lab-strain-infected females in the wild through horizontal transmission
- Biopesticide drift, or the movement of the lab-bred mosquitoes through wind to unintended areas
- The specific concerns of tropical disease expert Dr. Lorrin Pang focused on horizontal transmission. Horizontal transmission is addressed and downplayed in Appendix H, there are no references to Dr. Pang's expert opinion, and specific significant peer-reviewed studies referenced by Dr. Pang are not addressed.
- The peer-reviewed study referenced by Dr. Pang regarding the ability of *Wolbachia* bacteria to live outside of intra-cellular systems for several months
- *Wolbachia* bacteria as parasitic, altering host behavior
- Failure to provide any information pertaining to responsible parties or decision makers if something goes wrong with the experiment
- Lack of biosecurity protocols

119. The final EA does not adequately address potential impacts to public health and increased risk of disease transmission documented in peer-reviewed studies, including the risk of

increased transmission of West Nile virus. The final EA's assertion that released mosquitoes pose no risk to human health is based on unsound science. The 2010 article by Popovici et al. cited in the final EA has been discredited by the EPA. The EPA Human Studies Review Board met in 2018 and concluded: "The Board concluded that the research described in the article by Popovici et al. was not scientifically sound and does not provide reliable data to contribute to a weight of evidence determination for assessment of human health risks due to release of *Wolbachia*-infected mosquitoes."

120. The final EA does not adequately address the peer-reviewed study documenting the potential for the *Wolbachia* bacteria to cause increased capability of mosquitoes to transmit avian malaria.

121. The *Wolbachia* is an introduced foreign bacterium. The final EA inaccurately states that, "The proposed action will not involve introducing any new or foreign organisms to Hawai'i." The EPA Application for Emergency Exemption states, "The DQB line of mosquitoes was developed through transfection of *Wolbachia pipientis* wAlbB isolated from *Ae. albopictus* KLP strain mosquitoes originating from Kuala Lumpur, Malaysia into *Culex quinquefasciatus* Palmyra strain mosquitoes originating from Palmyra Atoll." The DLNR's June 9, 2022, field release import request for this proposed biopesticide mosquito project lists a strain of bacteria that doesn't exist on the Hawaiian Islands, *Wolbachia* wPip4.

122. The proposed project is an experiment that has never been implemented before. The final EA inaccurately contradicts this fact. Landscape level control of *Culex quinquefasciatus* mosquitoes using the Incompatible Insect Technique (IIT) has never been done before. The largest documented project area to date globally is 724 acres, and the project used *Aedes* mosquitoes. The East Maui project area for this biopesticide mosquito project is 64,666

acres, which is over 89 times the size of the largest field release area ever documented globally. IIT has never been used for conservation purposes before. The *U.S. Department of the Interior Strategy for Preventing the Extinction of Hawaiian Forest Birds* confirms that “although used world-wide for human health, *Wolbachia* IIT is a novel tool for conservation purposes and its degree of efficacy in remote forest landscapes is unknown.” The species of mosquito planned for use in this project, *Culex quinquefasciatus*, has never been used for a stand-alone IIT field release. *Wolbachia* IIT is not widely used for mosquito suppression globally. The majority of countries using *Wolbachia* mosquitoes through the World Mosquito Program are using the method of population replacement, not suppression. These are two entirely different techniques. The replacement method more widely used requires release of male and female mosquitoes. Only a small number of mosquitoes need to be released, and usually only one release is required (once per week for 12-30 weeks). With the suppression approach planned for use in East Maui, a very large number of male mosquitoes need to be released continually and indefinitely, otherwise the population will rebound.

123. Peer-reviewed studies documenting the risks of horizontal transmission (“horizontal transfer”) of the *Wolbachia* bacteria to other mosquitoes and insect species are not adequately addressed in the final EA.

124. The peer-reviewed study documenting the risk of horizontal gene transfer is not adequately addressed in the final EA.

125. The history of adverse impacts of introduced biological control mechanisms in Hawai‘i is not adequately addressed in the final EA.

126. The impacts to endangered native Hawaiian hoary bats, native dragonflies, and endangered native damselflies are not adequately addressed in the final EA.

127. The release of female mosquitoes is not adequately addressed in the final EA. The EPA website and the DLNR's "Permit Application for Restricted Commodities into Hawaii" for import of the mosquitoes both state the expected accidental release rate of one *Wolbachia*-bacteria-infected female for every 250,000 males. The final EA contradicts this figure, describing the use of artificial intelligence ("AI") as "methods likely to be employed." The final EA does not state the specific method planned for use in the biopesticide mosquito project. The final EA does not address the June 17, 2021, preprint study in Singapore stating that, "even with high-fidelity sorting, inadvertent release of a few fertile females can lead to stable establishment of *Wolbachia* in the field, given the lack of competition from the nearly eliminated wildtype population." The study states: "Our data further show that when the wildtype mosquito population is suppressed to very low levels - possibly close to elimination, as in the Tampines core - release of even a few fertile *wAlbB*-SG females could result in establishment of *wAlbB* in the field population. This threshold may be as low as three individuals, the minimum number of *wAlbB*-SG females we believe were released in the Tampines core during Phase 2." *Wolbachia*-mediated sterility suppresses *Aedes aegypti* populations in the urban tropics (2021).

128. The environmental effects of dropping mosquito packaging in the project area are not adequately addressed in the final EA. The final EA states that the final design of the mosquito packaging "has not been decided upon" and that "until a final product is designed, specific decay rates or other relevant variables are not known." The final EA further states that "many thousands of release packets would be dropped across the project area throughout the duration of the project."

129. The final EA does not adequately address concerns around unanticipated outcomes and the need to implement a monitoring and response plan. The full extent of the text

added to the final EA to address these concerns reads: “DLNR will work with State and Federal partners to prepare a detailed monitoring plan.” No further information is provided.

130. Native Hawaiian concerns, including concerns regarding environmental justice, are not adequately addressed in the final EA. Native Hawaiians will be disproportionately affected by the project because they live near the project area, frequent the project area for cultural practices, and rely on the resources of the project area. Also, per the EA “According to EJScreen, EPA’s Environmental Justice Screening and Mapping Tool, census block groups within and around the project area on East Maui are comprised of populations where at least 50 percent of the population is considered a minority. Therefore, environmental justice communities exist in the study area.” Risks and impacts to ethnographic resources and cultural practices have not been adequately studied or addressed. Native Hawaiians rely on the resources of the project area for their livelihoods and cultural practices. Cultural practices may be disrupted by noise disturbances and viewscape impacts. Native plants, native birds, native dragonflies, native endangered damselflies, and native endangered Hawaiian hoary bats could be impacted by the project. Native Hawaiian food sources could be impacted by the project. Human health impacts of this project have not been adequately studied, and the EA’s assertion of released mosquitoes posing no risk to human health is based on unsound science. Native Hawaiians, including cultural practitioners, hunters, and nearby residents, could be impacted by the potential for increased capability of mosquitoes to transmit disease.

131. Additional concerns documented in Hawaii Unites’ public comment on the draft EA that were not addressed in the final EA include, but are not limited to: lack of EPA registration for the biopesticide mosquitoes (prior to the BLNR’s vote to accept the final EA and issue a FONSI), the potential for the project to cause the extinction of endangered native birds,

biopesticide drift, the specific concerns of tropical disease and vector expert Dr. Lorrin Pang, the effects of *Wolbachia* bacteria as a parasitic organism, lack of identification of agencies responsible for negative outcomes of the project, and conflicts of interest.

132. The final EA suffers from the same fundamental flaws as the draft EA in failing to adequately address potential significant impacts of the project and in failing to address specific potential significant impacts of the project entirely.

133. The final EA suffers from the same fundamental flaws as the draft EA in lack of adequate detail as required by HEPA.

134. The final EA fails to analyze a full range of alternatives and mitigation measures to address potential impacts. The final EA analyzes only the impacts of the proposed action versus a no-action alternative.

135. In contrast, an EIS would not only ensure a full analysis of alternatives and mitigation but would also require “a rigorous exploration and objective evaluation of the environmental impacts of all such alternative actions” and discussion of “mitigation measures proposed to avoid, minimize, rectify, or reduce impacts.” HAR § 11-200.1-24.

136. The final EA/FONSI was published in *The Environmental Notice* on April 8, 2023.²

FIRST CLAIM FOR RELIEF

(Failure to Require an EIS)

137. Plaintiffs reallege and incorporate herein by reference each and every allegation contained in the preceding paragraphs of this complaint.

² Available at the State of Hawaii, Office of Planning and Sustainable Development website: <https://planning.hawaii.gov/erp/environmental-notice/> - last visited on May 7, 2023.

138. Defendants' failure to require an EIS and issue an EISPN for the proposed biopesticide mosquito project violates HEPA's requirement to prepare an EIS if the proposed action "may" have a significant impact on the environment. Based on the significance factors under the HEPA rules, the proposed project certainly "may" have a significant impact on the environment and, thus, requires an EIS.

139. To avoid the requirement to prepare an EIS, the final EA improperly and unlawfully disregarded and distorted the full range of direct, secondary, and cumulative impacts of the proposed project and failed to consider and analyze reasonable alternatives and mitigation measures, in violation of the letter and purpose of HEPA and its implementing rules.

140. An actual controversy exists between Plaintiffs and Defendants concerning Defendants' violation of HEPA in failing to require an EIS and instead accepting only an EA and FONSI.

SECOND CLAIM FOR RELIEF

(Invalid Acceptance of EA/FONSI)

141. Plaintiffs reallege and incorporate herein by reference each and every allegation contained in the preceding paragraphs of this complaint.

142. The BLNR's acceptance of the final EA and FONSI for the proposed biopesticide mosquito project violated the letter and purpose of HEPA.

143. The BLNR failed to follow proper procedure in their addition of Hawaii Unites' petition for a contested case hearing on agenda item C-2 at the March 24, 2023, BLNR meeting to the agenda at the meeting, their subsequent vote to deny the petition, and their subsequent vote to approve the final EA and issue a FONSI at the March 24, 2023, meeting.

144. The action of the BLNR's improper approval of the final EA and issuance of a FONSI, on its face and as applied in this case, violates HEPA. It also violates fundamental requirements of administrative procedure under the Hawai'i Administrative Procedures Act, HRS chapter 91, and due process under article I, section 5 and article XI, sections 1 and 9 of the Hawai'i Constitution.

145. An actual controversy exists between Plaintiffs and Defendants concerning Defendants' violation of HEPA in failing to ensure that environmental concerns are given appropriate consideration by BLNR, the agency tasked with issuing the underlying approval for the project.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully request that the Court:

1. Enter a declaratory judgment that:
 - (A) The proposed biopesticide mosquito experiment may have a significant impact on the environment;
 - (B) Defendants have violated and are violating HRS Chapter 343 by failing to require an EIS;
 - (C) The BLNR's acceptance of the final EA and FONSI fails to comply with HEPA and its implementing rules and is otherwise legally improper and invalid;
 - (D) Defendants and Applicant be required to prepare an EIS for the proposed biopesticide mosquito experiment and issue an EISPN.
2. Enter appropriate injunctive relief to ensure that Defendants comply with HEPA and to prevent Defendants from issuing approvals for the proposed project or otherwise allowing it to proceed until that compliance occurs;

3. Retain continuing jurisdiction to review Defendants' compliance with all judgments and orders entered herein;
4. Issue such additional judicial determinations and orders as may be necessary to effectuate the foregoing;
5. Award Plaintiffs the cost of the suit herein, including reasonable expert witness and attorneys' fees; and
6. Provide such other and further relief as the Court may deem just and proper to effectuate a complete resolution of the legal disputes between Plaintiffs and Defendants.

DATED: Honolulu, Hawai'i, May 8, 2023.

/s/ Timothy Vandever
MARGARET WILLE
TIMOTHY VANDEVEER

Attorneys for Plaintiffs
Hawaii Unites and Tina Lia

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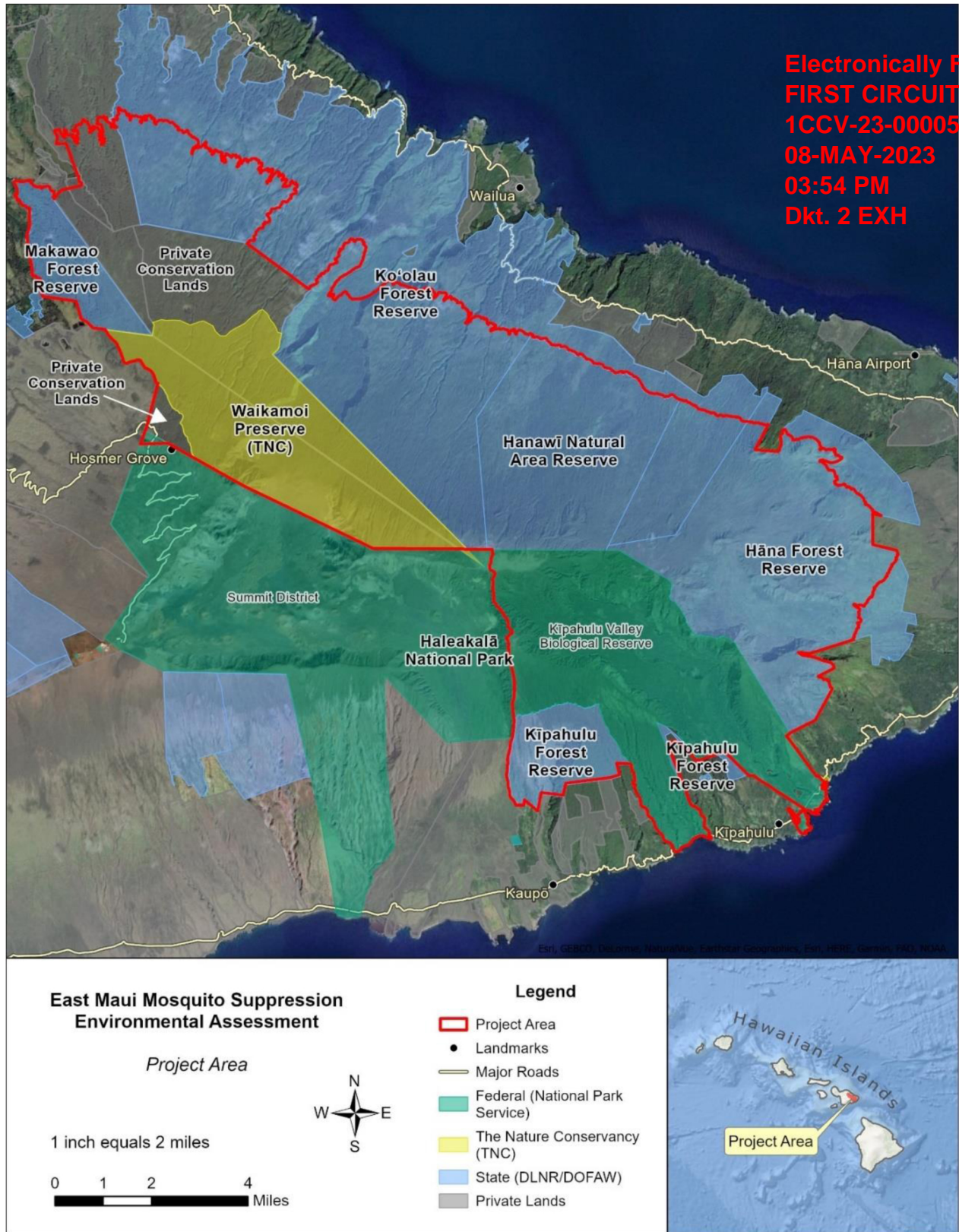


FIGURE 1: PROJECT AREA FOR RELEASE OF INCOMPATIBLE MOSQUITOES

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TABLE 1: PROJECT AREA ACREAGE AND MANAGEMENT

Name	Management	Acres
Haleakalā National Park	NPS	12,042
Ko‘olau Forest Reserve	DLNR/DOFAW	15,179
Hāna Forest Reserve	DLNR/DOFAW	10,679
Hanawī Natural Area Reserve	DLNR/DOFAW	7,713
Kīpahulu Forest Reserve	DLNR/DOFAW	2,318
Makawao Forest Reserve	DLNR/DOFAW	2,100
Waikamoi Preserve (TNC)	TNC	8,606
East Maui Irrigation Company, LLC	Private	4,409
Mahi Pono	Private	1,227
Haleakala Ranch	Private	393
TOTAL		64,666

Table 1 from page 20/284 of “Suppression of Invasive Mosquito Populations to Reduce Transmission of Avian Malaria to Threatened and Endangered Forest Birds on East Maui” (Final Environmental Assessment, Hawai‘i Department of Land and Natural Resources, March 24, 2023)

EXHIBIT B

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TABLE 3. ESTIMATED NUMBER OF DRONE FLIGHT HOURS AND ROUND-TRIP FLIGHTS PER TREATMENT (RELEASING MOSQUITOES AT EACH LOCATION) AND PER WEEK (ASSUMING 2 TREATMENTS PER WEEK) PER LAND MANAGER.

<i>Land Manager</i>	Per Treatment				Per Week			
	warm months		cold months		warm months		cold months	
	hrs	flights	hrs	flights	hrs	flights	hrs	flights
Hawai'i Dept. of Land and Natural Resources	23.2	43	18.2	35	46.5	87	36.4	70
National Park Service	5.5	10	2.9	6	11.0	21	5.9	11
Private	3.4	7	3.0	6	6.7	14	6.1	12
The Nature Conservancy	3.6	7	0.3	1	7.3	14	0.6	1
TOTAL	36	67	24	48	72	134	49	94

Note: Presented in this table are estimated flight information for lower elevations only (2000–4300 ft) during colder months (December–April) when releases at higher elevations are not expected to be needed (“cold months”) and all elevations (2000–5600 ft) within the core area where releases are expected to be needed during warmer months. These elevations are based on thermal limits of the malaria parasite (>55° F) below which transmission from mosquitoes is limited (Ahumada et al. 2004).

Table 3 from page 27/284 of “Suppression of Invasive Mosquito Populations to Reduce Transmission of Avian Malaria to Threatened and Endangered Forest Birds on East Maui” (Final Environmental Assessment, Hawai‘i Department of Land and Natural Resources, March 24, 2023)

EXHIBIT C

<p align="center">STATE OF HAWAII CIRCUIT COURT OF THE FIRST CIRCUIT</p>	<p align="center">SUMMONS TO ANSWER CIVIL COMPLAINT</p>	<p align="center">Electronically Filed FIRST CIRCUIT 1CCV-23-0000594 08-MAY-2023 04:22 PM Dkt. 9 PDOC</p>
<p>CASE NUMBER</p> <p align="center">1CCV-23-0000594</p>		
<p>PLAINTIFF'S NAME & ADDRESS, TEL NO. c/o Timothy Vandevveer, Esq. Margaret Wille & Associates P.O. Box 6398 Kamuela, HI 96743 (808) 388-0660</p>		
<p>PLAINTIFFS</p> <p>HAWAII UNITES, a 501(c)(3) nonprofit corporation; Tina Lia, an individual</p>	<p align="center">vs.</p> <p>DEFENDANT(S)</p> <p>BOARD OF LAND AND NATURAL RESOURCES, STATE OF HAWAII, and DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII</p>	
<p>TO THE ABOVE NAMED DEFENDANT(S)</p> <p>You are hereby summoned and required to file with the court and serve upon:</p> <p><u>Timothy Vandevveer, MARGARET WILLE & ASSOCIATES LLLC</u>, plaintiff's attorney, whose address is stated above an answer to the complaint which is herewith served upon you, within 20 days after service of this summons upon you, exclusive of the date of service. If you fail to do so, judgment by default will be taken against you for the relief demanded in the complaint.</p> <p>THIS SUMMONS SHALL NOT BE PERSONALLY DELIVERED BETWEEN 10:00 P.M. AND 6:00 A.M. ON PREMISES NOT OPEN TO THE GENERAL PUBLIC, UNLESS A JUDGE OF THE ABOVE-ENTITLED COURT PERMITS, IN WRITING ON THIS SUMMONS, PERSONAL DELIVERY DURING THOSE HOURS.</p> <p>A FAILURE TO OBEY THIS SUMMONS MAY RESULT IN AN ENTRY OF DEFAULT AND DEFAULT JUDGMENT AGAINST THE DISOBEYING PERSON OR PARTY.</p>		
<p>DATE ISSUED:</p>	<p>CLERK</p>	<p>CIRCUIT COURT CLERK</p>

The original document is filed in the Judiciary's electronic case management system which is accessible via eCourt Kōkua at: <http://www.courts.state.hi.us>

In accordance with the Americans with Disabilities Act and other applicable state and federal laws, if you require a reasonable accommodation for a disability, please contact the ADA Coordinator at the Circuit Court Administration Office at: PHONE NO. 808-539-4400, FAX (808) 539-4402, or TTY (808) 539-4853 at least ten (10) working days prior to your hearing or appointment date.

From: [Rosemary Liebe](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito release project.
Date: Wednesday, October 11, 2023 5:47:28 PM

To whom it may concern,

I'm vehemently opposed to the BLNR 10/13/23 agenda item C1.

This bacteria-infected mosquito release project is a dangerous experiment to be done on the island of Hawaii.

There MUST be a FULL EIS before moving forward with this experiment!

I implore you to consider very deeply the implications of this untested experiment not only on the wildlife of Hawaii but also on it's citizens.

Sincerely
Rosemary Liebe

From: [Angela Longo](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony opposing strongly the release of wolbachia infected mosquitoes in Kauai, in Maui or in the Big Island by Dr Angela Longo
Date: Thursday, October 12, 2023 7:30:47 AM

I have been working on the big island of Hawaii for 42 years and spend time working in Thailand Chiang Mai in a health clinic and saw all the cases of diseases transmitted by mosquitoes just as the blnr proposes to release into our ecosystem creating eight new diseases such as avian malaria, elephantiasis, West Nile virus, heartworm, St Louis encephalitis, equine encephalitis and is a vector of zika virus. I am shocked at the lack of clinical awareness of the damage they will be doing to our generation and our children's generation, with no end. It is a bioweapon that keeps on injuring and has already produced seven cases of malaria in Florida and has failed in its promises in Texas and Kentucky and around the world. It was denied to be used in California. Why are we so naive to believe that this could possibly work to save a bird that is already extinct. Do not release these infected mosquitoes which is being done to make a lot of money for many people in your agencies and government positions. Be prepared to be convicted if you dare to release these mosquitoes. Dr Angela Longo

From: [Aiyana Luttrell](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] OPPOSED to BLNR C1
Date: Thursday, October 12, 2023 6:15:27 AM

I am OPPOSED to BLNR October 13, 2023 agenda item **C1**.

This bacteria infected Mosquitoes release project is a dangerous experiment to Hawaii.

Mahalo,
Aiyana Luttrell

From: [Trisha](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda Item C1
Date: Wednesday, October 11, 2023 6:01:45 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Patricia Lynn

From: [Joan Maas](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1.
Date: Wednesday, October 11, 2023 2:25:11 PM

Aloha Board Members of Land and Natural Resources:

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

We all know how the Monsanto testing faired, not good.

Mahalo,
Joan Maas

From: [Elizabeth Ellen MacDougall](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Stop Mosquito Release in Hawaii-Kauai (All Islands!)
Date: Wednesday, October 11, 2023 8:52:09 PM

Dear Government Employees,

Do not release these mosquitoes anywhere in the Hawaiian Islands. It is NOT your place to mess with the delicate ecosystem. This will only cause big problems. Use your common sense and intelligence. This is absolutely evil. Wake up.

God Bless,
Elizabeth MacDougall
HappilyEverAfterOnMaui@gmail.com
808.446.5534

Let all that you do be done with love
Corinthians 16:14

From: [Chris Marrs](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito Release
Date: Wednesday, October 11, 2023 6:01:04 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on the islands. We MUST have a FULL EIS before moving forward with this experiment! Man has NEVER improved on nature. Seems every attempt backfires and leaves a larger problem.

Chritopher Marrs

From: [Susan L. Marshall](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose BLNR 10/13/23 agenda item C1.
Date: Wednesday, October 11, 2023 8:23:03 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Thank you for your consideration.

Susan L. Marshall
4265 Halenani Street
Lihue, Hawaii 96766
Tel. (808) 245-8000
Fax (808) 245-8001
susan@SusanLMarshall.com

From: [Glenda Martin](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 1013 agenda C1
Date: Wednesday, October 11, 2023 5:26:24 PM

Representatives,

I am writing regarding BLNR agenda item C1. I am opposed to the dangerous experiment with the Wolbachia bacteria in mosquitoes. There should first be an impact statement released with all the research and studies prior to releasing the mosquitoes.

We lost a family member to West Nile virus. It is documented that aggressive care is ineffective when the malaria medicine does not work. The islands of Hawaii should not be the place for an experiment where there's no long-term results to know if it would help the birds or how it will affect the people later.

Sincerely,

Glenda Martin

From: [Kathy Matara](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I oppose the mosquito release
Date: Wednesday, October 11, 2023 12:47:28 PM

To whom it concerns,

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Thank you,

Kathy Matara
Kauai Resident

From: [Sandra McCluskey](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] STOP Wolbachia Injected Mosquitoes in Kauai!
Date: Thursday, October 12, 2023 4:22:05 AM

I am opposed to the release of the Wolbachia Mosquitos on Kauai.
I believe this is another dangerous decision that has I'll effects on nature and humans.

Sandra McCluskey
808-651-8342
Kapaa, HI 96746

From: kamcdermet.mcdermet
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] MOSQUITOS
Date: Wednesday, October 11, 2023 6:24:16 PM

To the BLNR, Board of Land and Natural Resources:

Please listen and take our comments seriously!

I am very much against the BLNR 10-13-2023 agenda item C1.

This mosquito release plan (and all Mosquito release plans) are dangerous and highly questionable!

There must be sure knowledge and safe measures around these projects but these safeguards are not present.

This mosquito project does not make sense and seems to be pushed along by monied agendas.

Many of the problems that have been occurring in nature are DUE TO dangerous human made chemicals and thoughtless industrial endeavors around the world!

PLEASE DO NOT DO THIS MOSQUITO RELEASE IN HAWAII OR ANYWHERE!!

respectfully, Kimberly a McDermet
resident of Nebraska, USA

From: rich1@startmail.com
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed to Agenda Item C1
Date: Thursday, October 12, 2023 12:50:39 AM

Hello,

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment for our islands. We MUST have a FULL EIS before moving forward with this experiment!

Thank you,

Richard McIntyre

From: [Dalene McCormick](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1.
Date: Wednesday, October 11, 2023 7:29:11 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is not properly tested. The thoughts of how you sort and drop these mosquitos is quite alarming. You can't guarantee there are no females in the drop, you have not proven that helicopters, drones and biodegradable bags are all okay for this serene landscape. I am a avid hiker and enjoy nature and we don't appreciate your special interest involvement on our islands. If you want to move forward, you owe the public an environment impact assessment and you need to listen to multiple experts on the subject not just your hand chosen yes men.

Dalene McCormick 808 657-9600

From: [♥EVA♥ Michetti](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kauai mosquito testimony
Date: Wednesday, October 11, 2023 5:13:44 PM

I am writing to state my OPPOSITION to the state's EPA Application for Emergency Exemption.

This microbial pesticide has not been registered by the EPA: lab-reared Wolbachia bacteria-infected mosquitoes. These mosquitoes have not gone through the EPA process of examining ingredients, site use; amount, frequency, and timing of use; and storage and disposal practices. Risk assessments to evaluate harms to humans, wildlife, fish, plants, endangered species, and non-target organisms haven't been conducted. Potential contamination of surface water or ground water, leaching, runoff, and spray drift haven't been evaluated.

This puts our wildlife, water supply, food supply, and future generations at risk!

We, the community, demand an Environmental Impact Statement!

-Eva Michetti

Get [Outlook for iOS](#)

From: [Rebecca Miller](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Do not spread Wolbachia Injected mosquitoes on Kauai
Date: Wednesday, October 11, 2023 6:45:42 PM

When did the BLNR get permission from the people of Kauai to do this dangerous experiment on us with these genetically modified mosquitoes?

I was not asked so I am telling you now, NO you do not have my permission to release these insects on Kauai! This is insane and you are here to serve the people not some entity that tells you to do this. Stop now. Do not move forward with this.

Sincerely,
Rebecca Miller
Anahola, HI

From: [Helene Minard](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] No to BLNR 10/13/23!!!
Date: Thursday, October 12, 2023 2:49:03 AM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Hélène Minard
hbminard@gmail.com

From: [David Monasevitch](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10.13.23 Agenda Item C1 Testimony
Date: Wednesday, October 11, 2023 10:06:15 PM

TO WHOM IT MAY CONCERN BOARD OF HAWAII LAND AND NATURAL RESOURCES:

I am opposed to a finding of no significant Impact for the *"use of Wolbachi Based Incompatible Insect Technique for the suppression of non-native southern house mosquito populations on Kauai"*. I believe that the Final Environmental Assessment and Authorization is half-baked in its assessment especially as it pertains specifically to Kaua'i. Moreover, because there is litigation regarding the risks of releasing this bioengineered insect into the environment, it is prudent and rational to deny approval until the science is threshed out completely in court.

There are multiple factors threatening the extinction of Kauai's native birds. Wi-fi, EMFs radar in the Alaka'i Swamp, higher temperatures, too many people disturbing habitat, rodents, poisoned air and water, environmental degradation are all factors that need to be addressed in addition to the avian malaria carrying mosquito.

Releasing bioengineered mosquitos for the objective of saving native birds without effectively mitigating the other major threats is like putting a bandaid on a cut and going in the ocean. Worse there's a potential for serious unforeseen deleterious consequences. Why not wait and let the scientists study the impacts on Maui instead of gambling this project on

another island? It is not worth it. Do not approve. Thank you.

David Monasevitch M.Ed.
BA Environmental Biology

From: [Nina Monasevitch](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony against agenda item C1
Date: Wednesday, October 11, 2023 9:21:34 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I demand an Environmental Impact Statement.

For a thorough plan to protect native birds, I highly recommend a rigorous study of the impacts to native birds and all bird species, of EMF's and specifically 5G effects.

Sincerely,

Nina Monasevitch

Lihue, HI

From: [Terri Moon](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda Item C1
Date: Wednesday, October 11, 2023 5:57:05 PM

I oppose the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL Enviromental Impact Report prior to moving forward with this experiment!

Sincerely,
Terri Moon

From: [lianne.myers](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony
Date: Wednesday, October 11, 2023 6:03:34 PM

To Whom It May Concern,

I'm **opposed** to the BLNR 10/13/23agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Thank you,
Lianne Myers

From: [Ana](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose
Date: Thursday, October 12, 2023 3:54:44 AM

On behalf of the Nawahine Ohana I'm **opposed** to the BLNR 10/13/23agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Sent from my iPhone

From: [Deirdre Neill](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] My Opposition to BLNR 10.13.23 Agenda Item C1
Date: Thursday, October 12, 2023 1:33:45 AM

Aloha

I'm opposed to the BLNR (Bureau of Land & Natural Resources) 10.13.23 Agenda Item C1.

This Bacteria Infected Mosquito Release Project is DANGEROUS to the Island of Kauai."

Deirdre O'Connell

Sent from my iPhone

From: [Deirdre Neill](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposition to BLNR MOS
Date: Thursday, October 12, 2023 1:19:12 AM

Sent from my iPhone

From: [Toi Pua La`a](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kauai BLNR Agenda #C1 Opposition Testimony
Date: Wednesday, October 11, 2023 7:53:12 PM

To Whom It May Concern:

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Sincerely,

Ms. T. Pua Laa Norwood

From: [Deanna Olivier](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Please oppose
Date: Tuesday, October 10, 2023 8:08:20 PM

I'm opposed to this bioweapon infecting mosquitos from being released soon on our Island. Has not Maui suffered enough????

From: [Sheila O'Malley](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Wolbachia Injected Mosquitoes in Kauai
Date: Wednesday, October 11, 2023 7:08:43 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. There **MUST** be a **FULL** EIS before moving forward with this experiment!

Thank you,

Sheila O'Malley

From: [L Osterer](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 2:41:18 AM

I'm **opposed** to the bacteria-infected mosquito release project. It is a dangerous experiment on our islands, with unknown effects likely. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Adequate testing in controlled, limited areas has not been done. **Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court.**

This would be the second largest *Wolbachia* mosquito release of any kind globally to date, **without analyzing an earlier large release.** Concerns about this plan have not been adequately addressed:

- 1. The project area of almost 17% of the entire island, 59,204 acres of natural forest and reserve areas would be impossible to monitor and control.**
2. Female mosquitoes that bite, breed, and spread disease will be released.
3. The exact number of mosquitoes to be released has not been made clear by the agencies involved.

A Finding of No Significant Impact is **not acceptable** for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i."

An Environmental Impact Statement is warranted.

Thank you for your attention,
Lorraine Osterer, longtime Koloa, Hawaii resident and registered voter

From: josrr@mac.com
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 4:11:27 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment! This is dangerous to our islands

Jon Otterstrom

From: [Michael Pargett](#)
To: [DLNR.BLNR.Testimony](#)
Cc: [DLNR.CO.PublicDLNR](#); [DLNR.CW.DLNR.CWRM](#); mayor@kauai.gov; dagaran@kauai.gov
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1 - STRONGLY OPPOSED
Date: Wednesday, October 11, 2023 7:53:06 PM

Dear Chairperson Chang,

We strongly urge you to deny approval of the Final Environmental Assessment, and do not issue a Finding of No Significant Impact for the “use of Wolbachia-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai”.

Without a complete historical understanding of the true, long term impacts of such an experiment, by the proponents, it should be considered irresponsible, and misguided at best.

Without a complete plan for continued testing and research, to be regularly scheduled for efficacy, and possible detrimental impacts to the environment and human populations, is injudicious. This glaring lack of a complete plan should be enough justification alone for you to deny approval of the Final Environmental Assessment at this time.

All of our Hawaiian islands and Ohana are rare and precious in the world. We ask you to please consider all the possible detrimental consequences this plan could create. Please ask for more complete and detailed proof that such a plan has, little or no risk to humans, or the environment, and can be reversed. That it will not, through unintended consequences, negatively impact our children, grandchildren and great-grandchildren for decades to come.

The choice and decisions you make on this, could have impact for an unknown number of years into the future.

Respectfully,

Kimo Nakagawa
Hawaiian Ohan for Protecting Our Islands

From: [Tammy Ash Perkins](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Vote to NOT APPROVE the FEA for Kaua'i
Date: Thursday, October 12, 2023 7:41:38 AM

To whom it may concern;

I am opposed to the BLNR 10/13/23 agenda item C1.

Bacteria infected mosquito release projects are an extremely dangerous experiment. The people's concerns have not been adequately addressed. These mosquitoes transmit human diseases and we all know it. Pathogen screenings are not being disclosed.

Female mosquitoes that bite, breed, and spread disease will place the island people in danger and violates the Hawaii State Constitution. I demand an Environmental Impact Statement that proves that this project is safe and doesn't damage the islands fragile ecosystems.

Our islands are too fragile and require more investigative research before unleashing such horrific pathogens into our environment. We are not rats to be tested on.

No mitigation plan has been presented for the unintended consequences of this project. Dr. Lorrin Pang's concerns regarding tropical disease and the risks of these mosquito releases have not been taken seriously.

The people of Hawaii are demanding the halt of the mosquito release until further study can be made. It's best to be safe vs. sorry. Our lives depend upon it.

Me Ke Aloha
Tammy

Tammy Perkins
Maui District 12-02
Precinct President
VP Events
Rules Committee Rep
IPPRC Rep

Sent with [Proton Mail](#) secure email.

From: [Christine Peterson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda item C1
Date: Wednesday, October 11, 2023 7:13:11 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria infected mosquito release project is a dangerous experiment on our island.

Sincerely

Christine Peterson

From: [margo margo](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I oppose BLNR 1010/13/23 agenda item C1
Date: Thursday, October 12, 2023 4:38:48 AM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Who are these unelected people with the power to adversely effect the lives of everyone living on or visiting HI?!

Who is profiting from this misguided travesty?

Investigations are in order & those responsible must be held accountable.

Sincerely,
Martha E. Powell
321-209-5622
Hilo, HI

From: [Dea Rackley](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] No! To bacteria-infected mosquito release
Date: Thursday, October 12, 2023 6:16:46 AM

Have yaw lost your minds or morally and financially bankrupt?

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Dea Rackley
Kumukahi77@gmail.com
Pahoa, Big Island

From: [Juhl Rayne](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] agenda C1 - NO mosquitos please
Date: Tuesday, October 10, 2023 6:35:47 PM

aloha,

my name is Juhl Rayne and I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

who is wanting this to happen? follow the \$\$\$\$ trail.... this will cause MANY problems... since when have any introductions of animals/insects to the island fragile eco-system EVER done any good... NEVER....

blessings on your souls if you let this happen... you will need it.

Juhl Rayne

From: [Ronald Rector](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquitoes
Date: Thursday, October 12, 2023 7:34:28 AM

Please do not release these mosquitoes on our island or any island. This shows the ignorance of people. You are creating irreparable harm by an untested experiment.

Please show some wisdom and not release these mosquitoes

Sent from my iPhone

From: [Reynolds Carolyn](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] : I oppose the BLNR 10/13/23 agenda item C1...STOP THIS EXPERIMENT!
Date: Wednesday, October 11, 2023 12:46:31 PM

Sample Testimony: I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment! P

From: [Laila Rice](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] STOP Wolbachia Injected Mosquitoes in Kauai!
Date: Wednesday, October 11, 2023 7:01:29 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands.
We **MUST** have a FULL EIS before moving forward with this experiment!
This is a terrible action when they are already going through so much.

Laila Rice
Counting my blessings
Phone-425-422-5633

From: [Robbie Roosen](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I'm opposed to the BLNR 10/13/23 agenda item C1.
Date: Wednesday, October 11, 2023 8:32:13 AM

This project is going to degrade our Aina.
Much testimony about real dangers is being ignored.
Stop this foolishness and truly malama Aina.
You should be ashamed of your actions, which will ultimately bring more pain and suffering to our ecosystem.

Robert G. Roosen, PhD
Owner/Director
Rainbow Observatory

From: [Mirra Rose](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquitoes
Date: Tuesday, October 10, 2023 8:37:17 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

Please be aware of the dangers involved in this "experiment". Once the genie's out of the box you can't put him back in.

Sincerely,

Mirra Rose

From: [Karen Rowland](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] STOP Wolbachia Injected Mosquitoes in Kauai
Date: Wednesday, October 11, 2023 7:30:42 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

We are not your lab rats who might or might not be severely affected by another invasive species gone wrong!

Karen Rowland

--

Karen Rowland

Retirement Income Specialist

NPN #11568518

(808) 640-6981

From: [A. Russell](#)
To: [DLNR.BLR.Testimony](#)
Subject: [EXTERNAL] STOP NOW !!!! STOP NOW!!!
Date: Wednesday, October 11, 2023 8:05:16 PM

From: [Dave Ryan](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito release
Date: Wednesday, October 11, 2023 9:41:47 PM

I am opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment for all of the Hawaiian islands. We must have a full EIS.

Sincerely,
David Thomas Ryan

Aloha

From: [lyndasaito](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose BLNR
Date: Wednesday, October 11, 2023 3:42:33 PM

Im opposed to BLNR 10-13-23 Agenda C1.

Sent from my Galaxy

From: [John Schnetzler](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony To stop Wolbachia Injected Mosquito Release Now!
Date: Wednesday, October 11, 2023 7:35:41 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Jean Schnetzler
P.O. Box 11475
Hilo HI 96721

From: [anne.schoen](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Stop Mosquito Experiment
Date: Wednesday, October 11, 2023 2:05:25 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Thank you,

Anne M. Schoen

From: [Luana Aloha Shea](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] 10/23/23 Agenda item C 1
Date: Wednesday, October 11, 2023 8:32:56 PM

I am strongly opposed to this agenda! A full Environmental Impact Statement must be done before anything of this magnitude is done. The repercussions are numerous! There are other options to help the bird populations! Do Not Proceed with agenda C1!

From: [elena sheatz](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR Agenda item C-1
Date: Thursday, October 12, 2023 2:26:56 AM

I am strongly opposed to the 10/13/23 BLNR Agenda Item C-1 . This bacteria infected release Project is dangerous on Kaua'i and all islands of Hawaii.

Do not allow this release! This could cause harm to the people of the islands as this BLNR project has possibly caused the return of malaria in Florida, Texas, and Maryland. This may also cause tourists to avoid travel here and cause economic hardship.

Thank you for your help with this matter.

Elena Sheatz

Kaua'i

Sent from my iPhone

From: [Ralph Sherman](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed to 10/13/23 C1
Date: Wednesday, October 11, 2023 12:21:40 PM

Are you out of your minds? This is so dangerous. What are you thinking? We do not want your mad science in Kauai.

I am opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

From: [Keilee Sigmar](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 Agenda Item C1
Date: Wednesday, October 11, 2023 5:33:31 PM

To Whom It May Concern:

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on the Hawaiian islands. Please do not allow this to happen!

Sincerely,

Keilee Sigmar

From: [m. scot Simpson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito project
Date: Thursday, October 12, 2023 6:25:33 AM

I'm **opposed** to the BLNR 10/13/23 agenda item C1.

When one inserts themselves into nature in the name of science, trying to control it with little to no knowledge on how it will work out, which the outcome could go in any direction given many factors because nature changes constantly, you must have the consensus of the people first, with full transparency.

We **MUST** have a FULL EIS before moving forward with this experiment!

Meredith Simpson

From: [Stephanie Anna Simpson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] NO injected mosquitoes
Date: Wednesday, October 11, 2023 7:46:09 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We MUST have a FULL EIS before moving forward with this experiment!

Stephanie Simpson - Maui

From: [marq sims](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] B.L.N.R AGENDA ITEM C`1
Date: Wednesday, October 11, 2023 9:01:16 PM

As a resident of the state of Hawaii, I wish to register my opposition to the B.L.N.R. agenda item C~1 on 10/13/23. Releasing a bacteria-infected mosquito into this biosystem is dangerous, near sighted, and scientifically irresponsible. As has happened, all too often in the past, this experiment will have long range unintended consequences that we will all regret. It is the 21st century equivalent of releasing the mongoose to deal with the rat problem.
signed Marq Sims...Hilo, Hawaii

From: [Olivia Smith](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Stop Agenda C1 on all islands
Date: Wednesday, October 11, 2023 10:57:30 AM

I am opposed to the agenda item C1 on 10/13/2023.
OJ Smith
Olivia3olivia3@gmail

From: [Ron Smith](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] blnr agenda item c1
Date: Wednesday, October 11, 2023 4:15:46 PM

I am opposed to the BLNE 10/13/23 agenda item C1



Virus-free www.avg.com

From: [Pamela Sosin](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposition to Release of Infected Mosquitos 10/13/23 Agenda Item C1
Date: Wednesday, October 11, 2023 11:11:19 AM

To the BLNR:

I am opposed to the BLNR 10/13/23 Agenda C-1.

This is dangerous to Hawaii.

Please do not release these mosquitos. You have no way of monitoring the results and it could lead to catastrophic consequences that would be out of your control.

From: [Nanshee113](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] STOP Wolbachia Injected Mosquitoes in Kauai!
Date: Wednesday, October 11, 2023 7:19:16 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

--

Nancy Spillmann

From: [eliel starbright](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I'm opposed to the BLNR 10/13/23 agenda item C1
Date: Tuesday, October 10, 2023 11:38:32 PM

I'm opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. Southern house mosquitoes transmit human diseases, and pathogen screenings are not being disclosed. Releases on Kaua'i cannot be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court. I do not accept the Finding of No Significant Impact for the "Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua'i." I demand an Environmental Impact Statement.

From: [Samantha Starkey](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquitoes
Date: Thursday, October 12, 2023 3:08:34 AM

Do you honestly think releasing more mosquitoes will help stop the spread of disease? Much like stopping the spread of COVID and “distance” standing? Reconsider playing God. It simply will backfire!

Samantha Starkey-MAT/BGS/2021 Food Fellow Graduate/**Operator of Starkey**

Farmstead

Greensburg, Louisiana

Organic Regenerative Agritourism and local farm

501-697-3398

Mr.stevenstarkey@icloud.com

From: [Sara Steiner](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Wolbachia Injected Mosquitos
Date: Thursday, October 12, 2023 8:47:24 AM

Dear BLNR,environment

You have to stop forging ahead on messing with the environment by releasing mosquitoes with Wolbachia virus without an Environmental Impact Statement.

You are stewards and tasked with the Public Trust and you should not cut corners because you can't go back and undo when you mess up!

Sincerely,

Sara Steiner
13-430 Pohoiki Road
Pahoa, HI 96778

From: [Umberto Taormina](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] STOP Wolbachia Injected Mosquitoes in Kauai!
Date: Thursday, October 12, 2023 2:11:13 AM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Umberto Taormina III
10 Pinewood Avenue
West Long Branch, NJ 07764 USA

From: [Trey Terada](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C
Date: Wednesday, October 11, 2023 5:47:54 PM

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

Aloha,
Tracey Y. Terada
808-721-7248

From: [Jackson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kua"i to save native birds
Date: Wednesday, October 11, 2023 5:16:50 PM

I am writing to state my OPPOSITION to the state's EPA Application for Emergency Exemption.

This microbial pesticide has not been registered by the EPA: lab-reared Wolbachia bacteria-infected mosquitoes. These mosquitoes have not gone through the EPA process of examining ingredients, site use; amount, frequency, and timing of use; and storage and disposal practices. Risk assessments to evaluate harms to humans, wildlife, fish, plants, endangered species, and non-target organisms haven't been conducted. Potential contamination of surface water or ground water, leaching, runoff, and spray drift haven't been evaluated.

This puts our wildlife, water supply, food supply, and future generations at risk!

We, the community, demand an Environmental Impact Statement!

- Jackson Teves
Sent from my iPhone

From: [sharkgss](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposition BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 9:55:55 PM
Attachments: [D. Thompson Testimony 24 July 2023 draft Kauai EA.pdf](#)

Aloha,

I am in strong opposition to the release of Wolbachia lab bred mosquitoes in Kauai or anywhere in Hawaii. I stand by my original testimony regarding the draft Environmental Assessment submitted on 24 July 2023.

Birds, Not Mosquitoes partners are ignoring public concern and the expert opinion of Dr. Lorrin Pang whom has decades of experience working in the field of tropical disease globally. He has authored almost eighty peer-reviewed articles, over forty of which are focused on mosquito-borne illness. Where are the studies addressing the information he has brought to these agencies' attention? Horizontal transmission, math models, mosquito wind drift, superinfection, increased pathogen infection and disease-spreading capability – these mechanisms all interact with each other and need to be studied both separately and in combination. Why have his alternative approaches for mitigating avian malaria not been considered?

The Southern House Mosquito proposed for release in Hawai'i is a vessel vector of disease. The potential for males to be infected (intended or accidental) during lab rearing and pass pathogen to biting females is highly feasible. This gives lab reared **males** the ability to be used as bio-weapon against a population. Page 315 of the EA addresses CONCERN 2: "Commentors were concerned that potential impacts to public health and safety, from increased risk of mosquito abundance and disease transmission, were not sufficiently addressed.

Response: Only incompatible male mosquitoes would be released via the proposed action. Male mosquitoes do not bite humans or animals and do not transmit diseases, and therefore pose no risk to human health. Only female mosquitoes bite humans or animals."

This response lacks sufficient depth and is misleading since male Southern House mosquitoes can and do pass pathogens to females that bite and breed. Why does Birds, Not Mosquitoes continue to ignore this important issue that has been brought to their attention numerous times in the past year? Biosecurity has not been considered as part of the overall plan and moving forward with this project without a proper risk analysis is negligent, reckless, and criminal.

The Kaua'i FEA specifically states that "monitoring the response of forests bird to mosquito suppression via the Incompatible Insect Technique (IIT) mosquito control is outside the scope of the proposed action of this EA." There is no intention by *Birds, Not Mosquitoes* of taking responsibility for the outcome of this mosquito release plan on the birds that are supposed to be the entire focus of this project. If monitoring the response of endangered birds to the release of bacteria-infected mosquitoes is out of the scope of the proposed action, there's clearly no intention of monitoring the response of people who may be impacted. This is outrageous!!!

Furthermore, the FEA's Cultural Impact Assessment interview transcripts reveal a startling

admission:

“BD: So do you guys have a plan to have those males [mosquitoes] removed in case it’s not successful? Or if it has a negative impact on some other species?”

WT: I’m not too sure. That’s a good point. I can ask that question and get back to you on that.”

I do not accept the Finding of No Significant Impact (FONSI) for the “Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua’i.” I demand that the State of Hawaii and its multi-agency partnership *Birds, Not Mosquitoes* complete a detailed, full scope Environmental Impact Statement (EIS) documenting the impacts to the health of the people, native birds, wildlife, and the ‘āina.

Mahalo,

Donna Thompson

Kamuela, HI

Sent with [Proton Mail](#) secure email.

Aloha,

This testimony is in regards to draft Kaua'i Environmental Assessment (EA) completed in June 2023.

I am **strongly opposed** to the request for Anticipated Finding of No Significant Impact (AFONSI) for the release of lab bred *Wolbachia* southern house mosquitoes in Kaua'i and all Hawaiian Islands for numerous reasons documented in this extensive testimony. There is insufficient detail for the public to properly evaluate the EA as being safe for the environment. The Kaua'i draft EA requires much more study on secondary impacts with no less than a full scope Environmental Impact Statement (EIS) since mosquitoes are a vector of disease.

The Incompatible Insect Technique (IIT) is being promoted in the EA as a mosquito control method to help save endangered birds from avian malaria. Page 9 of the EA states this technique has been successfully implemented in 14 countries and 4 cities in the United States, but fails to list the countries and projects that are connected. The only *Wolbachia* program that has been implemented worldwide at this scale is the World Mosquito Program funded by The Bill and Melinda Gates Foundation. This is a different method involving *Aedes aegypti* males and females released into urban areas for population replacement to control Dengue fever, a human disease. The World Mosquito program chart on its website lists difference between the methods used worldwide. The IIT method proposed for Maui and Kaua'i "relies on the continuous production and release of male mosquitoes and is, therefore, more expensive than the World Mosquito Program's method. There is no field evidence that it can reduce the risk of mosquito-borne diseases."

<https://www.worldmosquitoprogram.org/en/learn/how-our-method-compares>

The IIT method has never been used for conservation purposes or with the species *Culex quinquefasciatus* (southern house mosquito) anywhere worldwide. This is an experiment based on several unsound justifications and references. Federal documents admit the outcome is unknown. The public has already voiced numerous concerns about the release of lab bred mosquitoes in response to the Maui EA which is now being challenged in environmental court to seek a ruling to require an Environmental Impact Statement. No further actions should be taken to release biopesticide mosquitoes anywhere Hawai'i while the need for further study of the risks is actively being litigated.

Since spring 2022, as a veteran in National Security and Investigations for over 30 years, I have personally studied the science in depth behind the use of *Wolbachia* for mosquito control. After reviewing thousands of pages of scientific papers, environmental assessments, government documents, videos, interviews, funding, and grants related to

Wolbachia; as well as consulting with experts regularly; what stands out from all this research is that Wolbachia bacterium strains are still being discovered and its impacts are yet to be fully understood. Its influence on other life forms; including humans, native birds, arthropods and filarial worms' reproductive cycle and pathogen infection (either to block or promote) is **still in process** of being vetted.

Science is still grasping the mechanisms of Wolbachia as documented on page 32 of Evaluation of Existing EFSA Guidelines for their Adequacy for the Molecular Characterization and Environmental Risk Assessment of Genetically Modified Insects with Synthetically Engineered Gene Drives. "The mechanism of Wolbachia-induced pathogen-blocking is not well understood (Marshall et al., 2019). Yet, this feature, along with the gene drive-like inheritance pattern of Wolbachia, has been harnessed in replacement strategies to limit disease transmission by mosquito populations." <http://www.ask-force.org/web/EFSA/EFSA-GMO-Panel-Gene-drive-document-for-consultation-20200129.pdf>

We are awaiting results of grants researched out of Penn State University thru NIH including WOLBACHIA-INDUCED ENHANCEMENT OF HUMAN ARBOVIRAL PATHOGENS. "A SOBERING REMINDER THAT THE PATHOGEN INHIBITORY EFFECTS RESULTING FROM WOLBACHIA INFECTION IN SOME INSECTS CANNOT AND SHOULD NOT BE GENERALIZED ACROSS VECTOR-PATHOGEN SYSTEMS. UNDERSTANDING THE GENERAL ARE CRITICAL FOR ESTIMATING HOW LIKELY WOLBACHIA-BASED CONTROL STRATEGIES ARE TO FAIL OR **MAKE THINGS WORSE**, FOR IDENTIFYING POTENTIAL POINTS WHERE WOLBACHIA-BASED CONTROL IS LIKELY TO BREAK DOWN IN THE FIELD, AND FOR PLANNING RISK MITIGATION STRATEGIES IN HE CASE OF UNFORESEEN HARMFUL OUTCOMES. IN THIS RESEARCH, WE WILL INVESTIGATE THE HYPOTHESIS THAT WOLBACHIA-INDUCED MODULATION OF THE MOSQUITO HOLOGENOME CAN LEAD TO INCREASED ARBOVIRUS INFECTION/TRANSMISSION IN SOME VECTOR-PATHOGEN SYSTEMS OF HUMAN IMPORTANCE." <https://govtribe.com/award/federal-grant-award/project-grant-r01ai116636>

Wolbachia Potential to Increase Pathogen Infection

The Southern House Mosquito can transmit Avian Malaria, Avian Pox, Western Equine Encephalitis, West Nile Virus, Canine Heartworm, Lymphatic Filariasis/Elephantiasis, St. Louis Encephalitis and is a potential vector of Zika virus. There are Wolbachia studies that have shown it to increase pathogen infection in some instances

"Mosquitoes infected with the bacteria Wolbachia are more likely to become infected with West Nile virus and more likely to transmit the virus to humans, according to a team of researchers." "The results suggest that caution should be used when releasing Wolbachia-infected mosquitoes into nature to control vector-borne diseases of humans." <https://www.sciencedaily.com/releases/2014/07/140710141628.htm>

Wolbachia Enhances West Nile Virus (WNV) Infection in the Mosquito *Culex tarsalis*
<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0002965>

Wolbachia Can Enhance Plasmodium Infection in Mosquitoes: Implications for Malaria Control? <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4154766/>

Antibiotic Resistance

Page 12 of Kauai EA states: “To produce the incompatible male southern house mosquitoes for this project, a laboratory line of Hawai‘i mosquitoes was generated with the wAlbB strain of Wolbachia. This was accomplished through a multi-step process that involved rearing Hawai‘i mosquitoes in the lab and removing the wPip Wolbachia from their bodies with **common antibiotics**. The wAlbB strain of Wolbachia was then transferred into the eggs of these Wolbachia-free Hawai‘i mosquitoes.”

Use of this method over time with constant releases can lead to antibiotic resistance with unknown effects on the environment and can cancel out effectiveness of treatment for diseases in which Wolbachia is implicated in humans which is highly concerning.

The endosymbiont Wolbachia rebounds following antibiotic treatment
<https://pubmed.ncbi.nlm.nih.gov/32639986/>

Previous mosquito control projects in California and Cayman Islands using Genetically Modified (GM) mosquitoes (which also uses antibiotics during lab rearing) have not renewed contracts. “Cayman Island officials were set to renew their contract. But data from the trials indicated serious problems, leading the territory’s environmental health minister to tell the Edmonton Journal, the scheme was not getting the results we were looking for. There was further concern that the released mosquitoes could be spreading antibiotic resistance or make mosquito-borne diseases worse by lowering individual immunity.”

Modified Mosquitoes Fail to Beat Malaria

<https://www.pressreader.com/canada/edmonton-journal/20181126/281951723871847>

“British biotechnology company Oxitec is withdrawing its application to release billions of genetically engineered mosquitoes in California, according to a recent update from the California Department of Pesticide Regulation.”

<https://beyondpesticides.org/dailynewsblog/2023/05/efficacy-and-health-issues-stop-release-of-genetically-engineered-mosquitoes-in-california-florida-continues/>

There are parallels between GM and Wolbachia techniques. Biologically Wolbachia lab infected mosquitoes are not GM mosquitoes, but the study designs, math, and adherence to protocol apply to both situations. The main biological difference is there is slower horizontal transfer of mutations of the GM mosquito than with horizontal transfer of Wolbachia. This means Wolbachia as a natural gene drive has the potential to have **greater unknown impact** on the environment, which necessitates the need for a full scope Environmental Impact Statement (EIS).

Horizontal Spread, Vertical Transmission, and Wolbachia as Gene Drive

“The evidence of horizontal spread of Wolbachia shows that the bacteria go not only to sexual cells, but also to somatic cells (non-sexual cells of the body). Wolbachia can also live outside of the intra-cellular systems for several months.” Wolbachia Horizontal Transmission Events in Ants: What Do We Know and What Can We Learn?

<https://pubmed.ncbi.nlm.nih.gov/30894837/>

Horizontal Gene Transfer Between Wolbachia and the Mosquito *Aedes aegypti*
<https://bmcgenomics.biomedcentral.com/articles/10.1186/1471-2164-10-33>

This document submitted by Oxitec to the EPA in 2015 outlines numerous legitimate and studied issues regarding the use of Wolbachia. [https://downloads.regulations.gov](https://downloads.regulations.gov/EPA-HQ-OPP-2015-0374-0018) › EPA-HQ-OPP-2015-0374-0018 › attachment_1.pdf

“Wolbachia is a bacterium residing within the cells of insects, and is passed through vertical transmission from mother to offspring. **Even a single Wolbachia infected female could lay hundreds of eggs that would invade the wild population, rendering the Incompatible Insect Technique ineffective** and spreading a new strain of Wolbachia into the environment. Modelling has shown that conditions of lower competition can favour infected females [6-8]. In other words, as a mosquito population is reduced, or if a population is already low, the chances of Wolbachia invading the wild population are increased.”

“The Wolbachia is an endosymbiont on the cytoplasm of the cell so over a thousand new genes are introduced into the insect cells, some or all of which have the potential to randomly integrate into the insect’s nuclear genome with unknown consequences. Moreover, the possible persistence of Wolbachia mosquitoes themselves is a significant concern. For the reasons set forth below, each new strain of mosquito, or indeed any artificially Wolbachia infected insect needs to be treated as a new strain and thoroughly tested in the laboratory before any field releases.”

“The whole genome of Wolbachia can transfer to a host genome, meaning a host mosquito could be transformed with over one thousand new genes with unpredictable results [2-5].”

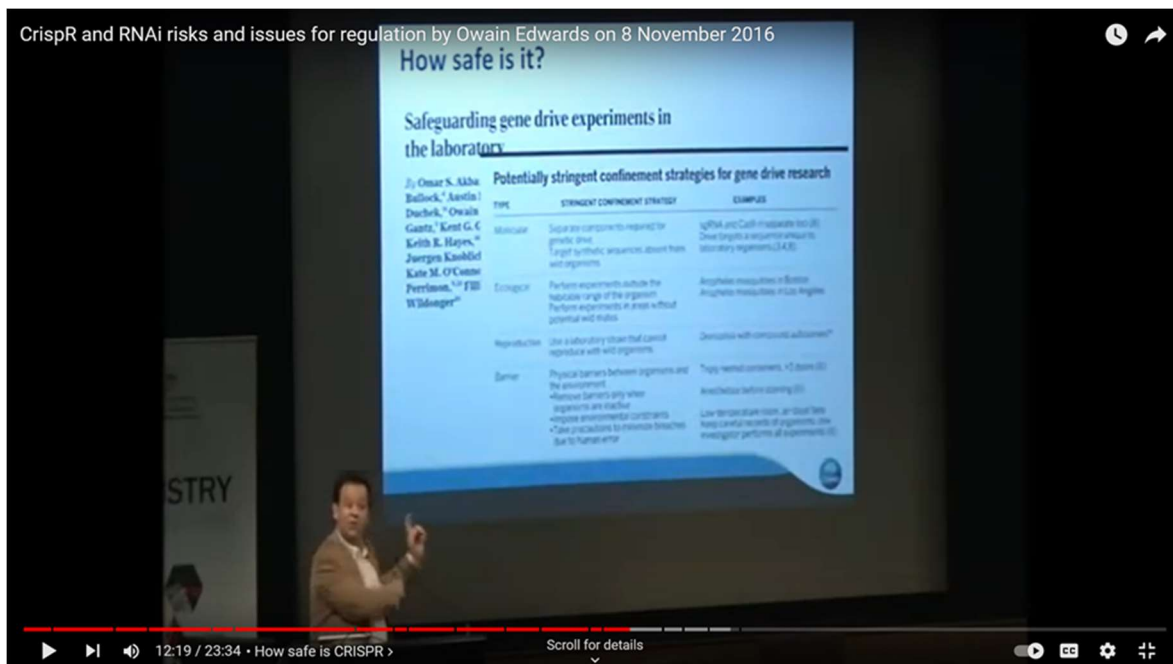
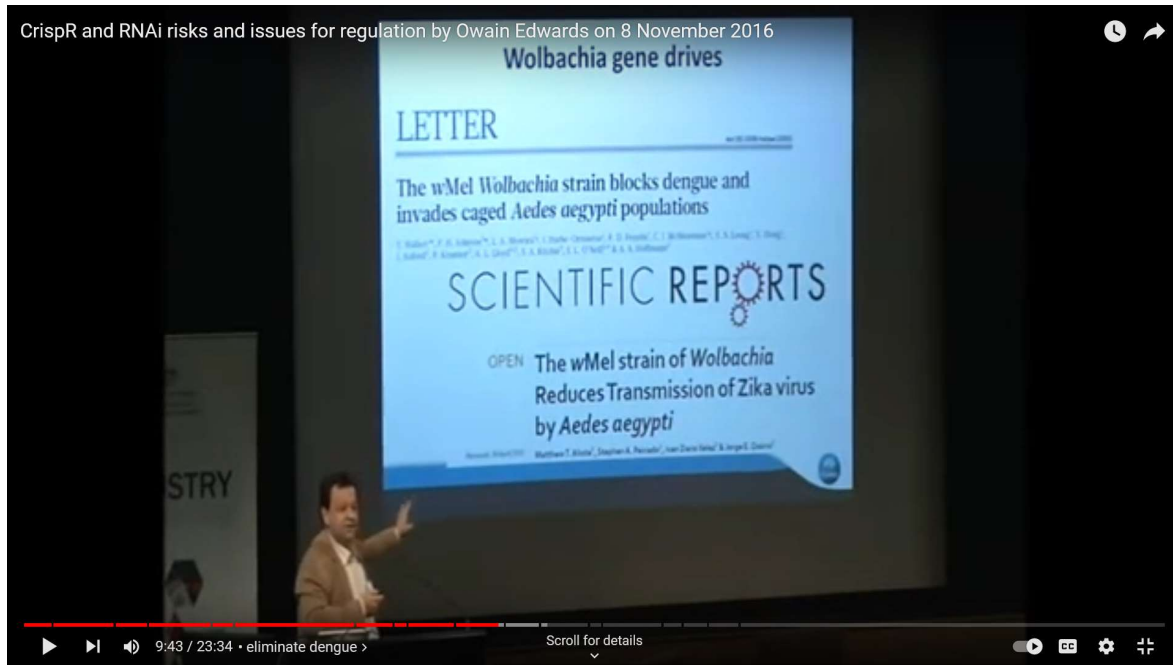
“It has already been shown that horizontal gene transfer (HGT) can transfer genes between Wolbachia and its host in *Aedes aegypti* [12] and several other mosquito species [13]. Therefore, **Wolbachia can genetically transform** its host with functional genes with currently unknown consequences.”

“Horizontal transmission between unrelated host species is a proven phenomenon in Wolbachia [25]. Studies have demonstrated that genetic sequences, ranging in size from Horizontal transmission between unrelated host species is a proven phenomenon in Wolbachia [25]. Studies have demonstrated that genetic sequences, ranging in size from single genes to entire bacterial genomes, have been transferred from Wolbachia to

many of their insect hosts [2-5], and its effect on disease transmission is variable and potentially dangerous.”

Owain Edwards of CSIRO in Australia (Commonwealth Scientific and Industrial Research Organisation) was involved in the *Aedes aegypti* trial around Innisfail (Beebe et al 2021) that was funded by Verily Life Sciences. Dr. Edwards refers to Wolbachia as a type of natural gene drive during his 2016 presentation for APVMA.

https://www.youtube.com/watch?v=Lm_WS9eXYIU



Dr. Edwards elaborates there are limitations on the use of Wolbachia application over time which can lead to limited choice of genes and for the Wolbachia technique to remain effective at suppressing mosquito population, a variety of natural strains are needed. The next step in the process is explained using CRISPR technology - synthetic gene drives. Dr. Edwards emphasizes while working on synthetic gene drives, “it requires double and triple containment to make sure these don’t get out of the laboratory.” This is concerning since page 32 of EA says, “DLNR is also exploring future options for establishing a state-run mosquito-rearing facility in Hawai’i; mosquito sources could also originate from a similar but state-run mosquito-rearing facility in the future. Should DLNR pursue this option, the appropriate regulatory permits and documentation (environmental reviews and facility compliance) would be necessary.”

Federal documents state plans for future tools to include synthetic gene drives, next generation tools, synthetic biology control tools, novel technology deployment, and precision-guided Sterile Insect Technique (pgSIT) (CRISPR technology) in Hawai’i. While “technology for this approach is not available for near-term implementation,” development and deployment of these tools appear to be a long-term goal at the federal level.” U.S. Department of the Interior Strategy for Preventing the Extinction of Hawaiian Forest Birds – <https://www.fws.gov/sites/default/files/documents/DOI%20Strategy%20for%20Preventing%20the%20Extinction%20of%20Hawaiian%20Forest%20Birds%20%28508%29.pdf>

Wolbachia DNA into Host DNA – “A team of researchers has discovered that a bacterial parasite (called Wolbachia) can insert almost its entire genome into the genomes of members of one host species (a fly called *Drosophila ananassae*), and can insert parts of its genome into the genomes of members of several other host species.” https://www.nsf.gov/news/news_summ.jsp?cntn_id=109957

Lack of Bio-Security

There has been no documentation offered to the public outlining risk analysis conducted on the security vulnerabilities for lab bred mosquitoes that can be utilized as bio-weapons against a population (intended) nor details of quality control mechanisms for accidental transmission of pathogens (unintended). This includes failure to discuss how they will deal with accidental female escape, wind drift, or how male lab bred culex q. mosquitoes released into the wild can pass pathogen to biting females thru mating and shared feeding/water sources. The public has no idea how these lab mosquitoes will be quality controlled and tested.

Intended entomological warfare involves infecting insects with a pathogen and then dispersing the vectors over target areas. Invasive insects can also be deployed into a country en masse to take out crops and cripple a food supply. In New York the Plum Island lab was involved in the development of offensive bioweapons that led to Lyme's disease outbreaks. Japan's biological warfare unit (Unit 731) was deployed against China during World War II. The unit deployed plague-infected fleas and cholera-infected flies to take out the Chinese. <https://citizens.news/694097.html>

“We recommend careful invigilation of the international borders, airports, and seaports by the trained scientists to identify any accidental and/or deliberate import of alien arthropod vectors. Therefore, it is well advised to take seriously the possibility that arthropod could be used to attack people. Moreover, future research priorities should also includes high-throughput molecular diagnostics of diseases, identification of vectors, phylogenetic studies to understand the origin and distribution of the pathogen and vector strains. A rapid action team of trained scientist and health workers equipped with modern sophisticated diagnostic tools and suitable vector extinguishers should be appointed by the state and/or central health authorities to counter act any such emergency”. Bioterrorism on Six Legs by Dr. Manas Sarkar.

A patent was developed in 2014 involving drones that transport and release mosquitoes. It mentions in the patent these drones can be co-opted for bio-weapons military programs. <https://patents.google.com/patent/US8967029B1/en>

Page 23 of the EA states “By contrast, male’s proboscises are adapted to primarily feed on plant nectar and secretions, and do not feed on blood (Mullen and Durden 2009). Therefore, male mosquitoes cannot transmit disease.” **This is incorrect and misleading to the public** since we come to find male lab bred mosquitoes can pass pathogens to wild biting females thru mating and shared feeding/water sources. Venereal Transmission of St. Louis Encephalitis Virus by *Culex quinquefasciatus* Males (Diptera: Culicidae) – Donald A. Shroyer (Journal of Medical Entomology, 5/1990) <https://academic.oup.com/jme/article-abstract/27/3/334/2220754?login=false>

There is no mention in the Kaua’i EA on how lab batches will be quality controlled or tested for unintended pathogens upon arrival to Hawai’i or if lab employees in contact with these mosquitoes will go thru security clearance screening and training. No documented assurances have been made to the public that lab suppliers will be testing mosquitoes for human, equine, canine, or avian diseases to ensure that they are pathogen-free prior to shipping to Hawai’i.

The science and tech industry in the United States, to include Silicon Valley and Academia, has been heavily infiltrated by the Chinese Communist Party (CCP) and non-government organizations such as Davos and the World Economic Forum whom have been strongly pushing Agenda 2030 thru climate change initiatives. Due to the deterioration of relations between the US and China, among other adversaries, mosquito control releases should not move forward until sound security protocols are adequately implemented. <https://www.justice.gov/opa/pr/harvard-university-professor-and-two-chinese-nationals-charged-three-separate-china-related>

The Bill and Melinda Gates Foundation (Gates), also connected to the above-mentioned entities, are strong proponents of climate agenda and have openly discussed support of human depopulation. This is the same foundation that has been funding ongoing research of Wolbachia (World Mosquito Program and numerous grants) and GM mosquitoes including Oxitec since 2002. Gates has also funded research developing anti-malaria vaccines using mosquitoes as a delivery system which is highly concerning.

<https://www.npr.org/sections/goatsandsoda/2022/09/21/1112727841/a-box-of-200-mosquitoes-did-the-vaccinating-in-this-malaria-trial-thats-not-a-jo>

Wolbachia Has Been Implicated in Human Disease

Wolbachia is NOT harmless to humans. It effects filarial worms that cause human disease such as river blindness and is implicated in Elephantiasis. These diseases effect millions of people each year. According to the CDC website, “There is a promising treatment using doxycycline that kills the adult worms by killing the Wolbachia bacteria on which the adult worms depend in order to survive”.

<https://www.cdc.gov/parasites/onchocerciasis/treatment.html>

“For decades, people have blamed a parasitic nematode worm for a disease that has blinded at least 250,000 people now living in Africa and South America. But the real culprit may be the ubiquitous Wolbachia, bacteria that colonize many hundreds of species, including the worm indicted in river blindness. Researchers now report that **Wolbachia stimulate the severe immune system response that slowly robs people of their vision**”. <https://www.science.org/content/article/worms-may-not-act-alone-river-blindness>

Anti-Wolbachia therapy for onchocerciasis & lymphatic filariasis: Current perspectives
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6755775/>

Efficacy of 2- and 4-week rifampicin treatment on the Wolbachia of *Onchocerca volvulus*
<https://pubmed.ncbi.nlm.nih.gov/18679718/>

The Kauai EA’s assertion that released mosquitoes pose no risk to human health is based on unsound science. On page 25 of the EA it says “Wolbachia cannot live within vertebrate cells and cannot be transferred to humans even through the bite of a mosquito that carries it (Popovic et al. 2010). “

In contrast we know science is recently **discovering detection of Wolbachia genes in humans**: Detection of Wolbachia genes in a patient with non-Hodgkin's lymphoma
[https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X\(14\)00040-8/fulltext](https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X(14)00040-8/fulltext)

“Wolbachia 16S rRNA and fbpA genes were twice detected over 5 days in the blood of a patient with high fever. The patient was given fluoroquinolones and the fever resolved. Four weeks later, he was diagnosed with non-Hodgkin's lymphoma and received R-CHOP (Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, Prednisolone) treatment resulting in complete remission. This is the first report of detection of Wolbachia genes from the blood of human patients with non-Hodgkin's lymphoma.”

The 2010 article by Popovici et al. cited in the EA has been discredited by the EPA. The EPA Human Studies Review Board met in 2018, and the following question was posed:

“Is the research described in the published article ‘Assessing key safety concerns of a Wolbachia-based strategy to control dengue transmission by *Aedes* mosquitoes’

scientifically sound, providing reliable data for the purpose of contributing to a weight of evidence determination in EPA's assessment of the risks to human health associated with releasing Wolbachia-infected mosquitoes?"

The Board's response states: "The Board concluded that the research described in the article by **Popovici et al. was not scientifically sound** and does not provide reliable data to contribute to a weight of evidence determination for assessment of human health risks due to release of Wolbachia-infected mosquitoes."

Inconsistent Climate Data and Mosquito Population Trends

The EA states, "Some climate change models suggest that the mean temperatures in Hawai'i may increase by 3°– 4°C by 2100 (Hayhoe et al. 2018). The effects of climate change have been found to result in increased stress to natural systems through altered temperatures and rainfall patterns (Alexander et al. 2016). Increases in mean temperatures, for example, have facilitated the spread of mosquitoes and avian malaria into habitats where cool temperatures very recently limit mosquito presence and transmission of malaria to highly susceptible endemic forest birds (Atkinson et al. 2014)."

Contrary to the above claims, from 1978 to 2017 (0 to 1600 meters) Kagawa and Giambelluca 2019, Spatial Patterns and Trends in Surface Air Temperatures and Implied Changes in Atmospheric Moisture Across the Hawaiian Islands, 1905–2017. Researchers summarized data from weather stations on several islands pooled together. They extended the range of observations to the year 2017. Daytime cooling was noted at upper elevation below the trade wind inversion that is consistent with observed cooling of –0.2 to –0.8°C/decade at multiple high elevation stations during 1988–2013 (960–2,990 m; Longman, Giambelluca, et al., 2015). <https://agupubs.onlinelibrary.wiley.c>

Additional skepticism to global warming trend is gaining momentum among the scientific community. The World Climate Declaration – There is no Climate Emergency was signed by over 1580 vetted scientists and continues to grow. <https://clintel.org/wp-content/uploads/2021/03/WCD-A4version09202013.pdf>

Greenpeace Founder Patrick Moore Says Climate Change Based on False Narratives <https://www.theepochtimes.com/science/exclusive-former-greenpeace-founder-patrick-moore-debunks-the-false-narratives-of-climate-change-4709568?rs=SHRDHWFRF>

Climate Activists Invest in Property on Beaches They Say are Disappearing <https://www.washingtonexaminer.com/politics/climate-activists-invest-property-beaches-climate-change-sea-rise>

In 2013 Lisa Crampton and Anouk Glad conducted a study of *Plasmodium relictum* infection in *Culex quinquefasciatus*. The rate of capture of adult mosquitoes and *Plasmodium relictum* percentage was extremely low at Alakai Plateau of Kaua'i. <https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/jvec.12157>

“The infection rate of *Plasmodium relictum* is also essential to understanding the transmission rate to birds on the Alakai Plateau. We screened 17 mosquitoes caught at Halepa’akai and 16 mosquitoes caught at Kawaikoi in October and November for *P. relictum* infection using PCR. One mosquito from Halepa’akai tested positive for infection. We dissected 33 mosquitoes caught at Kawaikoi (winter and spring); none of them tested positive for infection by *P. relictum* (neither oocysts nor sporozoites were observed). Only three mosquitoes caught at Halepa’akai (January) were dissected, and none of them were infected (neither oocysts nor sporozoites were observed). Thus, the **prevalence rate of *P. relictum* in our study is 1.45% (n=69).**”

Page 34 of EA uses mosquito estimates documented over 10 years ago from Hawai’i Island. “Estimates range from an abundance of approximately 600 mosquitoes per acre near sea level on Hawai’i Island where monthly temperatures average 70–75° F, to an abundance of five mosquitoes per acre at an elevation of approximately 4,000 feet where temperatures average 55–60° F (Samuel et al. 2011, Atkinson et al. 2014).”

Page 19 of EA states “Mosquito populations and avian malaria have recently expanded into higher elevation habitat, which is the last refugia for these endangered avian species.” I could not find a reference study proving the mosquitoes are invading higher elevations in the proposed release areas in Kaua’i or recent documentation on the prevalence rate of *Plasmodium relictum* since the Crampton and Glad study in 2013.

Verily Life Sciences and Rhodamine B

Verily’s registrant representatives are listed in the Department of Agriculture Import Application - https://hdoa.hawaii.gov/wp-content/uploads/2018/05/HDOA-Mosquito-Request-PA_Final-6.8.21.pdf - and are co-authors of Mark Release Recapture of Male *Aedes aegypti* use of **Rhodamine B** to Estimate Movement, Mating and Population Parameters for an Incompatible Male Program https://www.researchgate.net/publication/345648051_Title_Mark-release-recapture_of_male_Aedes_aegypti_Diptera_Culicidae_use_of_rhodamine_B_to_estimate_movement_mating_and_population_parameters_in_preparation_for_an_incompatible_male_program

The EA mentions no use of the toxin Rhodamine B. Will Rhodamine B be used in Kauai’s MMR studies? Is there potential ongoing use of Rhodamine B could have implications on land and aquatic lifeforms?

<https://www.sciencedirect.com/science/article/abs/pii/S0045653521025522>

Rhodamine B (RhB) is among the toxic dyes due to the carcinogenic, neurotoxic effects and ability to cause several diseases for humans.

<https://pubmed.ncbi.nlm.nih.gov/33857893/>

In Summary I am opposed to request for approval of the draft Kauai Environmental Assessment for the numerous reasons documented in this testimony. Sections of the EA lack sufficient detail, contain outdated references and EPA discredited sources. It is unfortunate this project is being fast tracked and in hindsight, a full scope EIS should have been completed years ago.

I am additionally concerned the use of Wolbachia IIT as a mosquito suppression method to save the birds will not have the intended outcome, according to the World Mosquito Program “there is no field evidence it can reduce the risk of mosquito born diseases”. The logical next step already in discussion in Federal documents would be a segway into controversial and potentially dangerous synthetic gene drive technology in which corporate gain will be at the expense of the Hawaiian ecosystem.

Respectfully,

Donna Thompson
Kamuela, HI
sharkgss@protonmail.com

From: [Kaylin VW](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Submitting Testimony
Date: Wednesday, October 11, 2023 4:30:37 PM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i.

Mahalo,

Kaylin Van Waus

From: [STEPHEN VERA](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Fwd: BLNR Agenda C1
Date: Thursday, October 12, 2023 7:52:28 AM

----- Original Message -----

From: STEPHEN VERA <stephenvera@comcast.net>

To:

Date: 10/12/2023 11:50 AM MDT

Subject: BLNR Agenda C1

I am opposed to the BLNR 10/13/2023 agenda C1. This bacteria-infected mosquito release project is a dangerous experiment on the Hawaiian islands. A full Environmental Impact Study (EIS) is imperative prior to any release to ensure there is a benefit and no harm to wildlife or humans.

Steve Vera

720-291-6743

From: [Carolina Visser](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Unnatural mosquitoes
Date: Wednesday, October 11, 2023 7:20:27 PM

This idea is dangerous to the environment and endangered species and nature and humans. There are too many risks involved and it's irreversible. Please see that this could create horror for us all. Carolina Visser
Naalehu Hawai'i
Sent from my iPhone

From: [Ivon Vivianna](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Oppose Agenda item C1
Date: Thursday, October 12, 2023 7:59:42 AM

To whom it concerns , I'm opposed to the BLNR planned biopesticide mosquito releases on Kauai. This project is an experiment on our island home. There are potential serious risks, and the outcomes we do not know . Thank you for your time.

Elizabeth Ivon Kendrick

From: [Patricia Walters](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR 10/13/23 Agenda Item C1
Date: Thursday, October 12, 2023 7:11:51 AM

I am opposed to the BLNR 10/13/2023 agenda C1. This bacteria-infected mosquito release project is a dangerous experiment on the Hawaiian islands. A full Environmental Impact Study (EIS) is imperative prior to any release to ensure there is a benefit and no harm to wildlife or humans.

--

Patricia Walters
6230
303-325-4436 Cell

From: [Robyn And Jeff](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL]
Date: Thursday, October 12, 2023 6:01:52 AM

To Whom it may concern, I am opposed to the BLNR 10/13/23 Agenda item C1 this bacteria infected mosquito release is dangerous for the Islands of Hawaii. Outcome Unknown, is not okay to take a risk with a mosquito that may cause more harm than good. This is very dangerous.

Sincerely

--

Robyn Watts

From: [Robyn And Jeff](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL]
Date: Thursday, October 12, 2023 6:01:52 AM

To Whom it may concern, I am opposed to the BLNR 10/13/23 Agenda item C1 this bacteria infected mosquito release is dangerous for the Islands of Hawaii. Outcome Unknown, is not okay to take a risk with a mosquito that may cause more harm than good. This is very dangerous.

Sincerely

--

Robyn Watts

From: [Joanna Weber](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed to the BLNR 10/13/23 agenda item C1
Date: Wednesday, October 11, 2023 5:25:39 PM

ALOHA

I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!

ALOHA, JOANNA WEBER

From: [Gail Kelly](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Opposed Agenda Item C1
Date: Tuesday, October 10, 2023 4:45:10 PM

I am opposed to passing the finding of "no significant impact" for the "Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito. The study was deeply flawed from the beginning with the acceptance of past studies in other countries.

It is hard for me to believe that our fragile ecosystem can be ignored by the passing of a gavel. There are too many questions, and not enough evidence, to proceed. We will not only be harming mother nature but our selves. Other science-minded individuals have rushed to the finish line in the past. Let this be an Ah Ha moment and pay attention to your conscience. Don't let fear over ride principles. Vote No, vote not at this time, vote for more information and environmental studies needed. Just say No.

Gail Kelly
15-1101 Kiawe Road
Keaau, HI 96749
8087858443

From: [dragonlady3](#)
To: [DLNR.BLNR.Testimony](#); [DLNR.CO.PublicDLNR](#); [dagaran@kauai.gov](#); [mayor@kauai.gov](#)
Subject: [EXTERNAL] BLNR 10/13/23 agenda item C1 - STRONGLY OPPOSED
Date: Wednesday, October 11, 2023 8:30:38 PM

Dear Chairperson Chang,

I am a Hawaiian Island tax paying, voting citizen, I am writing this letter as a representative for the 100 people I know who are also in support of my position.

We are outraged by the crude, shoddy, second rate, inferior research that has been conducted so far. We are opposed to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. Concerns about this plan have not been adequately addressed. The final EA fails to address biopesticide wind drift – the movement of biopesticide mosquitoes through wind to unintended areas.

Mosquitoes carried on the wind into and out of the release sites of the project area have not been factored into the math model or the overall plan.

Southern house mosquitoes transmit human diseases, and pathogenic screenings are not being disclosed. Female mosquitoes that bite, breed, and spread disease will be released. This project has the potential to cause the extinction of the native birds it is meant to protect and the follow up monitoring is minimal. **Releases on Kaua‘i must be allowed to move forward while the need for further study of the serious risks of these mosquitoes is still being litigated in court!!!**

I do not accept the Finding of No Significant Impact for the use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Nonnative Southern House Mosquito Populations on Kaua‘i, nor should you if you do your homework.

Please read the article (by Popovici et al) citing the FEA was **discredited by the EPA in the 2018-** EPA Human Studies Review Board Meeting Report (April 24-26, 2018). Under Assessing key safety concerns of a *Wolbachia*-based strategy to control dengue transmission by *Aedes* mosquitos (2010).

We also have concerns of a horizontal gene transfer and certainly not enough research has been done on this potentially dangerous experiment.

We tax paying voters are requesting there to be no movement forward releasing this bacteria infected mosquitoes on ANY OF OUR ISLANDS until the case in litigation with BNM and the other defendants regarding Maui has been clearly decided.

Then we citizens can trust that our governmental leaders has the right moral compass and won't jeopardize our fragile ecosystems nor our/your future generations. By stopping this proposed experiment on Kaua'i you can rest assured that you have done a good job in governing your citizens and future generations and you will sleep well at night. In your heart you will notice a calm and pride from knowing that you have stood up and took the morally correct action. God is watching as well as your grandchildren.

Mahalo nui loa,

Maya Wong

From: [Lynne Wood](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] No to those mosquitoes!!
Date: Thursday, October 12, 2023 6:52:20 AM

[Sent from Yahoo Mail on Android](#)

From: [Hob Osterlund](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] SUPPORT MOSQUITO SUPPRESSION
Date: Wednesday, October 11, 2023 2:02:01 PM
Attachments: [small - Kauai Albatross Network final logo with website TRANSPARENT copy.png](#)
[small - Kauai Wildlife Coalition Circle copy.png](#)

To the good folks of BLNR,

I beg you to make a Finding of No Significant Impact related to the Kaua'i mosquito suppression EIS.

Our forest birds are on their last legs. There is no time left to hesitate. Avian malaria is killing them quickly and almost without exception.

The Incompatible Insect Techniques is both targeted and feasible, and has been used safely around the world.

Mahalo for your support of this vital project.

Hob Osterlund, APRN

[Senior Fellow, Safina Center](#)

[Founder and Bird Guide, Kaua'i Albatross Network](#)

[Author, Holy Mōlī: Albatross and Other Ancestors \(multiple printings\)](#)

[Producer, Telly Award-winning "Kalama's Journey"](#)

[Photographer, Audubon Top 100, 2019](#)

[Recipient, Koa Conservation Leadership Award, Conservation Council for Hawai'i, 2022](#)



From: [Patricia Oyama](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 4:13:19 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.
Patricia Oyama, Aiea, Oahu.

Sent from my iPhone

From: [Richard Oyama](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 4:27:14 PM

Aloha BLNR chair Dawn Chang and Board Members,

Please approve agenda item C-1 and save our nā manu nahele! These people that are so against releasing mosquito that have been proven scientifically safe to effectively eliminate bird malaria, with no harm to our environment, are basing all their arguments on false fears. Mahalo.

Richard S Oyama
Aiea, Oahu

Sent from my iPhone

From: [Ryan Oyama](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 12:12:40 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds.

All mosquito species in Hawaii are introduced and are the vector spreading malaria, which is driving our native forest birds to extinction. The loss of our birds would not only be a cultural disaster but could lead to the collapse of our native forest ecosystems that are critical for our fresh water resources as well as stream and near-shore water quality.

This is the first real hope we have of stopping and even reversing the loss of our cultural and natural heritage. Please approve agenda item C-1 and save our nā manu nahele!

Mahalo.
Ryan Oyama
Kalāheo

From: [simon_o](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 11:22:04 AM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

- Simon Oyama
Kalaheo, Kauai

From: [Gregg Pacilio](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Support for Kauai forest birds and the EA
Date: Thursday, October 12, 2023 7:22:14 AM

My name is Gregg Pacilio. I am a Physical Therapist working in our Kauai Veterans Memorial Hospital for 20 years at the base of the road up to Kokee. Our children attend grammar and High School in Waimea Kauai. Our Hawaiian forest birds are natural and cultural resources that must be protected. This project will reduce the threat of avian malaria that is killing them, by suppressing mosquito population. I've listened in about Incompatible Insect Technique (IIT) and I believe it is a safe, targeted method to protect Kauai forest birds. IIT has been used safely around the world and I support its use here on Kauai. The environmental assessment (EA) science is strong and the time for this project is now. Thank you.

Gregg Pacilio PT
PO Box 1152
Kalaheo, HI 96741

From: [Michelle Pacilio](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Support for the Kauai Mosquito Suppression EA
Date: Thursday, October 12, 2023 7:08:14 AM

Aloha,

My name is Michelle Pacilio and I have lived on the island of Kauai for 20 years. One of the most amazing aspects of Kauai is its native bird population. Unfortunately, it is at risk of going extinct due to the threat of avian malaria from the out of control mosquito population.

For this reason, I strongly support the Incompatible Insect Technique to try to help preserve what remaining bird species we have left. This method of mosquito population suppression has been used safely around the world and I support its use in Hawaii.

Mahalo,
Michelle Pacilio

--

Michelle Pacilio, MPT, WCS
Board-Certified Women's Health Clinical Specialist
Wahine Wellness & Pelvic Health
4359 Kukui Grove St. #102
Lihue, HI 96766
P: (808) 378-4151
F: (866) 414-5076

From: [Jessica Panzer](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaula to save native birds
Date: Wednesday, October 11, 2023 5:03:35 PM

Aloha

These mosquitos are the last chance for our native birds. Due to human caused climate change they stand no chance against avian malaria which is found at higher altitudes now. These mosquitos are their last chance otherwise they will go extinct.

Mahalo

Jessica Middleton
Kamuela, HI 96743

[Sent from Yahoo Mail for iPhone](#)

From: [Ruby Pap](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Comment in support: EA Kaua'i DLNR mosquito suppression
Date: Wednesday, October 11, 2023 2:56:03 PM

Aloha mai kākou,

I am a resident of Līhu'e, Kaua'i, and I am writing in strong support of the mosquito suppression project. These are my own personal comments, and I am not representing any organization. Climate change is here on Kaua'i and the rest of the islands, clearly evidenced by warming temperatures allowing mosquitos to move to higher elevations and spread disease to our very special native forest birds! It is very alarming to see how quickly we are losing our native forest birds to Avian Malaria. In fact, I don't think I have ever seen or heard one on Kaua'i and I am a frequent hiker at high elevations. This is devastating, but I feel hope as I do believe the mosquito suppression will bring back our native forest birds! The science in the environmental assessment is thorough and I feel warrants a finding of No Significant Impact (FONSI).

Please approve the FONSI at Friday's meeting.

Mahalo for your time and service, -Ruby Pap

From: [songaid2](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 October 12th
Date: Monday, October 9, 2023 12:11:14 PM

Dear Board of Land and Natural Resources:

As a life-long resident of Kaua'i, I submit that the recent environmental impact study by the DLNR-DOFAW about mosquito control to protect critical forest bird habitats on Kaua'i is urgent and important and should be passed today, approved and considered not a threat to Kaua'i's environment.

As someone who enjoys bird watching and hiking in the forests of Kaua'i, I ask that you please do everything in your power to try to prevent native forest birds from disappearing and becoming extinct. The idea of controlling mosquito caused bird malaria and other diseases for our native birds that are carried by mosquitos makes very good sense to me.

I see that the environmental study conducted which I ask you to approve today and state that the mosquito prevention plan has no severe consequences on the environment. This EPA study also agrees with me that the level of harm it might produce is basically non-existent, or has no threat to others. There is no threat to the use of land environment that will be treated, does not conflict with the state's environmental policies, or long term goals, will not affect public health or the economy and most importantly, will help prevent the extinction of important native birds living on Kaua'i.

Mahalo for doing your part to protect native birds.

Bevin Parker-Evans

Bevin Parker-Evans
808-651-6793
3721 Omao Rd.
Koloa, HI 96756

From: [Deborah Pate](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Kauai Forest Birds Recovery Project
Date: Wednesday, October 11, 2023 1:32:39 PM

Dear Chair Designate Chang, and members of the Board of Land and Natural Resources,

I am writing to your board to support Agenda Item C-2.

Please support the DLNR-DOFAW's request for Board approval of the submitted Final EA and for the Chairperson to be authorized to issue a finding of no significant impact (FONSI). This approach has been used on the mainland and other locations around the world and continues to be used with no impact to the environment. People who understand the "Incompatible Insect Technique" should welcome the suppression of mosquitoes especially if it will save our forest birds from extinction. This technique is safe and effective.

The Environmental Assessment has been done. Do we want to hold the record for the most extinct birds in the world? I think not. Especially when there is a safe solution. I only hope that we have not waited too long to implement the incompatible insect technique.

Please support agenda item C-2. Approve the Final Environmental Assessment and authorize the Chairperson to issue a Finding of No Significant Impact.

Deborah Pate

4100 Queen Emma's Dr. #37

Princeville, HI 96722

From: [Chelsey Pavao](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Sunday, October 8, 2023 9:51:27 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

Sent from my iPhone

From: [Noel Piechowski](#)
To: [DLNR.BLNR.Testimony](#); [DLNR.CO.PublicDLNR](#)
Cc: info@mauiforestbirds.org; mauinuiseabirds@gmail.com
Subject: [EXTERNAL] Wolbachia
Date: Wednesday, October 11, 2023 9:15:18 PM
Attachments: [Saving the Honeycreepers -2.pdf](#)
[Ethical Discussion.Piechowski.Final.pdf](#)

Aloha chairperson Chang and members of the board,

I am a student at the University of Hawaii Mānoa receiving my BFA in glass. In my past semester I had created a final presentation which focused on the declining populations of Hawaii's endemic honeycreepers.

I implore you to please reiterate your stance for East Maui and approve this EA. As well as the finding that there is no significant impact of Wolbachia on Kauai.

I have included a pdf of the gallery mock up I created as well as an ethical discussion of the presentation which may be of interest to you.

Mahalo for your time and consideration,

Noël Piechowski



Saving the Honeycreepers

Noël Piechowski

What's the Big Idea?

To bring awareness to the declining populations of Hawaii's
Honeycreepers

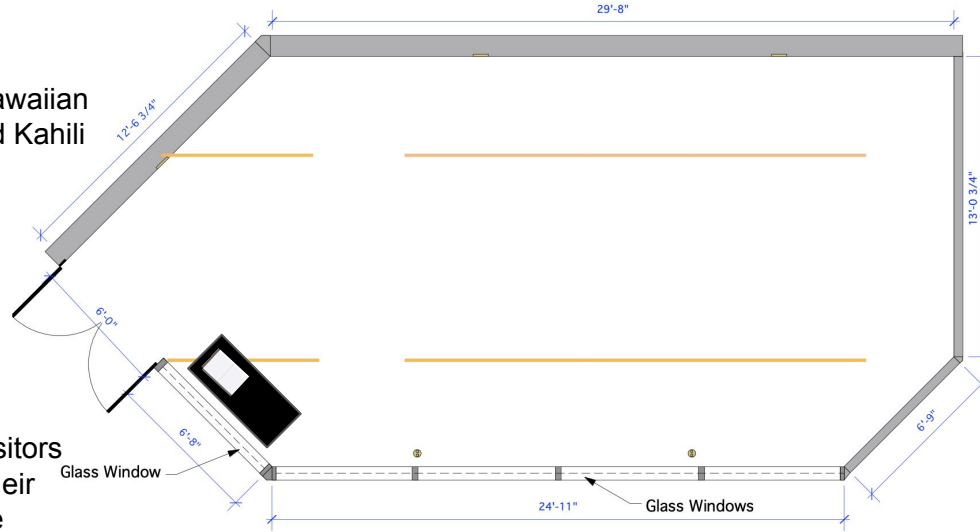
Commons Gallery

Middle wall: Birds and information on population decline

Left wall: Hawaiian 'Aha'ula and Kahili

Right wall: Birding Information

Guestbook where visitors can sign and write their favorite birding place

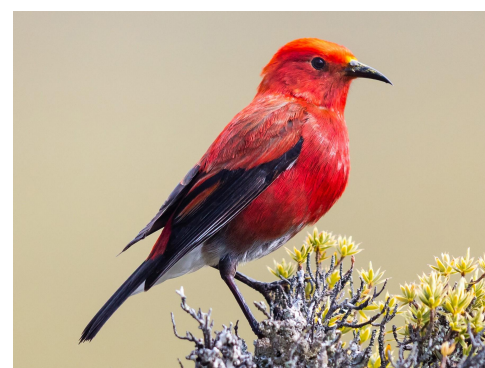




I'iwi



Hawai'i mamo



'Apapane



'Akikiki



Maui A'lauahio



Hawaiian Akepa

Left wall display:
right side

'Aha'ula were proudly worn by the leading chiefly class of ali'i to show their status. This particular 'aha'ula was most likely created using the feathers of birds such as: l'iwi, 'apapane, and the Hawai'i Mamo. As yellow feathers were scarcer than other colors, the more yellow feathers in the garment, the more valuable it was.



Lifesize high quality
photo of 'aha'ula, Nā Hulu
Ali'i

The collection of these feathers were put together by skilled bird catchers, called Kia Manu, who were gifted with this special job. They would set pole traps, coated with sticky paste, high in the canopy during molting season. From here the Kia Manu would gently pluck molting feathers off the birds and safely release them back into their habitats.



Video explaining
significance of feathered
regalia. It also shows the
process of making a
feather lei.

Left wall display:
left side




This is a modern take on a kahili created by the artist: Boris Kekaiuluikahikina Huang. Traditionally Kahili were used to show family ties, lineage, and even status.



Princess Ruth Ke'elikōlani
with two kahili

Meet The Birds



 **I'iwi**
-threatened

I'iwi feathers were commonly used in the creation of 'aha'ula. They love the nectar of the 'ōhia trees and will often defend their nectar resources.



 **'Akikiki**
-endangered


These birds nest high in native 'ōhia trees. The juvenile 'akikiki will play copycat with their parents for about three months, learning everything they need to know to survive.



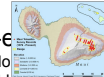
Hawai'i Mamo
-extinct

The last documented sighting of this bird occurred in July of 1898, on Hawai'i Island in Ka'ūmana.



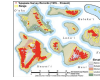
 **Maui A'lauahio** - **endangered**


This "creeper" creeps along branches picking at bugs hiding under bark and lichen



 **'Apapane**
-stable

The 'Apapane are the most widely abundant honeycreeper and play a vital role in the pollination of 'ōhia trees. They even have evolved into having a special nectar collecting tongue.



 **Hawaiian Akepa**
-endangered

The Hawaiian Akepa have a few unique features. One of their legs is slightly longer than the other and their beak tips are slightly offset. These features allow for more success in foraging for tasty insects.



What you can do to help the honeycreepers:

- Take personal action to help fight global warming.

....reducing carbon emissions: use public transportation, walking, biking...etc instead of your car.

....reduce water waste!

....aim to produce less food waste and compost when you can!

- Not releasing any non-native species into the wild. This means, both plants and animals!

- Advocate for agencies working to save the species.

....American Bird Conservancy

....Maui Forest Bird Recovery Project

....Hawai'i Endangered Bird Conservation Program

....Center for Biological Diversity

Wall text surrounding right and left side of bird display

What is being done:

•Agencies from the State of Hawai'i as well as the i.U.S. Department of Interior are working with the "Birds, Not Mosquitos" group. They are developing a plan to control invasive mosquitoes using a naturally occurring bacteria called Wolbachia. This bacteria prevents the mosquitoes from reproducing and essentially acts as a form of birth control.

•Other numerous groups and organizations are continuing to raise species in captivity in hopes of increasing their populations to release back into the wild.

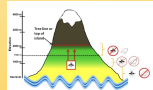
What caused this population decline?

- Mosquitos- avian malaria is the leading cause of all honeycreeper species depletions and extinctions.

- Rats/mongoose- eat the eggs, juvenile, and adult birds.

- Feral cats- catch and eat the juvenile and adult birds

- Global Warming- rising temperatures provide more livable areas for mosquitoes, and less safe habitats for honeycreepers to live.



An invasive mosquito called *Culex quinquefasciatus*, is the cause for the spread of Avian Malaria. These mosquitoes arrived in the 1820's, and avian malaria was introduced when non-native songbirds were brought in, in the early 1900s.



- How to go birding:**
- Get outside!
 - Invest in a good guidebook for birds in your area! And a good field notebook for documenting what you see.
 - Seek out good birding locations in your area.
 - Invest in a good pair of binoculars.
 - Reach out to local birders in your area.
 - Become a morning person, that is when they are most active!



- Common NO's of birding:**
- Do not bring domesticated animals with you.
 - Do not attempt to harm or touch the birds or their nests.
 - Be respectful!
 - Minimize habitat disturbance.
 - Familiarize yourself with the rules and regulations of the place you will be birding at.
 - Do not leave trash (even degradable items).



QR code linking to HI audubon society and general audubon society websites.



Going birding?

<https://www.aba.org/aba-code-of-birding-ethics/>



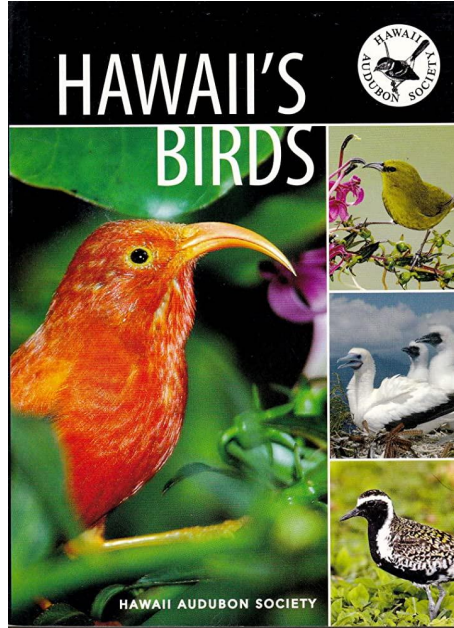
Binoculars



Compass



Camera



Guidebook

Common NO's of birding:

- Do not bring domesticated animals with you.
- Do not attempt to harm or touch the birds or their nests.
- Be respectful!
- Minimize habitat disturbance.
- Familiarize yourself with the rules and regulations of the place you will be birding at.
- Do not leave trash (even biodegradable items).



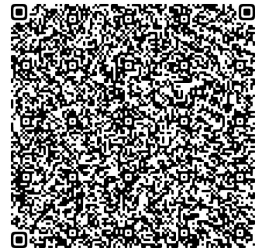
Notebook



Example of handouts (QR codes)

Qr code links:

- One for birding
 - <https://www.audubon.org/birding/what-you-need>
 - <https://hiaudubon.org/birding-in-hawaii/>
- One for population information
 - <https://dlnr.hawaii.gov/wildlife/birds/#forestbirds>
 - https://www.nps.gov/articles/time-is-running-out-maui-s-forest-birds-will-go-extinct-without-action.htm?utm_source=article&utm_medium=website&utm_campaign=experience_more&utm_content=small
 - [https://www.nps.gov/articles/the-time-is-now-saving-maui-s-honeycreepers-before-it-is-too-late.htm#:~:text=Fewer%20than%202%2C000%20of%20the.the%20kiwikiu%20\(right\)%20remain.&text=Within%20the%20n ext%20ten%20years,too%20late%20to%20save%20them!](https://www.nps.gov/articles/the-time-is-now-saving-maui-s-honeycreepers-before-it-is-too-late.htm#:~:text=Fewer%20than%202%2C000%20of%20the.the%20kiwikiu%20(right)%20remain.&text=Within%20the%20n ext%20ten%20years,too%20late%20to%20save%20them!)



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Noël Piechowski

April 12, 2023

Ethical Discussion

When curating an exhibition, ethical issues around the show are often brought to the surface. “Saving the Honeycreepers” is no different. Most successful exhibitions don’t shy away from ethical issues. They tend to explore ethical issues by using relevant approaches to help save and with through them. “Saving the Honeycreepers” presents two main ethical issues: 1) the preservation of the honeycreepers and 2) how and were to go birding when directing inexperienced watchers into habitats of endangered or vulnerable birds.

“Saving the Honeycreepers” focuses on the awareness of the slowly dying honeycreeper species. Although the show introduces people to the honeycreeper, it also engages people in important ethical conversations around the honeycreepers. Some people might think, “but why does a show addressing this species create an ethical issue?” It is a very good question, and the responsibility of the curator to respond. Since the honeycreeper is the focus of the exhibition, it would be irresponsible and unethical to not talk about their dying populations, cause of their decline, and the prevention for extinction.

In order to address these issues, I used the Markkula Center for Applied Ethics as a framework to help me navigate through the decision making process.¹ I chose to use the “common good” approach to address the preservation of the honeycreeper.² The ‘common good’

¹ Santa Clara University, “A Framework for Ethical Decision Making,” Markkula Center for Applied Ethics, accessed April 26, 2023, <https://www.scu.edu/ethics/ethics-resources/a-framework-for-ethical-decision-making/>.

² Santa Clara University, “The Common Good,” Markkula Center for Applied Ethics, accessed April 26, 2023, <https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/the-common-good/>.

approach allows me to create a guideline for what type of information should be provided to the audience about the honeycreeper's decline and how to preserve them, as well as reassuring me that what I was presenting can be ethically justified. The "common goods" approach focuses on the welfare of everyone, especially the vulnerable, and in this case, the most vulnerable are the honeycreeper species.³ It highlights that the respect and welfare of everyone(thing) is the basis on which this ethical reasoning stands.⁴ For "Saving the Honeycreepers," the best solution to addressing the decline and preservation of the honeycreeper is to provide educational information on the species as people view the show: reasons for the honeycreeper's decline, what individuals can do to help the decline, and how the honeycreepers currently stand in population. A second or alternative solution to the issue would be to provide the visitors with information to take home, such as a pamphlet or QR code that would connect them to more in-depth information or resources for more information.

The second ethical issue present in "Saving the Honeycreepers" arises in the show directing viewers how and where to go seek out this bird in the wild. Opening up the world of birding to a group of people who may have never done this before is a daunting task and comes with the responsibility of doing it correctly. The honeycreepers are marked as endangered or vulnerable. Having understood this, I have applied the "utilitarian approach" to formulate the the best solution for how to direct people to view the birds ethically, while educating them on how inexperienced birders can unknowingly mistreat the birds or cause harm to them and their precious habitats.⁵

³ Santa Clara University, "The Common Good"

⁴ Ibid.

⁵ "Santa Clara University, "A Framework for Ethical Decision Making"

So in a gallery setting, how does the curator use the “utilitarian approach” as a guideline to help solve the issue? The main goal of the “utilitarian approach” is to allow the outcome to contain a greater balance of positive over negative.⁶ This approach intends to create the least amount of harm for all parties involved.⁷ Therefore, by thinking in utilitarian principles, I was able to come up with a solution that addresses the issue directly in the gallery: next to the displays which give viewers information about how and where to go birding, I will include a “what not to do” section. This additional section addresses the main concerns related to mistakes inexperienced/novice birders can make. For example, the wall text would say in a bullet point format: Do not bring domesticated animals with you, do not attempt to harm or touch the birds or their nests, be respectful, minimize habitat disturbance, familiarize yourself with the rules and regulations of the place you will be birding at and, do not leave trash (even biodegradable items). Providing this information is a basic safeguard for the birds and their habitats. In addition added information on the display, I will also provide a QR code that links to both Hawaii’s Audubon Society as well as the national Audubon Society’s websites. Each link will connect directly to the page that provides the information on the “do’s and don’ts” of a responsible birder.

After considering the ethical issues in “Saving the Honeycreepers,” I was able to reflect on how addressing the issues impacts my exhibition. Addressing the issues, allows for and encourages a larger conversation, during and long after the show. Without the implementation of the different ethical approaches, the show would simply not be as impactful to viewers. It would leave conversations unstated and the ethical questions undressed. If the curation of art is to

⁶ University, Santa Clara. “Calculating Consequences:the Utilitarian Approach to Ethics.” Markkula Center for Applied Ethics. Accessed April 26, 2023. <https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/calculating-consequences-the-utilitarian-approach/>.

⁷Ibid.

encourage dialog and communication, then it is the responsibility of the curator to think about and address potential ethical issues. It is important to think broader than just the exhibition. It is necessary to think about how a curator's decisions will continue to make impacts outside of the exhibition.

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Santa Clara University. "The Common Good." Markkula Center for Applied Ethics, n.d. <https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/the-common-good/>.

From: [Tony Piedra](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Save Birds, Not Mosquitoes: Kauai EA for mosquito control
Date: Wednesday, October 11, 2023 8:36:39 AM

Aloha,

My name is Tony Piedra. I am a published children's book author and illustrator ([Scholastic](#) and [Candlewick Press](#)) and former Pixar artist, who has been working closely with the Kaua'i Forest Bird Recovery Project to accurately tell the story of the extinction of the Kaua'i 'ō'ō. I am submitting testimony in very strong support of agenda item C-1.

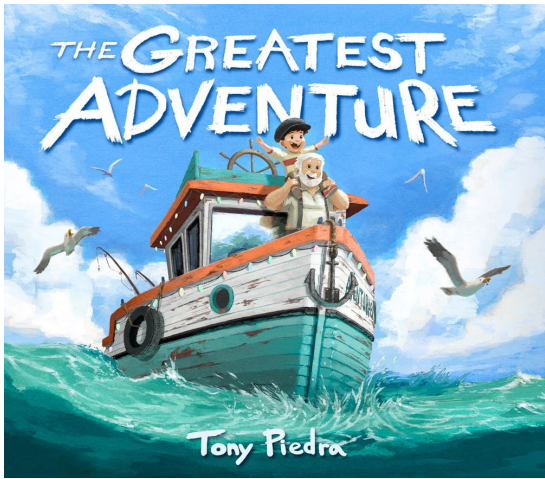
While I am not from Kaua'i (I am a Texas/California kid), over the past two years I have devoted much of my energy and time towards partnering with scientists and Kumus from Kaua'i to tell the story of the evolution and eventual extinction of the Kaua'i 'ō'ō. While it is unclear how big of a role disease-carrying mosquitoes had on the extinction of the Kaua'i 'ō'ō, it is not unclear the impact they are having now on the remaining native forest bird species: they are one of the leading causes of death of Hawaiian honeycreepers. But unlike some of the other factors leading to the extreme decline of these birds, we can actually do something about this **now** while we still have birds to protect.

I live in California where scientists have safely and successfully suppressed mosquito populations using the Incompatible Insect Technique (IIT). And as part of my research for my book on the Kaua'i 'ō'ō, I met some of the people behind this work, when I was invited to visit with the [Debug Team](#) at Verily Sciences near San Francisco, CA. They are doing some truly amazing work on controlling mosquitoes, and I strongly encourage the BLNR to support and help to execute the control of mosquitoes in Hawai'i, while we still have Hawaiian honeycreepers left to save. The time to act is now.

Sincerely,
Tony Piedra
Author/Illustrator/Storyteller/Science & Nature Champion

Children's Book Author/Illustrator of *Pau: The Last Song of the Kaua'i 'ō'ō* (Fall 2024), [One Tiny Treefrog](#) (2023), [The Greatest Adventure](#) (2018)





From: [Dr.pluskat](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kua"i to save native birds
Date: Thursday, October 12, 2023 1:22:41 AM

Hi,

I am in support of the Wallbachia control.

Doing nothing isn't an option.

If we don't do this we are going to lose the remaining birds who are our heritage and responsibility.

Sincerely,
Suzanne Pluskat

From: [Sharon Pollock](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for 10/13 board meeting agenda item C-1
Date: Sunday, October 8, 2023 9:58:08 AM

Dear Members of the Board of Land and Natural Resources,

I SUPPORT, Agenda Item C-1, DLNR-DOFAW's request for Board approval of the submitted Final EA and for the Chairperson to be authorized to issue a finding of no significant impact (FONSI).

I think we can all agree that the situation facing Hawaii's native forest birds is dire, and that we must do something, safe and effective, as soon as possible in order to save those birds that remain for future generations.

The proposed Incompatible Insect Technique (IIT) has been successfully used globally for over 50 years. In each case, scientists have researched and analyzed the results and found that the method has no significant negative health or environmental impacts. Furthermore, this technique is the only hope left to save several species of the birds in the short time remaining before extinction.

Currently on the table is a vote on the acceptance of an Environmental Assessment (EA) for use of the IIT method to control avian malaria on Kauai. The EA was performed by accredited experts of The National Park Service and DLNR-DOFAW. As is the case for every other known use of this technique, the EA found that there will be no negative impacts to the health, environment, plants, animals, or people of Hawaii.

Given these facts, and the desperate plight of the birds, please SUPPORT agenda item C-1, and approve the Final Environmental Assessment and authorize the Chairperson to issue a Finding of No Significant Impact.

Mahalo nui for your consideration,
Sharon Pollock
Princeville

From: [Nicole Preston](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 3:06:59 AM

Aloha,

I am in full support of approving and authorizing the FONSI of the Final Environmental Assessment (EA) titled "Final Environmental Assessment for Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Non-native Southern House Mosquito Populations on Kaua'i".

If we have the technology, knowledge, and means to implement the IIT in order to control the avian-malaria transmitting mosquitoes, then we should do it. The native forest birds that are left in the wild in Kaua'i really need to be saved. We cannot sit by and watch another species go extinct in our lifetime.

Mahalo nui,
Nikki Leilani Preston

--

Nikki Leilani Preston
'Alalā Research/ Logistics Senior Technician
Maui Forest Birds Recovery Project
2465 Olinda Rd, Makawao, HI 96768
Work Cell Phone: (808) 222 8070
mauiforestbirds.org

From: [penny.prior](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony in support of use of Incompatible Insect Technique
Date: Wednesday, October 11, 2023 9:26:01 PM

My name is Penny Prior . I live in Kapa'a and have been a resident for 33 years
I've learned about the Incompatible Insect Technique and that it has been used in other
countries and been successful in controlling mosquito population in a safe and targeted way.
I am happy to hear that it is being considered to help save the native forest birds on this
island as well as other islands
It could help save our native birds from dying from avian malaria. These native birds are
important for the balance of nature in our native forests and also important for the Hawaiian
culture. Please save our native birds from extinction. Thanks you

From: [Bill Provost](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kua"i to save native birds
Date: Thursday, October 12, 2023 8:43:03 AM

Forest Bird Folks,

Yes please know I support the sterilization of mosquitos to stop this avian disease and decimation. The science is more than obviously safe for humans and could possibly save our irreplaceable forest birds.

Mahalo, William M Provost

From: [Donnelly, Roarke](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 5:16:38 PM
Attachments: [image001.png](#)

BLNR-

I have brought my undergraduate students in my Conservation Biology class to Kaua'i for the last 18yrs. Over that time, I have witnessed a huge drop in the number of endemic forest bird species in and near the Alaka'i Swamp – a region which was very poor mosquito habitat. There are many stressors that could explain this drop, but the most likely suspect over this timespan is warming temperatures and related increases in invasive mosquitos. For this reason, I urge you to approve the final EA and find no significant impact regarding the use of Wolbachia-related Incompatible Insect Technique on Kaua'i. these actions are the last hope for saving the likes of the 'Akikiki, 'Akeke'e, and 'Iwi. Thanks for your consideration.

RD

Roarke Donnelly
Professor of Biology & Director of Environmental Studies
Oglethorpe University



From: [Ikaika Rodenhurst](#)
To: [DLNR.BLNR.Testimony](#)
Cc: [LANIHAU-rsmith](#)
Subject: [EXTERNAL] BLNR 10/13/23 - Testimony Agenda Item D-1
Date: Wednesday, October 11, 2023 11:25:18 PM

Aloha Board Members,

My name is Ikaika Rodenhurst and I am submitting testimony in support of the reconsideration for the current lease rents in Kikala-Keokea.

These families suffered displacement from an act of nature. The Hawaii State Legislature passed Act 314 and Act 73 to assist these families and perpetuate their way of life and traditions. The current valuation of the second set of lots does not assist these families and will lead to further displacement and disruption of their way of life and traditions.

I stand with the 'ohana impacted by this and implore you to reconsider the rent leases to be consistent across all lots and follow the valuation method applied to the initial set of lots.

Mahalo,
Ikaika Rodenhurst

From: [Layla Rohde](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - SUPPORT Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 2:04:35 PM

Aloha,

My name is Layla Rohde and I live on Maui, though I grew up on O'ahu. I strongly support Mosquito Control on Kaua'i. It is heartbreaking to see the 'akikiki so close to extinction with only a handful of birds left in the wild, and know that other endemic species are following the same distressing decline patterns. These birds need our help and IIT is currently our best tool to provide that assistance.

Mahalo for your time,
Layla Rohde

--

Layla Rohde (she/her)
Mosquito Research and Control Technician
Maui Forest Bird Recovery Project
2465 Olinda Road, Makawao, HI 96768
Work cell: (808) 867-0233 (text or call)
Office: (808) 573-0280 (call only)
www.mauiforestbirds.org

From: [Cozette Romero](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 2:23:04 PM

I am writing to express STRONG SUPPORT for approving the final EA titled “Final Environmental Assessment for Use of Wolbachia-based Incompatible Insect Technique for the Suppression of Non-native Southern House Mosquito Populations on Kaua‘i”.

I have been a resident of Hawaii for over 18 years, living on Oahu, Big Island, and Kaua‘i. Growing up on these islands has given me a passion for conservation of our native Hawaiian birds. The experts in conservation fields have all agreed that this is probably our last chance at saving our beautiful and unique birds.

These actions are extremely important for halting the decline and extinction of our native birds, and will allow for the protection of our local families from countless mosquito borne diseases. These techniques have been available since the 1960s and have been used around the world to great effect, saving thousands of lives without the cost of non-target impacts such as pesticide based abatement.

Hawai‘i had no mosquitoes until 1826, by using technologies like these not only can we save our native birds from imminent extinction but we can also restore the quality of life of local families.

Mahalo,
Ashley

From: [Bill Ross](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR
Date: Wednesday, October 11, 2023 1:01:34 PM

I'm opposed to the BLNR 13th of October 2023 agenda item C-1.

This disease-infected mosquito release project is a dangerous experiment on your islands.

The residents of the Hawaiian Islands must have a full EIS prior to implementation.

Sincerely

Bill Swan

Visitor

Sent from my iPad

From: [J Rothe](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 1:26:52 PM

Aloha,

I would like to submit for the record my wholehearted support of the release of incompatible *Wolbachia* mosquitoes onto Kaua'i's landscape in order to save our forest birds.

These birds are found nowhere else on the planet and are deeply intertwined with Hawaiian culture and ecology. They appear in various mo'olele, their feathers adorned the ali'i, and they are named in the kumulipo. These birds are quintessentially Hawaiian. Every species we lose is yet another tear in the fabric of what makes these islands special... and we have already lost so much.

We have known for decades that diseases borne by non-native mosquitoes were a deadly problem for our native honeycreepers... a problem which has been exacerbated by the warming climate. The technology to safely address the upward expansion of mosquitoes (i.e., Incompatible Insect Technique) has existed for some time now and has been successfully applied elsewhere in the world. The application to Kaua'i cannot possibly happen soon enough.

It may already be too late for wild 'Akikiki, but perhaps this will help arrest the downward trends of 'Akeke'e, 'Anianiau, and 'Iwi on this island.

Mahalo,

Jen Rothe
'Ele'ele, Kaua'i

From: [Kristen Rothermel](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 7:55:33 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

I heard in August that the 'akikiki is now extinct. I am very saddened that native birds are being harmed by people's lack of understanding about science. All native species should take precedence over invasive species, like the mosquitoes.

Thank you,
Kristen Rothermel
Pearl City, Oahu

From: [Peggy Rothermel](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Wednesday, October 11, 2023 7:55:11 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo. Please save the birds!!! They are more important than nonnative mosquitoes. Thank you, Peggy Rothermel

Sent from my iPhone

From: [steve.rutledge](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 6:16:35 PM

Hello. I am very concerned about the imminent extinction of Kauai's akikiki (only about 40 birds remaining in the wild) and the akeke'e (only about 600 birds left in the wild). They are near extinction due to avian malaria. I have followed the reports of the Kauai Forest Bird Recovery Project and hope that you will approve the use of the Wolbachia bacteria to save these birds. Only non-biting male mosquitoes will be released, so humans should not be affected by this encouraging form of mosquito birth control. Wolbachia has already been successfully used to treat mosquitoes in several countries, with no serious impacts. I have my degree in environmental biology and find this treatment to be exciting and reasonable.

I believe that this Wolbachia project has been carefully planned and hope that you will declare a Finding of No Significant Impact for this important program. I have loved visiting the beautiful forests of Kauai and would find it incredibly sad if these honey creepers are not saved in time. Please do all that you can to expedite this important means of mosquito control in the Kauai forests. Thank you.

Julie Beer
334 College Ave. Apt. E
Palo Alto CA 94306

From: [Grace Saturnia](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Sunday, October 8, 2023 12:32:09 PM

Aloha,

Please support this project to save our native birds. Let's save native wildlife for our children and grandchildren.

Grace Saturnia

From: [Lauren Schmuck](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:40:19 PM

October 11, 2023

Hello Board of Land and Natural Resources,

I am submitting testimony in **very strong support** of agenda item C-1.

Hawai'i's native honeycreeper birds are foundational to the culture, forests, and ecosystems of Hawai'i. Many native (forest) bird species have already been lost from the island of Kaua'i, as a direct result of diseases (such as avian malaria) that are spread to the birds via non-native southern house mosquitoes. Species such as the Kaua'i 'ō'ō and the Kaua'i 'akiāloa are already extinct. As of October 2023, there are only six remaining Honeycreepers species on Kaua'i, and two of them are critically endangered. It is not possible for these two species to be much closer to extinction than they currently are. My understanding is that the 'akikiki may become extinct-in-the-wild later this year, and the same fate may befall the 'akeke'e in less than five years. It is absolutely essential that we do what we can to help these species persist, and this can be achieved through the use of the incompatible insect technique. I am aware of several cases of this, and other similar techniques being used in different countries to control mosquito populations, and the diseases that they spread.

The high elevation areas of Kaua'i are no longer safe havens for Kaua'i's native forest birds, as climate change continues to increase temperatures in these areas, which make them more hospitable for mosquitoes, and thereby increases the chances of birds being infected. While combatting climate change requires a global effort, the Board of Land and Natural Resources has the power to help these native songbirds survive by approving the final EA that is brought before you during agenda item C-1 today (October 13, 2023).

I have the utmost confidence in the scientific work and research carried out by the Hawai'ian government, the US FWS, the USGS, and their partners. I strongly urge you to support this project in Hawai'i.

Hawai'i has been called the "extinction capital of the world". Please help the most beautiful place on earth instead be known as a pioneer and leader in the use of techniques to save critically endangered songbirds. It is my deepest desire to see native forest songbirds in the forests of Kaua'i during my next visit to your breathtaking island - **please help make that a possibility.**

Mahalo from Canada,

Lauren Schmuck, M.Env.Sc.
Wildlife Biologist
Ottawa, Ontario
Canada

From: [Nancy Shaw](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 5:54:58 AM

Please protect our native Hawaiian birds.
Nancy Shaw

From: [Lauren Schmuck](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:40:19 PM

October 11, 2023

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Hawai'i's native honeycreeper birds are foundational to the culture, forests, and ecosystems of Hawai'i. Many native (forest) bird species have already been lost from the island of Kaua'i, as a direct result of diseases (such as avian malaria) that are spread to the birds via non-native southern house mosquitoes. Species such as the Kaua'i 'ō'ō and the Kaua'i 'akiāloa are already extinct. As of October 2023, there are only six remaining Honeycreepers species on Kaua'i, and two of them are critically endangered. It is not possible for these two species to be much closer to extinction than they currently are. My understanding is that the 'akikiki may become extinct-in-the-wild later this year, and the same fate may befall the 'akeke'e in less than five years. It is absolutely essential that we do what we can to help these species persist, and this can be achieved through the use of the incompatible insect technique. I am aware of several cases of this, and other similar techniques being used in different countries to control mosquito populations, and the diseases that they spread.

The high elevation areas of Kaua'i are no longer safe havens for Kaua'i's native forest birds, as climate change continues to increase temperatures in these areas, which make them more hospitable for mosquitoes, and thereby increases the chances of birds being infected. While combatting climate change requires a global effort, the Board of Land and Natural Resources has the power to help these native songbirds survive by approving the final EA that is brought before you during agenda item C-1 today (October 13, 2023).

I have the utmost confidence in the scientific work and research carried out by the Hawai'ian government, the US FWS, the USGS, and their partners. I strongly urge you to support this project in Hawai'i.

Hawai'i has been called the "extinction capital of the world". Please help the most beautiful place on earth instead be known as a pioneer and leader in the use of techniques to save critically endangered songbirds. It is my deepest desire to see native forest songbirds in the forests of Kaua'i during my next visit to your breathtaking island - **please help make that a possibility.**

Mahalo from Canada,

Lauren Schmuck, M.Env.Sc.
Wildlife Biologist
Ottawa, Ontario
Canada

From: [Dawn Yoshimura Sinclair](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 2:25:20 AM

Dear BLNR Members:

Please support this project to save our native birds.

It will be a rare victory in the war to save our fragile ecosystem.

Thank you,

Dawn Yoshimura Sinclair
3236 Melemele Place
Honolulu, HI. 96822

From: [Samantha Snowden](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony in support of agenda item C-1
Date: Thursday, October 12, 2023 2:44:13 AM

Dear Board Members,

I am writing to voice my support for agenda item C1 and the use of Wolbachia-based incompatible insect technique for the suppression of non-native southern house mosquito populations on Kaua'i. This method to control invasive insects and infectious disease has proven to be successful in other applications worldwide. As stated by scientific researchers specializing in the native biodiversity of Kaua'i, this proposal is the best chance we have to save our Honeycreepers, which are being decimated by avian malaria. Dozens of forest bird species of Kaua'i have already been wiped out. Today only six Honeycreeper species remain on Kaua'i -- these birds are found nowhere else in the world. Of these species, the 'Akikiki's extinction in the wild is imminent, while the 'Akeke'e is predicted to go extinct within the next few years if no action is taken. I strongly encourage the BLNR to support this project and give our native birds a chance at survival on Kaua'i.

Best regards,
Samantha

--

Samantha Snowden, M.S.
Department of Ecology and Evolutionary Biology
University of California, Los Angeles

From: [Talia Soalt](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kua"i to save native birds
Date: Wednesday, October 11, 2023 8:52:37 PM

To whom it may concern,

My name is Talia Soalt. I live in Kalaheo, HI and am a member of the Kauai Forest Bird Recovery Project. I am writing in strong support of agenda item C-1.

The native honeycreepers are in critical condition and require immediate action. Implementing the proposed treatment plan is an innocuous solution to the lethal situation at hand. The US EPA has confirmed that the use of the mosquito suppressant is safe for humans, for the environment, and for the ecosystems. However, extinction of the remaining native honey creepers would result in dire consequences, as we rely on the ecosystem services they provide and the cultural significance they embody.

Mahalo for your time and consideration,
Talia Soalt

From: [Aleix Blasco Stanger](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 6:16:45 PM

Aloha Board Members,

I am submitting testimony in strong support of Board approval of this Final EA and authorization for the Chairperson to issue a Finding of No Significant Impact (FONSI) for this effort to stabilize and recover populations of critically endangered Hawaiian forest birds on the island of Kaua'i.

Honeycreepers are a unique group of forest birds found only in Hawai'i, which once had more than 50 species. Today, only 17 species remain, some with fewer than 500 individuals left. Without immediate action, several species of native honeycreepers will become extinct in the next ten years, and at least one is projected to go extinct potentially this year or next. Avian malaria, a disease transmitted by invasive southern house mosquitoes, is driving the extinction of our forest birds. A single bite by an infected mosquito can kill an 'i'iwi. As the climate warms, mosquitoes carrying avian malaria are moving upslope into the last refugia for Hawai'i's forest birds. The proposed mosquito management approach can suppress mosquito populations and help save our native forest birds.

Our native Honeycreepers are foundational to the culture, forests, and ecosystems of Hawai'i. On the island of Kaua'i, we have already lost dozens of forest bird species due to avian diseases transmitted by non-native mosquitoes, among them iconic species like the Kaua'i 'ō'ō, featured in mahiole and 'ahu 'ula, and the spectacular Kaua'i 'akialoa, a pollinator of 'ōhi'a lehua and insect eater. We are grieving the loss of their song, the loss of their beauty and the loss of their presence.

Of the six remaining Honeycreepers species on Kaua'i today, two are critically endangered. The 'akikiki is going extinct in the wild as you are reading these lines and the 'akeke'e is predicted to go extinct in the wild within the next couple years. As pollinators, seed dispersers, and insect eaters, they are essential for our forests and without action or delayed action, these species have no chance of survival.

The incompatible insect technique or mosquito birth control provides us with a glimmer of hope and opportunity to save the last remaining Honeycreepers from extinction. This method has been used successfully worldwide for vector control for human diseases and gives us a powerful tool to address the main cause for the decline of our Honeycreepers: avian malaria transmitted by the Southern House Mosquito. Neither the disease nor the vector is native to the Hawaiian islands and the mosquitoes have invaded the highest elevation of our island, decimating our Honeycreeper populations every day. Our forest birds--and all ecosystems and their diverse species in Hawai'i--are adapted over millenia of existence to a mosquito-free Hawai'i.

The question to consider for our forests and for our ecosystem: How many more native forest bird species can we afford to lose, before the environmental impact will lead to the collapse of our native Hawaiian forests and watersheds?

Mahalo for reading my testimony,

Aleix Blasco

From: [Peter Stolarski](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Hawaiian Bird Preservation Testimony
Date: Wednesday, October 11, 2023 3:57:26 PM

Dear BLNR,

I am writing to urgently express my support for protecting Hawaiian forest birds, which are invaluable natural and cultural resources that require immediate safeguarding.

The threat of avian malaria is devastating our native bird populations, exacerbated by warming temperatures that have allowed mosquitoes to invade previously secure high elevation preserves. It is crucial to act now and suppress mosquito populations to give our birds a fighting chance. Many species have already perished.

I strongly believe in the safe, targeted, and feasible Incompatible Insect Technique as a solution for Hawai'i. This method has been successfully used worldwide, making it an ideal approach for mosquito population suppression in our region.

The environmental assessment provides sound and adequate scientific evidence supporting the implementation of mosquito control measures.

I urge the BLNR to prioritize the protection of Hawaiian forest birds by embracing the use of IIT. We must act swiftly to preserve these unique treasures for future generations.

Sincerely,
Peter and Shiruo Stolarski-Sun

From: [Kaleiheana-A-Pohaku Stormcrow](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:36:15 PM

Aloha mai kākou,

Mahalo for the opportunity to offer my mana‘o. I am kanaka maoli artist, cultural practitioner and scientist. I work at Keauhou Bird Conservation Center as an Avian Recovery Specialist. Our program exists because of how imperiled our native manu are from a multitude of introduced threats, including mosquitoes. Over half our native forest birds have gone extinct due to the impacts from these threats. These manu are our ancestors, not metaphorically. It is our duty as ‘ohana to protect them. As such, I am writing IN SUPPORT of the use of Wolbachia-incompatible mosquitoes to save our forest birds. This form of mosquito birth control has been used all over the world to prevent human disease. As such, it is proven and effective. Manu are people, too, and they deserve a fighting chance to thrive abundantly in our forests. Ensuring their survival is our responsibility as ‘ohana and as stewards of these lands.

Mahalo for your time.

‘o wau me ke aloha,
Kaleiheana Stormcrow

From: [Teasy](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Mosquito control testimony-- birds of Kaua'i
Date: Thursday, October 12, 2023 5:11:25 AM

Aloha!

I strongly support agenda item C-1 and want to emphasize the urgent need to protect our native Honeycreepers in Hawai'i. On Kaua'i, we've already lost many forest bird species due to diseases from non-native mosquitoes, like the iconic Kaua'i 'ō'ō and the beautiful Kaua'i 'akialoa. We miss their songs and their presence. Two Honeycreeper species are critically endangered, with one on the verge of extinction. These birds are crucial for our forests as pollinators and insect eaters. Without quick action, they won't survive. Using mosquito birth control, a method successful globally, could be our best chance to save them. Avian malaria from non-native mosquitoes is their main threat, and we need to act now. I trust the scientific work done by state and federal agencies and conservation projects. I urge the BLNR to strongly support and help execute this project in Hawai'i.

Mahalo,

Teasy Sun

From: [philippa swannell](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda item c-1
Date: Monday, October 9, 2023 1:47:47 PM

Please allow the go ahead of the Birds not mosquitos project on Kaua'i. The process is slow and those birds on the brink of extinction are running out of time.

I like many others would like to see this rolled out on all the islands in the hope of preserving our manu nahele.

Pippa Swannell-Jones
Resident of Hawai'i Island.

From: [Jan TenBruggencate](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Friday, October 6, 2023 5:24:16 PM

Please, please approve the use of the Wolbachia technology to save our precious Kaua'i forest birds. There is no time left.

--jan

--

Jan TenBruggencate
Island Strategy LLC
jan@islandstrategy.com
cell: 808-639-9900
land: 808-245-7825

From: [Tessa](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 3:54:48 PM

To whom it may concern,

This effort is CRITICAL to stabilize and recover populations of critically endangered Hawaiian forest birds on the island of Kaua'i.

Mosquito control using IIT is well documented, successful and scientifically sound methodology that is essential for preventing the extinction of Kaua'i's forest birds. This technology is not new, and has been an integral technique used around the world to control mosquitos. It is essential to allow this to move forward, to set the stage for restoring balance, health and resiliency to the island ecosystem found here.

Best,
Tessa

From: [Jamie Thomson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I support Kauai's forest birds and the mosquito suppression project
Date: Wednesday, October 11, 2023 2:17:50 PM

Aloha,

I live and work on Kauai and support the current efforts to suppress the mosquito population that are leading to the extinction of cherished Hawaiian forest birds.

I fully support this new method of controlling mosquitoes and know that it has been used safely around the world, now it's time for Hawaii to benefit from it.

Mahalo for your consideration.

Jamie Thomson

From: [Caroline Thow](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda Item C-1
Date: Wednesday, October 11, 2023 7:28:41 AM

Aloha,

I am writing in to request that BLNR please SUPPORT the mosquito control efforts described in agenda item C-1 by approving the Final Environmental Assessment and Finding of No Significant Impact.

This is a critical step towards ensuring the conservation of some of the world's most imperiled birds, including two endemic species found only on Kaua'i and at risk of extinction in one to five years: the 'akikiki and 'akekeke. Incompatible Insect Technique is a well researched and tested method of mosquito control which has been used for decades all across the world to benefit human health, uses naturally occurring bacteria already found in Hawai'i, and does not require the application of pesticide or genetic modification.

The people of Hawai'i and Kaua'i in particular deserve a future where they can enjoy and have a relationship with native forest birds. Without mosquito control, we will lose these cultural and biological jewels of the forest. We have already lost all but 17 of the over 59 honeycreepers that once called Hawai'i home. 'Akikiki are on the verge of extinction in the wild, with others close behind. Please support this action so no more birds are added to the list of species we lost due to invasive species and disease, and 'akikiki can return to their native forest homes in the future.

Mahalo,
Cara Thow
Pahoa, Hawaii

From: [Marc T](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I am opposed to agenda item c1
Date: Wednesday, October 11, 2023 4:50:36 PM

I am opposed to BLNR Oct 23 C1 this Agenda item is dangerous to Hawaii!

Marc Thyssen

From: [Matthew \(Matt\) Toenies](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 5:50:30 PM

Aloha Board Members,

I am submitting testimony in strong support of Board approval of this Final EA and authorization for the Chairperson to issue a Finding of No Significant Impact (FONSI) for this effort to stabilize and recover populations of critically endangered Hawaiian forest birds on the island of Kaua'i.

Honeycreepers are a unique group of forest birds found only in Hawai'i, which once had more than 50 species. Today, only 17 species remain, some with fewer than 500 individuals left. Without immediate action, several species of native honeycreepers will become extinct in the next ten years, and at least one is projected to go extinct potentially this year or next. Avian malaria, a disease transmitted by invasive southern house mosquitoes, is driving the extinction of our forest birds. A single bite by an infected mosquito can kill an 'i'iwi. As the climate warms, mosquitoes carrying avian malaria are moving upslope into the last refugia for Hawai'i's forest birds. The proposed mosquito management approach can suppress mosquito populations and help save our native forest birds.

Our native Honeycreepers are foundational to the culture, forests, and ecosystems of Hawai'i. On the island of Kaua'i, we have already lost dozens of forest bird species due to avian diseases transmitted by non-native mosquitoes, among them iconic species like the Kaua'i 'ō'ō, featured in mahiole and 'ahu 'ula, and the spectacular Kaua'i 'akialoa, a pollinator of 'ōhi'a lehua and insect eater. We are grieving the loss of their song, the loss of their beauty and the loss of their presence.

Of the six remaining Honeycreepers species on Kaua'i today, two are critically endangered. The 'akikiki is going extinct in the wild as you are reading these lines and the 'akeke'e is predicted to go extinct in the wild within the next couple years. As pollinators, seed dispersers, and insect eaters, they are essential for our forests and without action or delayed action, these species have no chance of survival.

The incompatible insect technique or mosquito birth control provides us with a glimmer of hope and opportunity to save the last remaining Honeycreepers from extinction. This method has been used successfully worldwide for vector control for human diseases and gives us a powerful tool to address the main cause for the decline of our Honeycreepers: avian malaria transmitted by the Southern House Mosquito. Neither the disease nor the vector is native to the Hawaiian islands and the mosquitoes have invaded the highest elevation of our island, decimating our Honeycreeper populations every day. Our forest birds--and all ecosystems and their diverse species in Hawai'i--are adapted over millenia of existence to a mosquito-free Hawai'i.

The question to consider for our forests and for our ecosystem: How many more native forest bird species can we afford to lose, before the environmental impact will lead to the collapse of our native Hawaiian forests and watersheds?

Mahalo for reading my testimony,

Matt Toenies

(he/him)

><(((°>

"Now we face the question whether a still higher 'standard of living' is worth its cost in things natural, wild and free." -- Aldo Leopold, 1949

From: [Trax](#)
To: [DLNR.BLNR.Testimony](#); [Stand Together Hawaii](#)
Subject: [EXTERNAL] Mosquito release...on Kauai
Date: Wednesday, October 11, 2023 8:51:18 PM

Aloha, and SHAME on the people ignorant of the Intelligence, Power, and Wisdom of Nature and its governance of life on Kauai and the other Islands since and. Long before the Islands flowed out of the Sea.

The Chemical Cartel is on a profit rampage since the WWII Era. Failing after Failure after Failure.

Know that it has never been the strength of Disease and microbes; what it has always been is the WEAKNESS of the people living outside of Nature's Way...ingesting chemicals with every bite of food and gulp of Rx Prescription Drug Medications.

80% of Americans take Rx Chemical Drugs every day of their life...ignoring Nature's Way. People by the billions Still sick after countless Rx Prescription Medications... they don't work either generation after generation.

When will people learn chemicals and drugs are not for HEALTH, they both hide and promote DISEASE...

And now you want to add to current Disease Dilemma these to be aberrated Mosquitos...SHAME on you, the \$\$\$ Profits are not worth messing with Nature...

Spreading chemicalized Mosquitos into our Environment is pure EVIL.

You CHEMICAL lovers are the problem, not any part of the Solution. Nature will still be here in its perfection long after you, and your ilk, and your chemicals will be long gone.c

Those into chemicals, vaccines, boosters, and drugs should move to another planet; or get an education in Life, Health, and Nature; let Nature lead the way, it's more than to be DEPENDABLE.

Nature has been here since Earth's First SUNRISE...get used to it...!!!

Mahalo,

Jay

From: [Benjamin Tryon](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 4:17:23 PM

Hello,

I'd like to support a Finding of No Significant Impact (FONSI) for this effort to stabilize and recover populations of critically endangered Hawaiian forest birds on the island of Kaua'i.

Thank you
Ben Tryon
1770 W 50th Ave
Denver CO

From: [Fisher, Joshua](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] FWS testimony for BLNR 10-13 meeting agenda item C-1
Date: Wednesday, October 11, 2023 8:41:25 PM
Attachments: [20231012 FWS Kauai IIT LOS for BLNR signed.pdf](#)

Aloha Board of Land and Natural Resources,

Please accept the US Fish and Wildlife Service testimony (attached) for the Board of Land and Natural Resource meeting on October 13, 2023.

This testimony is for **Agenda item C-1**, DOFAWs request for approval of Final Environmental Assessment and Authorization for the Chairperson to issue a Finding of No Significant Impact for the “use of Wolbachia Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai”.

If you have any questions or issues with this attachment please do not hesitate to contact me.

Thank you,

Joshua Fisher

Invasive Species Biologist
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai'i 96850

Desk Ph: 808-210-4666



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

In Reply Refer to:
01EPIF00-2023-Inv

Ms. Dawn Chang
Chairperson
Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Subject: U.S. Fish and Wildlife Service Appreciation for Collaborative Effort with DLNR
to Prevent Forest Bird Extinction in Hawai'i

Dear Chairperson Chang and Board:

As you are aware, the U.S. Fish and Wildlife Service (Service) and the State of Hawaii Department of Land and Natural Resources (DLNR) have been collaboratively working together to plan for the implementation of Incompatible Insect Technique (IIT) to reduce mosquito populations on Kaua'i. This action is urgent and necessary to protect critically endangered forest birds from mosquito-borne disease in higher-elevation native forest bird habitat. The Service and DLNR have prepared a joint environmental assessment (EA) to address the impacts of *Wolbachia* IIT.

The Service has reviewed and evaluated the information pertaining to this *Wolbachia* based biopesticide¹ used in IIT. Based on the information available to us and public comments received we find this biopesticide is consistent with other IIT tools used to control mosquitoes for public health, which have been shown to be highly effective and safe. We further anticipate the likelihood for non-target and environmental effects from the use of this technology in Hawai'i to be negligible. Therefore, on September 22, 2023, the Service issued a [Final EA](#) in accordance with our National Environmental Policy Act regulations (NEPA; 42 U.S.C. §4321 et seq.) and a [Finding of No Significant Impact](#) (FONSI).

The planning and implementation of mosquito control for preventing the extinction of Hawaiian forest birds is part of the Department of the Interior's [Hawaiian Forest Bird Keystone Initiative](#) and funded in part through Bipartisan Infrastructure Law allocations. The Department's bureaus and offices are working together, along DLNR, Native Hawaiian Community, and numerous public and private partners, to lead a comprehensive initiative to prevent the extinction of

¹ Biopesticide: certain type of pesticide derived from natural materials such as animals, plants, bacteria, and minerals. (U.S. Environmental Protection Agency)

PACIFIC REGION 1

IDAHO, OREGON*, WASHINGTON,
AMERICAN SĀMOA, GUAM, HAWAI'I, NORTHERN MARIANA ISLANDS

*PARTIAL

additional Hawaiian forest birds. The use of IIT to control mosquitoes is a critical component of this multi-prong initiative and is outlined in the Department's "[Strategy for Preventing the Extinction of Hawaiian Forest Birds.](#)"

We greatly appreciate DLNR's partnership, leadership, and ongoing commitment to this critical conservation challenge. If you have any questions regarding this letter or how IIT and other forest bird conservation projects align with the Service's conservation strategy, please contact me at Michelle_Bogardus@fws.gov or by telephone at 808-792-9400.

Sincerely,

Michelle Bogardus
Deputy Field Supervisor

Enclosures: Kaua'i Wolbachia EA FONSI signed 09222023

FINDING OF NO SIGNIFICANT IMPACT

Use of *Wolbachia*-based Incompatible Insect Technique for the Suppression of Non-native Southern House Mosquito Populations on Kauaʻi

Summary

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), and its implementing regulations (40 CFR 1500-1508) as revised by the Council on Environmental Quality in 2022, as well as Department of the Interior NEPA Regulations (43 CFR 46), the U.S. Fish and Wildlife Service (USFWS) and State of Hawaiʻi Department of Land and Natural Resources (DLNR), as a joint lead agency, prepared an Environmental Assessment (EA) to examine alternative actions and potential impacts to the human environment associated with the use of the *Wolbachia*-based incompatible insect technique. The purpose of this project is to substantially suppress or eliminate nonnative southern house mosquitoes (*Culex quinquefasciatus*) and, thus avian malaria, in threatened and endangered forest bird populations in the Kōkeʻe and Alakaʻi Wilderness areas on Kauaʻi, thereby reducing extinction risks and contributing to the recovery of these species. To prevent the extinction of threatened and endangered forest birds on Kauaʻi, timely management action needs to be taken to control avian malaria. The statements and conclusions reached in this Finding of No Significant Impact (FONSI) are based on documentation and analysis provided in the EA. Relevant sections of the EA are summarized and incorporated by reference below. Although the EA was a cooperative federal and state compliance document satisfying both NEPA and the Hawaiʻi Environmental Policy Act (HEPA) regulations, this FONSI analyzes only the impacts under current NEPA standards.

Preferred Alternative

The USFWS and DLNR analyzed two alternatives in detail in the EA. Based on this analysis, the USFWS selected the Proposed Action as the alternative for implementation because it best meets the purpose of, and need for, the goals and objectives of the project, without causing significant impacts on the human environment. The preferred alternative is described in detail in Chapter 3 of the EA. This finding is based on consideration of CEQ criteria for significance (40 CFR 1501.3 (b)), regarding the potentially affected environment and degrees of effects of the impacts described in the EA. Additionally, a reasonable range of alternatives were considered but dismissed from detailed analysis because they did not meet the purpose and need of the proposed action (see Section 3.3 of the EA).

Under the preferred alternative, the USFWS and DLNR along with other non-governmental partner organizations will attempt to reduce threatened and endangered forest bird mortality from avian malaria by suppressing mosquito populations on Kauaʻi. This consists of repeatedly releasing incompatible male mosquitoes to reduce the reproductive potential of mosquitoes in the project area. This approach employs an Incompatible Insect Technique (IIT), which uses a naturally occurring bacteria termed *Wolbachia* that is present in the eggs and sperm of many insect species, including the southern house mosquito. When male mosquitoes with an incompatible strain of *Wolbachia* are introduced to a population of female mosquitoes, mating is unproductive, thereby substantially suppressing mosquito populations. Releases under the preferred alternative

will be conducted repeatedly over time to achieve and maintain significant suppression of the mosquito population. Monitoring mosquito populations will guide the frequency, number, and location of the proposed releases, and will need to continue for as long as the preferred alternative is implemented. The preferred alternative will begin with small-scale on-the-ground or aerial releases of incompatible male mosquitoes within the project area, where field teams will be able to monitor effectiveness of IIT implementation. The majority of the project area is inaccessible by ground, and thus will require aerial applications (i.e., helicopters and UAS/drones) to implement large-scale mosquito releases throughout the project area. Releases will be expected to continue until nonnative mosquito populations are significantly reduced and the status of threatened and endangered forest birds stabilizes, or until new mosquito population suppression techniques are developed. Release efforts may be concentrated within smaller management areas if there are limitations in the availability of aerial resources, personnel, or incompatible mosquitoes, and then scaled up throughout the project area once additional resources are available. In addition, the uppermost elevations in the project area may have even fewer mosquitoes than estimated by Samuel et al. (2011) and population suppression in these areas may only require infrequent releases of incompatible mosquitoes. Alternatively, suppression at lower elevations may be sufficient to reduce or eliminate the threat of disease at the higher elevations by eliminating the individuals that could disperse uphill.

Rationale

This Proposed Action alternative is the Service's preferred alternative because it best meets the purpose and need and provides the most effective and feasible solution to suppress nonnative mosquito populations to reduce transmission of avian malaria to threatened and endangered forest birds on Kaua'i. The threat that introduced species pose to habitat and native wildlife makes addressing their impacts one of the USFWS's top management priorities. Numerous other potential alternatives were considered but dismissed from further analysis as described in Section 3.3 "Alternatives Considered but Dismissed" of the EA.

Avoidance and Minimization Measures

The USFWS places strong emphasis on avoiding and minimizing potentially adverse environmental impacts. Therefore, the USFWS and DLNR will implement avoidance and minimization measures and best management practices to protect Federal and State listed plants and animals, non-listed flora and fauna, cultural/historic/ethnographic resources, public health and safety, and recreation. These measures and practices are described in detail in Tables 4 and 5 and Appendix D of the EA and are hereby incorporated by reference. As stated in the EA, these avoidance and minimization measures are included as integral parts of the preferred alternative.

Other Alternatives Considered and Analyzed

No Action Alternative

The EA considered the preferred alternative described above and a no action alternative. Under the no action alternative, releases of incompatible male mosquitoes would not occur. Although ongoing conservation and other management activities would continue in the project area (e.g., fencing, construction of field camps, removal of nonnative ungulates and predators, and invasive

plant control), native forest birds would continue to be adversely affected by their primary threat, avian malaria, because the mosquitoes that carry this disease would remain uncontrolled and are anticipated to continue to spread into the remaining forest bird habitat. Under the no-action alternative, the ‘akikiki is predicted to go extinct by 2025 and the ‘akeke‘e by 2034 (Paxton et al. 2022). The ‘akikiki and ‘akeke‘e have experienced 11% and 15% yearly declines, respectively, since the 1980s and currently have very limited ranges, and therefore could be extinct sooner than projected (Paxton et al. 2020; Paxton et al. 2022).

Significance Criteria Review

Potentially Affected Environment

The project area is comprised of 59,204 acres (23,959 hectares) of Kaua‘i (Figure 1 in the EA). This area encompasses the Kōke‘e State Park, Hono o Nā Pali Natural Area Reserve, Ku‘ia Natural Area Reserve, Nā Pali Coast State Wilderness Park, Nā Pali-Kona Forest Reserve, the Alaka‘i Wilderness Preserve, and private lands (see Table 1, Figure 2 in the EA). The Kōke‘e State Park, Nā Pali-Kona Forest Reserve, and the Alaka‘i Wilderness Preserve overlap with extant native forest bird habitat, including critical habitat for ‘akeke‘e and ‘akikiki on the island of Kaua‘i (Paxton et al. 2016). Designating the project area was developed collaboratively between USFWS, KFBRP and the DLNR. The project area includes a buffer zone to account for mosquito dispersal and incorporates lower elevation areas outside the current range of forest birds to target mosquitoes that may emigrate from these lower elevation areas into this forest bird habitat.

Degree of Effects of the Action

The USFWS considered the following actual or potential project effects in evaluating the degree of effects (40 CFR 1501.3(b)) for the preferred alternative. No significant impacts to resources were identified that would require further analysis in an Environmental Impact Statement (EIS). Whether taken individually, or as a whole, the impacts of the preferred alternative, including direct, indirect and cumulative effects, do not reach the level of a significant effect because most adverse impacts associated with implementation will be minimal or temporary, lasting only as long as actions are being executed. The preferred alternative will result in substantial long-term beneficial impacts to threatened and endangered bird species. Best management practices measures, as mentioned above (and described in detail in Tables 4 and 5 and Appendix D of the EA), will further avoid and minimize any potential adverse impacts. It is expected that the frequency of actions and any associated adverse impacts will decline as nonnative mosquito population suppression is achieved over time.

Although there could be intermittent disturbance to some listed species from drone and helicopter use, the preferred alternative will result in long-term beneficial impacts to threatened and endangered bird species. The project will substantially suppress or eliminate nonnative southern house mosquitoes (*Culex quinquefasciatus*) and, thus avian malaria, in threatened and endangered forest bird populations on Kaua‘i, thereby reducing extinction risks and contributing to the recovery of these species. The preferred alternative, therefore, will primarily benefit federally listed species and will not result in significant adverse effects.

Threatened and Endangered Species

The impacts from the preferred alternative and the foreseeable actions can be effectively reduced to negligible levels using the avoidance and minimization measures outlined in Tables 4 and 5, and in Appendix D of the EA. Although there would be temporary and localized impacts to wildlife and plants from mosquito release activities, the population and health of rare and listed species and their habitats would improve or remain stable. As previously described, the preferred alternative would directly reduce mortality of listed Hawaiian forest bird species due to the suppression of mosquitoes that spread avian malaria. The preferred alternative along with other planned foreseeable state and private management actions, including invasive plant control, feral ungulate control, and predator control would enhance survival of native forest bird species by reducing stressors. Over time, the populations of these listed bird species may increase due to the combined actions of the agencies and private partners to manage for avian malaria and other threats. Therefore, the overall cumulative increment of the proposed action would be substantially beneficial.

Wildlife Resources

As described in Section 4.1.4 of the EA, the preferred alternative would not contribute additional significant impacts to the wildlife species beyond that of the ongoing and future known activities. Trends and impacts from planned foreseeable actions would be expected to remain the same, or similar to, what is currently occurring.

The *Wolbachia* bacteria used to generate incompatible male mosquitoes occurs in Hawai'i in the Asian tiger mosquito (*Aedes albopictus*), introduced to Hawai'i in 1896. Additionally, the southern house mosquitoes released through the proposed action would be obtained from Hawaii and bred in captivity. IIT technique does not modify any or part of the genome of either mosquitoes or the *Wolbachia* bacteria. Therefore, no new organisms would be introduced to Hawai'i by the proposed action.

The DLNR, USFWS and partners participating in this project will comply with all State and Federal requirements relating to biosecurity for mosquito rearing and the movement of invasive species. Invasive species biosecurity protocols are provided in Appendix D of the EA help the project avoid or minimize the inadvertent transportation or spread of other invasive species that could potentially impact plants, fish, wildlife, and their habitat within the project area.

Although the project would cause minor, periodic, and short-term adverse impacts (e.g. increased air and foot traffic), success of the project would reduce the prevalence of nonnative *Culex* mosquitoes in the Kaua'i wilderness environment. Suppression of nonnative mosquito populations in turn, indirectly impacts the transmission rate of avian malaria infection among native birds. The indirect impact would result in long-term beneficial indirect impacts to general wildlife or wildlife habitat. Successful implementation of the proposed action would result in cumulative impacts that will not significantly affect and are beneficial to wildlife resources that occur within the proposed project area.

Vegetation Resources

As outlined in Section 4.1.4 of the EA, the preferred alternative would result in limited cumulative impacts to native vegetation that would be short lived and intermittent in nature. There is potential under the proposed action, existing actions, and foreseeable future actions for minimal adverse

impacts to vegetation from localized plant removal or disturbance along trails, fencelines, and at landing zones and camps by ground crews. These impacts would be temporary in nature and largely occur in previously disturbed locations. To help minimize any vegetation or ground disturbance, monitoring efforts and the dispersal of incompatible male mosquitoes via ground based pedestrian releases would be conducted on existing resource management trails and fence lines to avoid disturbance of soils and plant communities. Additionally, best management practices (Appendix D of the EA) would be implemented to reduce or remove the threat of introducing invasive plants within the project area; however, a risk of introduction still exists. Crews would be trained to follow best management practices (BMPs) to minimize this risk (see Table 4 and Appendix D of the EA), thus, effectively reducing anticipated effects to negligible. Other management actions that are ongoing or that may occur in the project area are identified in Appendix E.

Cultural Resources

The potential physical impacts that the proposed action would have on the landscape, both archaeological and cultural, would be minimal and no greater than the current level of use by the public, the DLNR, and its management partners in maintaining the State Parks, Forest Reserves, and Natural Area Reserves located within the project area.

Given that not all of the project area has been archaeologically surveyed, it is possible that previously unrecorded sites could be present in the vicinity of the access routes where project activities would take place. To avoid and minimize effects, project personnel would stay on designated roads and trails. Project related activities would be limited to existing routes of travel (fence line corridors, trails, and roads), established helicopter landing zones, and field camps already utilized for other resources management activities. No new roads, trails, landing zones, or camps would be created to support this project (see the cultural resources section of Table 4 in the EA).

Incompatible male mosquito releases, monitoring, and other project related activities would be limited to existing routes of travel (e.g., fence line corridors, trails, and roads), established helicopter landing zones, and field camps already utilized for other management activities. No new roads, trails, landing zones, or camps would be created to support this project. Most of the known archaeological sites and culturally significant places within the project area are located far from the trails and areas where the project activities would take place. No archaeological or cultural sites have been recorded near planned project access routes, landing zones, or field camps. As has previously been mentioned, archaeological surface structures are relatively rare in the forested uplands where most incompatible male mosquito releases would occur. For these reasons, it is expected that the project would have no adverse impact on archaeological sites or culturally significant places.

The findings of the cultural impact analysis (CIA) (see Appendix B of the EA) indicate that the proposed action is unlikely to adversely impact cultural resources, practices, and beliefs. While cultural practitioners may make use of roads or trails within the project area to gather forest plants, hunt, or to carry out other cultural practices, incompatible male mosquito releases and monitoring activities are unlikely to interfere with their access.

One of the primary impacts of the proposed action on cultural resources is the anticipated positive outcome that reduced mosquito populations would have toward protecting and preserving native forest bird populations. Their existence and presence within the forest environment are important for maintaining cultural continuity between traditional and contemporary cultural customs, practices, and beliefs and therefore, overwhelmingly benefit cultural resources within the proposed project area.

Public Health and Safety

The preferred alternative considers public health and safety during project implementation; there is no evidence that release of incompatible male mosquitoes on Kaua‘i would have human health impacts.

Only incompatible male mosquitoes will be released and only female mosquitoes bite animals or humans. Employing this and other available sorting methods, Crawford et al. (2020) estimated that the risk of releasing a female is 1 out of 900 million released *Aedes aegypti* mosquitoes. The proposed action would use *Culex quinquefasciatus*, a different species of mosquito, and while the methodology is very precise the estimated number of females released is expected to differ. There is no data suggesting that the rare and inadvertent release of mosquitos through IIT programs can result in wild populations of mosquitos.

Even if a female is released, a bite from a released female will pose no more risk to humans or wildlife than the nonnative wild female mosquitoes currently in the environment. *Wolbachia* cannot live within vertebrate cells and cannot be transferred to humans or other vertebrates even through the bite of an infected mosquito (Popovici et al. 2010).

Diseases transmitted to humans by the southern house mosquito includes West Nile virus. Health and wildlife agencies in Hawai‘i are actively working to prevent the introduction and spread of West Nile virus to the state (DOH 2022). An ancillary benefit of the IIT is that it will employ a promising southern house mosquito control method in Hawai‘i and help to establish infrastructure to support southern house mosquito suppression in the event of an outbreak of West Nile or other mosquito disease-borne illness.

Recreation and Wilderness

The preferred alternative would have both beneficial and adverse effects on wilderness and recreation. Although many release packages containing incompatible male mosquitos would be dropped across the project area throughout the duration of the project, the small packages would be spread diffusely, and the biodegradable material would decompose quickly given the typical rainfall patterns in the project area, making the chance of observing multiple packets unlikely. Based on the degradable nature of the delivery packages and diffuse nature of release locations, the impacts on recreationalists and the wilderness would be negligible.

The release of the incompatible male mosquitoes would not be expected to cause additional bites or nuisance to recreationalists and users of the wilderness resources. Unlike female mosquitoes that consume blood, male mosquitoes consume nectar and thus, would not be attracted to humans or pets. Localized concentrations of incompatible male mosquitoes could be expected to occur in

the immediate vicinity (1 to 2 feet) of the release package as the mosquitoes emerge, but the mosquitoes would be expected to disperse within minutes.

The preferred alternative would adversely affect the visitor experience for land-based recreationists (e.g., campers, hikers, hunters) through increased human activity and noise (e.g., from project staff, vehicles, drones, and aircraft). No changes in public use or access to state-managed recreational areas are anticipated to be required for project operations. Existing recreational uses in the project area would continue to occur in the future, and there are no reasonably foreseeable changes to the types of use or levels of use that are allowed to occur within the project area (see Appendix E of the EA). Ongoing and reasonably foreseeable conservation activities (i.e., ecological research, monitoring, and management) would continue to have both beneficial and adverse effects for recreational users. Adverse effects would result from localized increases in noise and human activity when those activities are implemented in proximity to public spaces. Because of the low use, the impacts to the public are expected to be minor.

The preferred alternative could cause intermittent, but temporary increases in overall number of aircraft operating in the project area. Commercial air tour agencies, however, are not authorized to fly their aircraft at the low altitudes necessary for release of incompatible male mosquitoes in the project area. Rather, tour operators would fly well above the height or altitude necessary for project operations. Therefore, there would be no adverse effects to commercial helicopter air tour flight routes expected to occur.

In summary, mosquito release activities under the preferred alternative will contribute periodic adverse impacts on recreationalist near landing zones (LZs), helibases, flight paths, and trails from the use of drones, mechanized equipment, and helicopters largely in the form of noise and visual intrusion. Adverse impacts from the pedestrian release method will be confined to a small portion of the overall project area. Impacts to visitor experience will not be significant because the majority of the project area is inaccessible to the public and therefore there will be only intermittent impacts during mosquito release and monitoring activities, mostly concentrated near LZs, helibases, and flight paths. These impacts will only occur during daylight hours on weekdays, as operations will not occur at night or on weekends. A permanent beneficial impact on recreationalist is anticipated under the preferred alternative, if the mosquito control effort is successful and native forest bird populations stabilize or recover. For those who are visiting portions of the analysis area to enjoy a unique native rainforest ecosystem or birdwatching, the beneficial impact could be considered substantial. Additionally, the proposed action is not expected to have adverse effects on ongoing or future hunting or resource collection activities within the project area.

Overall adverse impacts to visitor use and experience will be brief and minimal and should be outweighed by the overall benefits to wildlife and ecosystems enjoyed by visitors to the project area.

Air Quality, Greenhouse Gas Emissions and Climate Change

As discussed in chapter 4 of the EA, incompatible male mosquito transport to Kaua‘i from the incompatible male mosquito production facility would utilize existing commercial air transport services and would not be expected to increase or otherwise contribute to greenhouse gas emissions. Release methods part of the preferred alternative that produce greenhouse gas emissions include motor vehicle transport of personnel for release and monitoring activities, helicopter

transport of personnel for pedestrian release to remote sites, and helicopter or fixed wing release of incompatible male mosquitoes.

Greenhouse gas emissions associated with each of these modes of transport would be intermittent and temporary in nature in the project area. Releases by fixed wing aircraft, if deployed as an application method has the potential to be the most efficient release option for the project area, resulting in diminished fossil fuel consumption and a sizable, reduced amount of time needed for applications. The proposed action would initially rely on pedestrian and helicopter or fixed-wing aircraft release, but over time would be expected to pivot to the use of drones as the primary incompatible male mosquito release method based on deployment/monitoring data. Drones, which are battery powered, do not directly burn fossil fuel and do not generate fuel emissions. Helicopters, however, would still be needed to transport monitoring and support staff to some remote locations that are inaccessible by vehicle, and for occasional incompatible male mosquito release.

Though climate change and associated adverse impacts have and will continue to affect specific resources on Kaua'i and within the project area, greenhouse gases from helicopter, fixed wing aircraft and motor vehicle emissions associated with the proposed action are not expected to have a significant effect on global climate change or local climatic conditions. Although, for example, the release of incompatible male mosquitoes would result in some fossil fuel consumption, the associated greenhouse gas emissions would be minor because of the comparatively limited number of flights anticipated, compared to ongoing daily commercial (air tours) flights on Kauai.

Environmental Justice

According to the EPA's Environmental Justice Screening and Mapping Tool, environmental justice communities exist in the study area. However, *Wolbachia* cannot live within vertebrate cells and cannot be transferred to humans or other vertebrates even through the bite of an infected mosquito (Popovici et al. 2010). The mosquitoes that would be released provide no threat to the public as they would be male mosquitoes, which do not bite and do not transmit disease to humans. Inadvertent release of females is expected to be exceedingly rare and would not result in the establishment of new wild mosquito populations.

Aerial operations associated with ongoing management already occur on state and private lands on Kauai. Areas that have high recreational use and are accessible by vehicles would use pedestrian release methods to deploy mosquitoes, which would reduce the potential for noise and visual disturbance from aircraft. Increase in noise and visual impacts would primarily affect only those members of the public that are actively utilizing the project area or those residing near the project area that may hear or see the intermittent implementation of the proposed action. Helicopter use and drone use associated with the proposed release actions would occur during daytime hours and would not occur at night.

The intent and expected outcome of this project is to avoid the extinction of Hawaiian forest birds, which are identified as an important ecological and cultural resource by the Native Hawaiian community. Native Hawaiians identify forest birds as ohana (family), kupuna (ancestors), and 'aumākua (familial gods), and their unique habitats are revered as sacred places for the cultural

ecological services they provide. The preservation of these species has been identified as a priority by Native Hawaiian community leaders (Paxton et al. 2022).

Public Involvement

The public was provided an opportunity to comment on the planning process. The USFWS and DLNR held a 30-day public scoping period from June 23 to July 24, 2023, which initiated the joint NEPA and HEPA planning process. An in-person public informational meeting was held on July 11, 2023, at the Kaua‘i Philippine Cultural Center in Līhu‘e. In total, 56 people attended the in-person public informational meeting. The comments received were reviewed by the USFWS and DLNR and considered in development of the EA. In total, the USFWS and DLNR received 887 independent pieces of correspondence during the 30-day scoping period, several with substantive comments. A summary of substantive public comments received and responses from the USFWS and DLNR is provided in Appendix I of this EA.

Conclusions

Based on review and evaluation of the EA, the USFWS has determined that the Proposed Action alternative is not a major Federal action that would significantly affect the quality of the human environment, within the meaning of section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. Accordingly, the Service is not required to prepare an EIS for this proposed action.

Michelle Bogardus,
Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service

September 22, 2023

Date

References Cited

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From: [Isis Usborne](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 10:42:09 PM

Aloha Chairperson Chang and Members of the Board,

Please approve this EA and the finding of no significant impact of Wolbachia IIT on Kauai.

- Isis Usborne
(808)457-7516

Sent from my iPhone

From: [Jennifer Valentine](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1
Date: Saturday, October 7, 2023 10:23:37 AM

To prevent the extinction of Kaua'i's nā manu nahele, we, together with DLNR-DOFAW and the numerous partners within Birds, Not Mosquitoes, and I are proposing to control invasive mosquitoes that spread diseases like bird malaria. Mosquito control would be implemented on a landscape level in critical forest bird habitats in Kaua'i.

mahalo, Jennifer Valentine

From: [Kaylin VW](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Submitting Testimony
Date: Wednesday, October 11, 2023 4:30:37 PM

Aloha Chair Person Chang and members of the board,

I implore you to please reiterate your stance for East Maui and approve this EA and the finding of no significant impact of Wolbachia IIT on Kaua'i.

Mahalo,

Kaylin Van Waus

From: [MF Vigil](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kauai"i to save native birds
Date: Wednesday, October 11, 2023 7:03:59 PM

I support the proposed plan for mosquito control to be implemented on Kauai in critical forest habitats.

I live in Kekaha and have the privilege of enjoying Koke'e's beauty frequently. It's a magical place. It would be fantastic if the proposed mosquito control can save nā manu nahele. I hope to hear helicopters heading up the mountain to drop their payload soon.

Thank you,
Mary Frances Vigil
8554 Kiowea Rd
Kekaha

Sent from my iPad

From: [Vinayak Vinayak](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] I am Absolutely opposed
Date: Wednesday, October 11, 2023 6:45:47 PM

To everyone,
I'm **opposed** to the BLNR 10/13/23 agenda item C1. This bacteria-infected mosquito release project is a dangerous experiment on our islands. We **MUST** have a FULL EIS before moving forward with this experiment!
Dr. Vinayak

From: [Lorraine Waianuhea](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Please Approve Item C-1: Kaua'i forest birds & Wolbachia IIT EA
Date: Tuesday, October 10, 2023 11:33:16 PM

Aloha kākou,

My name is Lorraine Waianuhea. I am native Hawaiian and a resident of Hawai'i.

I am writing in **strong support of Agenda Item C-1:** Request approval of Final Environmental Assessment and Authorization for the Chairperson to issue a Finding of No Significant Impact for the “use of Wolbachia-Based Incompatible Insect technique for the suppression of non-native southern house mosquito populations on Kauai”

Our manu nahele (native forest birds) on Kaua'i are in dire straits, largely due to the spread of avian malaria by *Culex quinquefasciatus* mosquitoes in their forest home. Humans introduced mosquitoes to Hawai'i and so I believe we have a responsibility to stop them from causing the extinctions of our native species. Wolbachia IIT is a safe method that has been successful elsewhere in reducing mosquito populations and the spread of mosquito-vectored diseases. It is the only tool that we currently have available that could stop, or at least slow, the population declines of manu nahele on Kaua'i before we lose them forever.

Please approve the final EA, and authorize the Chairperson to issue a Finding of No Significant Impact.

Mahalo nui for this opportunity to provide comment,
Lorraine Waianuhea

From: [Bryn Webber](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Agenda Item C-1
Date: Thursday, October 12, 2023 2:06:35 AM

Aloha,

I am submitting testimony in strong support of agenda item C-1.

The opportunity we have in front of us, to reverse the trajectory of the population declines and extinctions of our native forest birds, is monumental and unprecedented. For the past twenty years, conservationists and biologists have been studying avian malaria and the invasive *Culex* mosquito moving higher into our native forest birds last refugia, followed by subsequent population declines. Locals have also noticed these declines and raised the alarm that we must do something. When I first arrived on Kauai in 2016, there were over 450 akikiki, and I was so lucky to have the opportunity to study and get to know the species intimately at the Halepa'akai and Mohihi sites with the Kauai Forest Bird Recovery Project. In 2019, I was one of the first to document *Culex* mosquitoes at Halepa'akai, a site we thought had "more time" before the mosquitoes would invade due to its high elevation. Suddenly, everything began changing very fast. In 2020, we found half as many akikiki pairs as the previous year and increased mosquito abundance, and for every year following the akikiki population continued to plummet. By 2022, the last akikiki went missing at this site. Today there are only FIVE individuals remaining at Mohihi; I still can't believe that the akikiki is functionally extinct in the wild (it breaks my heart!) What's worse is that the 'akeke'e and i'iwi are now showing the same declines and I imagine that we could lose both of these beautiful species within only a few short years if we don't act now.

The incompatible insect technique (IIT) is a safe and vetted form of mosquito control. The technique has been used successfully in over 14 countries around the world for human health. Every single study I have read and scrutinized has shown that IIT is effective and results in no negative effects on the environment. In my experience, the scientific community that surrounds this work are the best of the best, and some of the most passionate biologists, entomologists, and statisticians I have ever met in my life. The 35 remaining 'akikiki held in captive facilities waiting to be released back into the wild need IIT, and they need it fast. The clock is ticking for this species; if we don't drastically decrease *Culex* numbers across the Alakai in the next 3-5 years we will lose this, and several other endemic species, forever.

These native forest birds were once revered by Hawaiians as deities, living in the realm of the gods. Unfortunately, many people have lost this connection to these birds and our mauka forests, but it may be because the birds have become so rare that they are seemingly impossible to find and observe. With the help of IIT, I can see a future where our forest birds return, and with it the connection that has been lost. Today I am raising

my voice for those who cannot; our precious forest birds, and I invite you to as well.

Mahalo,

Bryn Webber
Resident of Kapa'a

From: [Alyssia Wiesenbauer](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Written Testimony for Agenda Item C-1
Date: Thursday, October 12, 2023 3:29:03 AM

Aloha Chairperson Chang and members of the board,

My name is Alyssia Wiesenbauer, and I am a resident of Hawai'i Island. I am writing today to urge for the approval of Agenda Item C-1, as I feel that the approval of Kaua'i mosquito suppression plan is the duty the Board of Land and Natural Resources --- to uphold your responsibility to protect and preserve Hawai'i's natural resources --- as this plan is necessary for maintaining and likely improving the health of native ecosystems upon Kaua'i.

The action proposed by the DLNR and USFWS would be an extremely effective and non-adverse method of assisting the regeneration of native bird populations, thus making it imperative that approval of the Incompatible Insect Technique occur. As discussed in the EA, the alternative of no action would likely result in the extinction of the 'akikiki in as little as two years, even amidst the continued efforts for habitat restoration. Birds such as the 'akikiki play extremely important roles in their native ecosystems due to the mutualistic relationships they foster with other plants and animals around them. To lose these birds to extinction would mean that the rest of the ecosystem would be put at risk, creating a downward spiral of extinction in what is already known as the extinction capital of the world. To know this and not approve of the proposed IIT would be a gross mistake.

As demonstrated by the study conducted by Eben H. Paxton, Megan Laut, Stanton Enomoto, and Michelle Boardus at UH Hilo in 2022, two of the most at risk honeycreeper species -- the 'akikiki and 'akeke'e -- reside in the proposed project area, making it understandably important to assess the risk of introducing incompatible male *Wolbachia* mosquitoes to the area. However, as shown through the EA, the adverse impacts of this technique would be negligible, but the positive impacts extremely significant. The reduction of the spread of avian malaria would give a significant advantage to native bird populations in their fight against invasive species, allowing for bird populations to regenerate naturally. In addition to this, the introduction of incompatible male *Wolbachia* mosquitoes provides a means of suppressing southern house mosquito populations without genetically modifying them, an action that many people have expressed opposition to and/or concern about. This gives the proposed action the benefit of having more control over its impact (i.e. stopping the release of mosquitoes) in the very unlikely event that an unexpected adverse impact were to occur, making it all the more reasonable and rational.

On a personal level, taking measures to save Hawai'i's native bird populations is extremely important to me. I was born and raised on Hawai'i Island, and have worked at Hawai'i Volcanoes National Park as an Interpretation park guide for the past two summers, putting me in an environment where I interact with some of the honeycreepers on a daily basis. The loss of another honeycreeper species --- amongst the 39 out of 56 species that have already been lost --- would be acutely felt by people such as myself. I'm currently an undergraduate student at Harvard University, and while I'm away from home I deeply miss being surrounded by the birds I know and love. To come back home and not hear the sound of the 'i'iwi or the 'akepa or see their brilliant colors would be heartbreaking. Knowing that there is an action that can be taken to prevent the loss of birds on the brink of extinction, I feel it is our responsibility as stewards of the 'āina to ensure that that action takes place.

Mahalo nui loa,
Alyssia Wiesenbauer

From: [Evelyn Wight](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Item C-1 in support for Oct 13 BLNR meeting
Date: Wednesday, October 11, 2023 7:28:28 PM

Aloha,

I live on Hawaii island. I support the Kauai Environmental Assessment (EA) and ask that BLNR issue a FONSI. I have confidence in the science and the EA. The IIT tool is the only chance some of our native birds for survival, and especially the native birds on Kauai.

Evelyn Wight

From: [Alayna Wiley](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Thursday, October 12, 2023 5:06:55 AM

I live on Hawai'i Island and I support the approval of the Wolbacia IIT EA. We must do everything possible to give our native birds their best chance to survive and can not let the spread of misinformation harm them.

Alayna Wiley

Sent from my iPhone

From: [Heidi Wong](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Strong Support of Agenda Item C-1
Date: Tuesday, October 10, 2023 6:40:51 PM

Aloha BLNR chair Dawn Chang and Board Members,

I care about Kaua'i's native forest birds. Please approve agenda item C-1 and save our nā manu nahele! Mahalo.

Heidi Wong

I care about this and want it.. I approve

Sent from my iPhone

From: [Wright, Leah](#)
To: [DLNR.BLNR.Testimony](#)
Cc: [Donnelly, Roarke](#)
Subject: [EXTERNAL] Testimony for agenda item C-1 - Testimony for agenda item C-1 - Mosquito Control on Kaua'i to save native birds
Date: Wednesday, October 11, 2023 5:23:12 PM

I saw those birds when I went on a school conservation trip. They were the most beautiful and colorful birds I had ever seen and I would be crushed if something happened to them.

Hawaii is home to some of the most iconic species of birds in the world, many of which are endemic to the islands and are only found there. These birds are vital to the ecosystem and play a crucial role in maintaining the health of the Hawaiian environment. However, many of these birds are endangered and are threatened by a variety of human-caused factors, including habitat loss, invasive species, and global climate change.

In order to protect these birds and ensure that future generations will be able to enjoy their presence, Hawaii must take steps to conserve their populations and habitats. By doing so, Hawaii will not only preserve a unique aspect of its natural heritage, but will also promote the overall health of the environment and support the local economy.

Furthermore, conserving native birds in Hawaii is an important part of ensuring the well-being of the local community, who depend on the health of the ecosystem to support their livelihoods and cultural practices. By working together to protect the birds and their habitats, Hawaii can uphold its commitment to sustainable development and protect its unique identity as a crossroads of cultures.

Sure. Hawaii's native birds are not just another species of bird; they are part of the cultural identity of the Hawaiian people. They are a living symbol of the unique natural heritage of Hawaii and a testament to the island's rich ecological diversity.

To lose these birds would be to lose a part of Hawaii itself. Imagine the silence of the island without the sound of the native birdsong; the emptiness of the sky without the sight of their vibrant plumage; the darkness of the forests without the flicker of their feathers. It is an unimaginable loss, not only for the birds but for the people of Hawaii, who have held these creatures in reverence for generations.

But the stakes are even higher than that. The native birds of Hawaii are not simply beautiful to behold; they serve a vital role in the ecosystem, from pollinating plants to keeping insect populations in check. Their loss would have a devastating impact on the island's ecosystem and would harm not just the birds, but all the other species and communities that rely on them.

In short, the conservation of Hawaii's native birds is not just a matter of preserving a cultural heritage; it is a moral imperative. It is a call to action to protect and celebrate the incredible natural diversity of our planet and to preserve it for future generations to enjoy.

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