DAVID Y. IGE GOVERNOR OF HAWAII





STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621 HONOLULU, HAWAII 96809

Testimony of SUZANNE D. CASE Chairperson

Before the Senate Committees on AGRICULTURE AND ENVIRONMENT and WATER AND LAND and HIGHER EDUCATION

Friday, February 9, 2018 2:15 PM State Capitol, Conference Room 224

In consideration of SENATE BILL 2078 RELATING TO PUEO RESEARCH

Senate Bill 2078 proposes to appropriate funds to the Department of Land and Natural Resources (Department) to support research in collaboration with the University of Hawaii (UH) on a two-year breeding and foraging ecology study of the pueo or Hawaiian short-eared owl (*Asio flammeus sandwichensis*) on O'ahu. The Department supports this measure provided that its passage does not replace or adversely impact priorities indicated in the Executive Supplemental Budget request.

The Department recognizes the need for more studies on the pueo, especially on the island of O'ahu where the species is listed as endangered by the State. Since 2017, the Department, in collaboration with UH, has been studying the island wide distribution of pueo on O'ahu. The final results of this study are still pending analysis, but thus far a standardized survey protocol has been developed for pueo, a citizen science project implemented, and surveys at 35 sites over six different habitat types (wetland, grassland, agricultural fields, shrub-land, alien forest, native forest) on O'ahu have been completed as of December 2017. Survey data will be used to model predicted distribution and abundance across these six habitat types on O'ahu. On completion of the study, further studies on distribution, biological threats, and life history traits for this species are recommended.

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA

JEFFREY T. PEARSON, P.E. DEPUTY DIRECTOR - WATER

BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

This measure would provide the funding support for a comprehensive research study on pueo breeding and foraging and is expected to provide information on preferred habitat characteristics for nesting and foraging and identify threats to these species during these periods. The information gained from such efforts would be strongly beneficial for the species and allow for better informed management decisions directly benefitting the pueo.

Thank you for the opportunity to comment on this measure.



SB2078 RELATING TO PUEO RESEARCH

Senate Committee on Agriculture and Environment Senate Committee on Water and Land Senate Committee on Higher Education

<u>February 9, 2018</u> 2:15 p.m. Room 224

The Office of Hawaiian Affairs (OHA) offers the following **COMMENTS** on SB2078, which appropriates \$330,068 to the Department of Land and Natural Resources (DLNR) to conduct a two-year breeding and foraging ecology study of pueo on Oʻahu, in collaboration with the University of Hawaiʻi College of Tropical Research and Human Resources (UH).

OHA appreciates this measure's recognition of the need better understand and protect the endangered pueo, an animal of great Native Hawaiian cultural significance, and believes this measure would support DLNR's kuleana contained in Hawai'i Revised Statutes §195D-5, to "conduct research . . . on endangered species and their ecosystems." .

Unfortunately, Oʻahu's pueo are now considered endangered by the State. While pueo populations thrived and were widespread at the end of the 19th century, experts now believe that the pueo population has been declining for many years. Currently, little data exists to inform potential conservation strategies, to stop and reverse this decline. Habitat loss, predation of eggs and young, contaminants or toxins, and human interaction are believed to threaten the pueo population. In 2017, DLNR conducted a four-month pueo habitat inventory survey on Oʻahu. During the survey of thirty-five sites, only eleven pueo were observed. A more substantial body of data is therefore needed to estimate pueo populations and identify threats to their survival.

OHA believes that the study provided for under this bill would provide DLNR and the State with critical data necessary to plan and implement conservation management strategies for pueo on O'ahu and throughout the islands, which may allow our pueo to thrive once again.

Mahalo nui loa for the opportunity to testify on this measure.

Testimony Presented Before the
Senate Committee on Agriculture and Environment
And
Senate Committee on Water and Land
And
Senate Committee on Higher Education
Friday, February 9, 2018 at 2:15 p.m.
By
Nicholas Comerford
Dean, College of Tropical Agriculture and Human Resources
And
Michael Bruno,
Interim Vice Chancellor for Academic Affairs
University of Hawai'i at Mānoa

SB 2078 – RELATING TO PUEO RESEARCH

Chairs Gabbard, Rhoads, and Kahele, Vice Chairs Riviere and Kim and members of the Senate Committee on Agriculture and Environment, Committee on Water and Land, and Committee on Higher Education:

Thank you for this opportunity to submit testimony in support of SB 2078.

The Hawaiian short-eared owl (Pueo) is on the endangered species list for the state of Hawaii. This subspecies has a unique place in the Hawaiian culture, and its survival is complicated by the fact that it is a ground nesting species. This characteristic, along with diminishing habitat, cause concern for the ultimate survival of the Pueo. The ground nesting habit leaves it eggs vulnerable to predators that were not part of its natural history.

The hope is that the proposed research on the Pueo's interaction with its habitat, and identification of preferred breeding habits, will provide the necessary information to land managers that will assure the continued survival of a species which is considered to be the guardian of Hawaiian families. This research will help to better identify its autecology, potential ecological benefits, and the ecosystem services that it provides to society.

Dr. Melissa Price of CTAHR has been working with the UH West Oʻahu (UHWO) group to develop the ideas behind this research. This bill represents a collaboration between the Hawaiʻi Department of Land and Natural Resources, UHWO and CTAHR. Another benefit gained from passing this bill will be the training of one postdoctoral fellow, two graduate students, and two undergraduates in ecology and ecosystem service disciplines. This workforce will be well-suited to work in state agencies or private enterprises to further protect Hawaiʻi's fragile ecology.

Thank you for this opportunity to testify in support of SB 2078.

<u>SB-2078</u> Submitted on: 2/7/2018 3:34:28 PM Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Benton Kealii Pang, Ph.D.	Hawaiian Civic Club of Honolulu	Support	No

Comments:

Submitted on: 2/7/2018 4:01:30 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Cotin	University of Hawaii at Manoa	Support	No

Comments:

February 7, 2018

Chairs Gabbard, Rhoads, and Kahele, Vice Chairs Riviere, Gabbard, and Mercado Kim, and members of the Committees on Agriculture and Environment, Water and Land, and Higher Education.

I thank you for this opportunity to provide my personal testimony in support of SB2078, Relating to Pueo research. I strongly support this bill.

I wish start by saying that while I am a postdoctoral researcher at the University of Hawai'i at MÄ• noa, I am offering this as personal testimony and do not speak on behalf of the University.

I believe that SB2078 is a measure very worthy of support because it will benefit not only pueo research, but will promote conservation of a native raptor that is culturally and ecologically important to Hawai'i residents. There has been a large community-led call for increased attention to pueo conservation, but unfortunately little is known about pueo nest-site selection and survival, or even long-term population numbers. Thus, those who wish to conserve pueo have little to guide their management actions.

Over the last year I have been working with Dr. Melissa Price lab at UH Manoa, conducting surveys to determine population distribution of pueo across six vegetation types on Oahu. From this study we have learned that pueo are largely using open grasslands, wetlands, and agricultural areas on Oahu. Within the next month we'll have completed analyses and can share population densities in each of these habitat types. We also developed a citizen science portal (pueoproject.com) that allows community members to report sightings of pueo. These reports, many of which came from other islands, expanded our understanding of pueo habitat use. For example, on Oahu we only observed nests in wetlands, agricultural lands, and grasslands, but on Kauai a nest was found under uluhe (fern) in high-elevation native forests. The Kauai Forest Bird Recovery Program regularly sees pueo in native forests as well, suggesting either they are behaving differently on Oahu, or more surveys are needed to detect them in forests

on Oahu. The take-home message is that there are many vegetation types important to pueo habitat conservation in Hawai'i, and pueo likely utilize various habitats across the Hawaiian Islands for foraging and nesting, depending on food availability and predator abundance.

The next step is to determine which factors are having the greatest impact on pueo reproduction and survival, so managers can target conservation efforts toward actions likely to have the greatest benefit. Pueo eggs and chicks are likely eaten by invasive predators such as cats, mongoose, barn owls, and rats. Nests may be more successful in areas with lower predator abundance. SB2078 will provide funds to support research efforts that identify management actions most likely to increase nesting success and survival, and minimize extinction risk.

In closing, I would like to reiterate my enthusiastic support for SB2078, and I want to thank your committees for the opportunity to offer this testimony.

Sincerely,

Javier Cotin

<u>SB-2078</u> Submitted on: 2/7/2018 5:10:52 PM Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
De MONT R. D. CONNER	Ho'omanapono Political Action Committee (HPAC)	Support	Yes

Comments:

<u>SB-2078</u> Submitted on: 2/7/2018 10:38:09 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Rachel L. Kailianu	Ho`omana Pono, LLC	Support	Yes

Comments:

Strong support...

Submitted on: 2/8/2018 12:06:52 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Jay Penniman	Maui Nui Seabird Recovery Project	Support	No

Comments:

Please support and pass SB2078. There is a real lack of information about the staus and biology of the Pueo (Hawaiian short-eared owl, *Asio flammeus sandwichensis*). This bird is an iconic resident of the Hawaiian islands, as reflected in native Hawaiian cosmology and family relations. It is important to understand the status and the threats which impact this species so that anthropogenic actions do not impact negatively upon the birds. The state Division of Forestry and Wildlife and the University of Hawai'i are well positioned to continue study of Pueo and dedicating the required funding is Ithe pono thing to do.

Submitted on: 2/8/2018 12:12:40 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
Martin	Maui Nui Seabird Recovery Project	Support	No	

Comments:

Hawaii has the ignominious distinction of being one of the "bird extinction capitals" of the world.

Pueo are one of Hawaii's celebrated endemic species, yet very little is known about their behavior, their habits, migration, nesting, and foraging. Very little is even known about what threats they face, and why they might be threatened qat this present date.

Without understanding the basic aspects of their biology, we have no chance at understanding how the species might respond to threats.

If this distinction is to be counteracted, quite simply, we need more funding for scientific research. Pueo happen to be a charismatic species that has a prominent place in Hawaiian culture, past and present. The general public love pueo!

Additionally, Hawaii's economy depends on intact ecosystems. To preserve this industry, we should fund every opportunity to learn more about the magnificent tapestry of Hawaiian ecology.

Aloha 'Ä€ina

Submitted on: 2/8/2018 12:45:59 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
Dain Christensen	University of Hawaii	Support	No	

Comments:

Thank you for the opportunity to offer this testimony,

The Pueo holds ecological and cultural value. It is at risk of going extinct. If the Pueo goes extinct we will lose the ecological functions of that species. Ecosystems as a whole offer many benefits to society and the Pueo is an integral part of the Hawaiian ecosystem. If the Pueo goes extinct we will also lose a cultural connection. A connection that helps native Hawaiians identify themselves and the history behind the Pueo. It is essential that research on this species is funded and that management priorities be identified. We all benefit from ecological services and it would be in Hawaii's best interest to preserve biodiversity.

I want to reiterate my support for Pueo research and thank you for your time.

Best regards,

Dain Christensen

<u>SB-2078</u> Submitted on: 2/8/2018 2:00:52 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	OCC Legislative Priorities	Support	No

Comments:

<u>SB-2078</u> Submitted on: 2/6/2018 9:30:32 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
M. Markl	citizen	Support	No	

Comments:

Hello Committee Chair(s) And Members:

Please pass this now to help our Pueos. Thank you!

<u>SB-2078</u> Submitted on: 2/7/2018 10:49:06 AM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
Katharine T. Cannon- Eger		Support	No	

Comments:

Thank you for proposing this important study on Oahu. I hope similar work will be done on other islands.

Katharine T. Cannon-Eger

Submitted on: 2/6/2018 11:43:07 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
MaryAnn Omerod		Support	No	

Comments:

I Strongly Supoort SB 2078

and the Appropriation of funds for the department of land and natural resources to conduct, in collaboration with the University of Hawaii college of tropical agriculture and human resources, a two-year breeding ecology study and two-year foraging ecology study on the pueo on Oahu.

<u>SB-2078</u> Submitted on: 2/7/2018 12:31:34 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
Margaret Maupin		Support	No	

Comments:

Submitted on: 2/7/2018 3:12:57 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melissa Price		Support	Yes

Comments:

Chairs Gabbard, Rhoads, and Kahele, Vice Chairs Riviere, Gabbard, and Mercado Kim, and members of the Committees on Agriculture and Environment, Water and Land, and Higher Education, I thank you for this opportunity to provide my personal testimony in support of HB2078, Relating to Pueo research. I strongly support this bill.

I wish start by saying that while I am an assistant professor at the University of Hawai'i at MÄ• noa, am offering this as personal testimony and do not speak on behalf of the University.

I believe that HB2078 is a measure very worthy of support because it will benefit not only pueo research, but will promote conservation of a native raptor that is culturally and ecologically important to Hawai'i residents. There has been a large community-led call for increased attention to pueo conservation, but unfortunately little is known about pueo nest-site selection and survival, or even long-term population numbers. Thus, those who wish to conserve pueo have little to guide their management actions.

Over the last year my wildlife ecology lab at UH Manoa has conducted surveys to determine population distribution of pueo across six vegetation types on Oahu. From this study we have learned that pueo are largely using open grasslands, wetlands, and agricultural areas on Oahu. Within the next month we'll have completed analyses and can share population densities in each of these habitat types. We also developed a citizen science portal (pueoproject.com) that allows community members to report sightings of pueo. These reports, many of which came from other islands, expanded our understanding of pueo habitat use. For example, on Oahu we only observed nests in wetlands, agricultural lands, and grasslands, but on Kauai a nest was found under uluhe (fern) in high-elevation native forests. The Kauai Forest Bird Recovery Program regularly sees pueo in native forests as well, suggesting either they are behaving differently on Oahu, or more surveys are needed to detect them in forests on Oahu. The take-home message is that there are many vegetation types important to pueo habitat conservation in Hawai'i, and pueo likely utilize various habitats across the Hawaiian Islands for foraging and nesting, depending on food availability and predator abundance.

The next step is to determine which factors are having the greatest impact on pueo reproduction and survival, so managers can target conservation efforts toward actions

likely to have the greatest benefit. Pueo eggs and chicks are likely eaten by invasive predators such as cats, mongoose, barn owls, and rats. Nests may be more successful in areas with lower predator abundance. HB2078 will provide funds to support research efforts that identify management actions most likely to increase nesting success and survival, and minimize extinction risk.

In closing, I would like to reiterate my enthusiastic support for HB2078, and I want to thank your committees for the opportunity to offer this testimony.

Sincerely,

Melissa Price

<u>SB-2078</u> Submitted on: 2/7/2018 11:15:26 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Karen Luke		Support	No

Comments:

Amend the bill (a) to use reports already identifying the existence of pueo on 150 acres of land at UHWO and (b) to designate those 150 acres for a Habitat **Conservation Preserve.**

Submitted on: 2/8/2018 8:53:58 AM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Leimomi Khan		Support	No

Comments:

Aloha mai kakou,

First, I'd like to thank Senator Gabbard for his quick response to my email in which I expressed support for the introduction of bill to establish a 150-acre habitat conservation preserve for Pueo and other avian species on what is now UH West Oahu lands, for the purpose of flushing out the issue and deciding on the best course of action. Senator Gabbard responded with his rationale for not introducing such a bill and his plans to introduce the one before us today. I appreciate the thoughtful response that he provided me.

I support SB 2078, that would appropriate funds for the Department of Land and Natural Resources to conduct, in collaboration with the University of Hawaii college of tropical agriculture and human resources, a two-year breeding ecology study and two-year foraging ecology study on the pueo on Oʻahu.

However, I am concerned about the two-year period for the study since the Pueo is already an endangered species and doing away with its apparent habitat at UHWO may result in its extinction. As a compromise, would the UHWO consider holding off its plans till the study is done, or at least set aside sufficient acreage to allow for the Pueo to survive in the habitat to which it has been accustomed until the study is completed?

I note that HB2629 has been introduced, but no hearing yet scheduled. I am hopeful that it will be heard, again as a means to flush out this issue and to find a solution. The introduction to that bill states, "The legislature finds that the mascot for the University of Hawaii, West Oahu campus, is the endangered short-eared owl, or pueo. Currently, there are only eleven pueo living on the island of Oahu. For centuries, the area where the Hunehune gulch and Kaloi gulch converge, through what is now the University of Hawaii, West Oahu campus, has been documented as a pueo habitat. According to the October 2017 interim report to the twenty-ninth legislature entitled "Interim Report Regarding the Pueo Study Conducted by the Department of Land and Natural Resources and the University of Hawaii at MÄ• noa for the Period April 1, 2017 - August 1, 2017", a pueo has recently been detected at the University of Hawaii, West Oahu campus. Additionally, according to his east Kapolei master plan biological survey published on September 17, 1996, Kenneth Nagata recommended the use of the

University of Hawaii, West Oahu campus, as a bird refuge due to the sixteen different species of birds inhabiting the property."

I apologize for not being personally present at today's hearing, but have a family medical situation requiring attention.

Leimomi Khan

(Personal Testimony)

Submitted on: 2/8/2018 9:24:09 AM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Tom Berg	self	Oppose	No

Comments:

Star Advertiser's letter to editor published on the 27th of January this year, "House bill would save Ewa wildlife" by Michael Lee, gave hope that the last pueo habitat in the region would be preserved.

SB2078 if passed into law, would do three things after a two-year study:

- 1.) Appropriate funds to research where pueo inhabit
- 2.) Identify habitat on a map
- 3.) Monitor and manage pueo to garner data on the specie

What is odd, is that Michael Lee's letter referenced HB2629, and if that passed, HB2629 would accomplish what Senator Gabbard seeks to achieve without delay and without the need for any additional funds.

Hawaii's Legislature received a report in October of 2017 that identified

pueo inhabiting the University of Hawaii West Oahu campus and the pueo are there right now available to study- ready to go.

Therefore, SB2078 should adopt the language of HB2629 if saving pueo is indeed the goal.

Resources:

January 27, 2018 Letter to Editor SA

http://www.staradvertiser.com/2018/01/27/editorial/letters/house-bill-would-save-ewa-wildlife/

HB2629

https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=HB&billnumber=2629&year =2018

Project Pueo Report to Legislature October 2017

https://dlnr.hawaii.gov/wp-content/uploads/2017/10/FW18-Pueo-Rpt.pdf

Submitted on: 2/8/2018 11:36:18 AM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Jody Smith		Support	No

Comments:

I strongly support providing funding for research for the PUEO, *Asio flammeus* sandwichensis, endangered on Oʻahu. So little is know about this endemic species that we are unable to identify measures to ensure adequate habitat improvement, predator control, and other provisions to help us move this species off of the endangered list. Please consider providing funding for this culturally and biologically important bird.

<u>SB-2078</u> Submitted on: 2/8/2018 12:15:02 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Carolyn Weygan- Hildebrand		Support	No

Comments:

Aloha!

I respectfully thank you for this measure. In the matter of Pueo, time is of the essence. Hence, an action today is better than an action next year. It is also important for scientific research today to be multidisciplinary. Please consider including the UHWO in this collaboration.

<u>SB-2078</u> Submitted on: 2/8/2018 1:06:12 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing	
Nancy Davlantes		Support	No	

Comments:

<u>SB-2078</u> Submitted on: 2/8/2018 1:10:43 PM

Testimony for AEN on 2/9/2018 2:15:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Yvonne Chan		Support	No

Comments:

I am whole-heartedly in support of Pueo Research.

Best,

Yvonne Chan

February 9, 2018

COMMITTEE ON WATER AND LAND

Senator Karl Rhoads, Chair Senator Mike Gabbard, Vice Chair

COMMITTEE ON HIGHER EDUCATION

Senator Kaiali'i Kahele, Chair Senator Donna Mercado Kim, Vice Chair

COMMITTEE ON WATER AND LAND

Senator Mike Gabbard, Chair Senator Gil Riviere, Vice Chair

SB 2078 RELATING TO PUEO RESEARCH

Aloha Chairs and committee members,

We support additional funding for the purpose of ensuring the continued survivability of pueo on Oahu.

Conducting much needed research of our endangered Oahu pueo and it's habitat will help us understand what is needed to increase the number of pueo and their habitat so that our pueo can survive.

It will be a beautiful day when our kupuna and mo'opuna can look up into the sky and see Pueo flying overhead once again.

Kanani Wond kapoleinani@gmail.com