

BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII

In the Matter of a Contested Case Regarding ) DLNR File No. CCH-LD-21-01  
the Continuation of Revocable Permits (RPs) )  
for Tax Map Keys (2) 1-1-001:044 & 050; ) DECLARATION OF MICHELLE  
(2) 2-9-014:001, 005, 011, 012 & 017; (2) 1- ) REYNOLDS  
1-002:002 (por.) and (2) 1-2-004:005 & 007 )  
for Water Use on the Island of Maui to )  
Alexander & Baldwin, Inc. and East Maui )  
Irrigation Company, LLC for the remainder )  
of the 2021 RPs, if applicable, and for their )  
continuation through the end of 2022 )

**DECLARATION OF MICHELLE REYNOLDS**

I, Michelle Reynolds, under penalty of perjury hereby state the following is true and accurate to the best of my knowledge and belief:

1. The statements below are based upon my personal knowledge.
2. I earned a master's degree in Biology in 1991 from Old Dominion University and a Ph.D. in Biology in 2004 at Virginia Tech from. My master's research was on the ecology and habitat use of a wetland snail. My dissertation for my Ph.D was on habitat use, ecology and conservation of *Anas laysanensis*, a Hawaiian endemic duck.
3. I worked at the Department of Interior (USFWS and USGS) for 25 years as a wildlife biologist.
4. I've had the opportunity to spend time in the upper elevation forests of east Maui while conducting birds surveys and am familiar with the risk to birds associated with invasive mosquitos. Maui's northeast slope of Haleakalā supports montane rain and cloud forests habitat for a rich assemblage of native plant and animal communities. Northeast Haleakalā provides habitat for the island's highest density of Hawaiian honeycreepers (family Drepanidae; Scott et al. 1986, Gorresen et al. 2009). East Maui contains habitat for six honeycreepers, including three

species endemic to Maui: ‘Ākohekohe (*Palmeria dolei*), Kiwikiu (Maui Parrotbill; *Pseudonestor xanthophrys*), and Maui ‘Alauahio (*Paroreomyza montana newtoni*) (Scott et al. [1986](#)). (the first two of which are critically endangered) and these species would benefit from landscape-scale mosquito and avian malaria control and are threatened by invasive mosquitos (Judge et al. 2021).

5. Relevant publication: Gorresen, P. M., R. J. Camp, **M. H. Reynolds**, B. L. Woodworth, and T. K. Pratt. "Status and trends of native Hawaiian songbirds." *Conservation biology of Hawaiian forest birds: implications for island avifauna*. Yale University Press, New Haven, CT (2009): 108-136.

6. It is widely acknowledged among biologists that mosquitoes pose a risk to native birds including the Hawaiian honeycreepers. Even mosquitos that breed in low elevations can jeopardize birds that disperse from mosquito free habitats, or visit mid-elevation habitats for seasonal nectar resources. Research from my colleagues at USGS has documented mosquitoes moving 5 miles from their capture locations, and low elevation mosquitos supply a source for mosquitos to move into higher elevation suitable breeding habitats (Dr. Dennis Lapoint, USGS, personal communication). Professor Freed reached similar conclusions. See Exhibit Y-42.

7. A diverse aquatic insect fauna live in these freshwater ecosystems, including at least five species of damselflies in the genus *Megalagrion*. Pacific Hawaiian damselfly or pinapinao (Order Odonata, family Coenagrionidae (pond damsels; *Megalagrion pacificum*) is endemic to the islands of Lanai, Oahu, Kauai, Molokai, Maui, and possibly Hawaii, but is currently known only from a few populations on Molokai and east Maui. Pacific Hawaiian damselfly is listed as federally endangered (USFWS 2010). Damselflies have an aquatic larval form (naiad). Adults occurred in or near of aquatic stream habitats. Surveys have found only small populations at restricted locations in streams on east Maui (Haipuaena, Hanawi, Keanae,

Palikea and Kuhiwa Streams). The distribution is restricted to habitat of stream seepage pools and overflow channels in the upper, more remote portions of its historic range that lack non-native fish, other invasive predatory aquatic species, and invasive grasses (e.g. California grass (*Brachiaria mutica*), which forms dense stands eliminating open water habitat (also see aquatic organism below). A second endangered damselfly, *Megalagrion nesiotes*, is currently only known from a one stream on the northeast slope of Haleakalā volcano (USFWS 2010). Critical habitat has not yet been designated for either of the listed damsel fly species.

Literature cited:

Gorresen, P. M., R. J. Camp, M. H. Reynolds, B. L. Woodworth, and T. K. Pratt. "Status and trends of native Hawaiian songbirds." *Conservation biology of Hawaiian forest birds: implications for island avifauna*. Yale University Press, New Haven, CT (2009): 108-136.

Judge, S. W., R. J. Camp, C. C. Warren, L. K. Berthold, H. L. Mounce, P. J. Hart, and R. J. Monello. 2019. Pacific island landbird monitoring annual report, Haleakalā National Park and east Maui Island, 2017. Natural Resource Report NPS/PACN/NRR—2019/1949. National Park Service, Fort Collins, Colorado, USA.

Judge, S.W., Warren, C.C., Camp, R.J., Berthold, L.K., Mounce, H.L., Hart, P.J. and Monello, R.J. (2021), Population estimates and trends of three Maui Island-endemic Hawaiian Honeycreepers. *J. Field Ornithol.*, 92: 115-126. <https://doi.org/10.1111/jof.12364>

Scott, J. M., S. Mountainspring, F. L. Ramsey, and C. B. Kepler. 1986. Forest bird communities of the Hawaiian Islands: Their dynamics, ecology, and conservation. *Studies in Avian Biology* 9:1–431.

USFWS 2010. 35990 Federal Register / Vol. 75, No. 121 / Thursday, June 24, 2010 / Rules and Regulations

I declare under penalty of perjury that the foregoing is true and correct.

DATED: Honolulu, Hawai‘i, \_\_\_\_\_, 2021.

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Michelle Reynolds