

ORIGINAL

HUI O PIKOILOA, an unincorporated association,
LIANNE CHING, BETTYE HARRIS, RICHARD MCCREEDY,
JULIANNE MCCREEDY, JESSE REAVIS, and
GRANT YOSHIMORI
c/o 45-464 Lipalu Street
Kaneohe, HI 96744
Telephone No.: (808) 236-0502

LAND USE COMMISSION
STATE OF HAWAII
2020 JAN - 6 P 12:33

INTERVENORS PRO SE

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

IN THE MATTER OF:)	DOCKET NO. A17-804
)	
HAWAIIAN MEMORIAL LIFE PLAN, LTD.,)	
a Hawaii Corporation)	REBUTTLE REVISED WITNESS
)	TESTIMONY #3;
To Amend The Conservation Land Use District)	CERTIFICATE OF SERVICE
Boundary Into The Urban Land Use District)	
For Approximately 53.449 Acres Of Land At)	
Kāneʻohe, Island of Oahu, State of Hawaiʻi,)	
Tax Map Key: (1) 4-5-003:por.001)	
)	
)	

REBUTTLE REVISED WITNESS TESTIMONY #3

CERTIFICATE OF SERVICE

I hereby certify that due service of a copy of the within document was made by depositing the same with the U. S. mail, postage prepaid, or by hand delivery, on January 6, 2020, addressed to:

MARY ALICE EVANS
Director
Office of Planning, State of Hawaii
235 S. Beretania St. 6th Floor
Honolulu, Hawaii 96813

BY HAND DELIVERY

DAWN TAKEUCHI-APANA, ESQ.
Deputy Attorney General
Department of the Attorney General
425 Queen Street
Honolulu, Hawaii 96813

BY HAND DELIVERY

KATHY K. SOKUGAWA
Acting Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street
Honolulu, Hawaii 96813

BY HAND DELIVERY

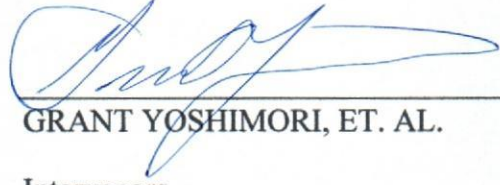
PAUL S. AOKI, ESQ.
Acting Corporation Counsel
Office of the Corporation Counsel
City and County of Honolulu
530 South King Street, Room 110
Honolulu, Hawaii 96813

BY HAND DELIVERY

BENJAMIN MATSUBARA, ESQ
Matsubara, Kotake & Tabata
888 Mililani Street, Suite 308
Honolulu, Hawaii 96813

BY HAND DELIVERY

DATED: Honolulu, Hawaii, January 6, 2020.

A handwritten signature in blue ink, appearing to read 'Grant Yoshimori', is written over a horizontal line.

GRANT YOSHIMORI, ET. AL.

Intervenors

Written Testimony of M. Lee Goff, Ph.D.

Background Questions

1. Please state your name and address for the record.

My name is Madison Lee Goff, and my address is 45-187 Namoku Street, Kaneohe, Hawaii

2. What is your educational background?

I received a:

B.S. in Zoology (1966) from the University of Hawaii at Manoa;

M.S. in Biology (1974) from California State University, Long Beach; and

Ph.D. in Entomology (1977) from the University of Hawaii at Manoa

3. Please state some relevant positions which you've held related to the field of entomology

1983 - 2001 Department of Entomology, University of Hawaii at Manoa, Honolulu.
Professor of Entomology.

1986 – present Department of the Medical Examiner, City & County of Honolulu.
Consultant in forensic entomology.

1986 - 1993 State of Hawaii, Natural Area Reserves System Commission.
Commissioner and Chair of Commission.

1993 - 1996 Forensic Entomology Working Group, American Academy of Forensic Sciences,
Chair.

1993 - 2001 Curator, Entomology Museum, Department of Entomology,
University of Hawaii at Manoa

1994 – 1998 Chair of Entomology Graduate Field, Department of Entomology,
University of Hawaii at Manoa.

1994 - present Avian Disease Recovery Working Group, U.S. Fish and Wildlife Service,
Pacific Islands Office, Honolulu, Hawaii.

1996 -1997 Chair Pathology/Biology Section, American Academy of Forensic Sciences.

1996 – 1999 American Board of Forensic Entomology, Chair, Board of Directors.

1997- present Editorial Board, Journal of Forensic Sciences

- 2000- 2008 National Disaster Medical System, D-MORT Region 9, U.S. Dept. of Health and Human Services. Team member.
- 2001 -2013 Professor of Forensic Sciences and Director of Forensic Sciences Program , Chaminade University of Honolulu.
- 2001 – 2015 Consultant in Entomology for episodes of CSI on CBS.
- 2001 - present Professor Emeritus, University of Hawaii at Manoa, Honolulu, HI.
- 2002 - 2003 Subject Editor, Forensic Entomology and Myiasis, Journal of Medical Entomology .
- 2003 –2014 Curator, Crime Scene Insects. ExhibitQ, Inc. Long, Beach, California. Exhibit appeared at: St. Paul, MN; Roanoke, WV; Norfolk, VA; New York, NY; Chicago, IL; Berkeley, CA; Memphis, TN; Indianapolis, IN, Phoenix, AZ; Bozeman, MT, Miami, FL
- 2005 – 2007 Interim Dean, Division of Natural Sciences and Mathematics, Chaminade University of Honolulu
- 2013 - present Retired, 31 July 2013, Professor Emeritus, Chaminade University of Honolulu

4. What aspects of your career can you draw upon to comment on the Blackline Damselfly and the EIS Appendix G: Survey of Native Invertebrate Resources in proposed expansion of Hawaiian Memorial Park – July 2017

My comments are based on my PhD in Entomology and teaching experience at the university-level while at University of Hawaii, Manoa, and Chaminade University of Honolulu in the field of entomology combined with my relevant experience in dealing with insects and other invertebrates in Hawaii through my work with agencies such as the Natural Areas Reserves System Commission.

Recommendations for Damselfly Protection

1. Are you aware that the Blackline Damselfly is listed as an endangered species on the Federal Register?

Yes

2. The Federal Register states that “the blackline ... damselflies are vulnerable to extinction” (page 57677). The Register states threats include stream diversion (pg. 57674), dewatering of aquifers (57674), predation by non-native fish (57678), Flooding and drought (pg. 57673), and climate change (pg. 57675). Do you agree the population is at risk due to these factors?

Yes

3. Do you think the survey is sufficient in identification of invertebrate species?

No. The survey is stated to be designed to determine the presence of any endemic or indigenous terrestrial invertebrates, although some species are included in the report that are not either (Mollusca, Heteropodidae, Coleoptera, Culicidae, Hymenoptera). The bulk of the survey concentrates on the endangered Blackline Hawaiian Damselfly, *Megalagrion nigrohamatum nigrohamatum*. This document is not a complete inventory of invertebrates present in the area under consideration. With only 37 species listed, the total seems low, even for a disturbed area. It appears no attempt was made to look at the soil fauna, including significant annelids and other groups. A more complete survey should be made.

4. Do you think the mitigations recommended in the survey are sufficient to protect the habitat?

No

5. Do you believe the Damselflies forage and extend into the proposed development area?

As adults, these damselflies will potentially forage into the proposed development area.

6. If the surface water flow increased on the damselfly habitat, would that threaten the damselfly survival?

Increased surface water flow has the potential to interfere with activities of damselfly immatures and completion of development to the adult stage. Much depends on the amount and rate of the increased flow.

7. Ms. Kristi Young from the Federal Fish and Wildlife Service wrote a letter dated 10/23/2018 to HMP (in EIS Appendix-A2) which asked HMP to "analyze an alternative under which no cemetery development or major land disturbance would occur on any directly above or draining into the damselfly habitat." Do you agree with that assessment?

Yes

8. Mr. David Smith from the State Division of Forestry and Wildlife wrote a letter dated 10/31/2018 (which Petitioner has not submitted to the LUC; submitted as Intervenors' Exhibit 8). Mr. Smith Outlines mitigations for groundwater flow to protect the damselfly habitat. The mitigations include: monitoring the well gauges, including "small sticks", review of the habitat boundaries, and regularly inspecting the seep. Do you agree with that these mitigations are sufficient to protect the damselfly habitat?

No.

9. Do you have other recommendations for projection of the damselfly?

At present, the habitat appears to be allowing for the population of the damselfly. Given this, I would suggest the best approach is for the area remain as it is.

Mosquito Threats of Retention Ponds

1. HMP is planning to build retention/detention ponds which are supposed to drain in 48 hours from when full. Do you think this is a risk for infectious mosquito breeding?

The effectiveness of the retention basins to deter mosquito breeding depends on the period of time required for the pools to become full and drain, as well as the definition of "drain .completely" The species of concern here is *C. quinquefasciatus* which is a pool breeder and completes development in 5-8 days, depending on temperature. Time periods greater than this 5-8 day period may actually have the effect of increasing potential breeding sites for this species. Other species listed are not pool breeders, but are container breeders.

2. Would we face increased risk for Dengue, Zika, West Nile?

The survey lists 3 species of mosquitoes in the area: *Culex quinquefasciatus*, *Aedes albopictus* and *Toxorhynchites ambonensis*. Two additional species may be present in the area but not recovered, *Aedes vexans* and *Wyeomyia mitchelli*. *C.quinquefasciatus*, as noted above, is a pool breeder and completes development in 5-8 days, depending on temperature. This species has been implicated in transmission of Zika and West Nile Virus, as well as dog heart worm and appears to be the major vector for avian malaria in Hawaii, a leading cause of the decline in endemic Hawaiian land birds. Species in the genus *Aedes* are know vectors of a number of diseases, including Dengue, Yellow Fever (*Aedes aegypti*), and various encephalides. The *Toxorhynchites* and *Wyeomyia* species are not considered vectors of human diseases.

Additional Comment.

1. Do you have any other comments?

Landscaping with native plants is mentioned in the survey. This presumes that non-native plants will have been removed and that action has not inadvertently eradicated the damselfly population. How is this to be accomplished? What native plants are to be used for the landscaping? Keep in mind that the introduced plants are typically more aggressive than the native plants. Otherwise we would not have the problem. Have the native plants in the area suddenly become more aggressive and thus capable of overcoming/resisting invasion by introduced species?