

## Kāwika B. Winter, Ph.D.

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### *Education*

**Doctorate degree** – University of Hawai‘i, Botany

**Dissertation:** Perspectives in Theoretical and Hawaiian Ethnobotany:

Biocultural Diversity in Two Cultivated Plants, ‘Awa

(*Piper methysticum* G. Foster) and Kalo (*Colocasia esculenta* (L.) Schott)

**Committee members:** Will McClatchey, Sir Ghillean Prance,

Tamara Ticktin, Sheila Conant, and Mark Merlin

**Master’s degree** – University of Hawai‘i, Botany

**Thesis:** Hawaiian ‘Awa (*Piper methysticum* G. Foster): A Study in Ethnobotany

**Committee members:** Isabella Abbott, Gerald Carr, and Will McClatchey

**Bachelor’s degree** – University of Hawai‘i, Botany

**Associated Students of the University of Hawai‘i**

*University of Hawai‘i at Mānoa*

- Two-term Senator, College of Arts and Sciences

### *Professional and Leadership Experience*

**Director**

2005 – present

*Limahuli Garden and Preserve*

*National Tropical Botanical Garden (NTBG)*

- Increased the operating budget from \$565k to \$1.3 million
- Refined operations by creating essential management plans and strategies
- Improved management of the living collections and its interpretation
- Advanced research initiatives and conservation programs

**Senior Management Team** **2005 – present***National Tropical Botanical Garden (NTBG)*

- Provided philosophical and programmatic perspectives to the President/CEO
- Problem-solved institutional challenges
- Collaborated on the development of three consecutive strategic plans

**Affiliate Graduate Faculty** **2015 – present***University of Hawai'i at Mānoa**Natural Resources and Environmental Management*

- Serving as graduate faculty to help advise graduate students
- Currently advising two doctoral and two master's candidates

**Steering Committee** **2014 – present***Hawai'i Conservation Alliance (HCA)*

- HCA is a collaboration of conservation leaders representing government, cultural, educational, and non-profit organizations from across the state. The Steering Committee provides unified leadership and advocacy for Hawai'i's most critical conservation issues.
- Supported the World Conservation Congress 2016
- Provide navigational support for executive leadership
- Subcommittee assignment: Community Engagement

**Advisory Council Representative – Kaua'i** **2015 – present***E Alu Pū Network*

- The network is comprised of more than 30 communities from around Hawai'i. The network's overall vision is to nurture community *kuleana* — both the responsibility and the privilege — for the *'āina* where they live in order to ensure the vitality of resources for use by present and future generations.
- The Advisory Council provides navigational support for executive leadership

**Makai Watch Coordinator** **2009 – 2016***Hui Maka'āinana o Makana*

- Makai Watch is a collaborative, statewide program where citizens and NGOs become directly involved with the Department of Land and Natural Resources (DLNR), in the management of marine resources through promoting compliance to rules, education, and monitoring.
- Major achievements: This leadership position played a key role in the adoption of an administrative rules package for the Hā'ena Community-based Subsistence Fishing Area (CBSFA), and also collaborated on the creation of the Hā'ena CBSFA management plan.

**Charter Member**

**2015 – 2016**

*Joint Fact Finding Group*

- Convened at the request of the Hawai'i State Department of Agriculture and Kaua'i Mayor Bernard Carvalho to conduct an analytic deliberation process which was designed to gather and interpret facts pertinent to concerns surrounding pesticide use on Kaua'i.
- Major outcomes:
  - 2016 Report on Pesticide Use in Agribusiness on Kaua'i
  - Influenced legislation and policy at the County and State level

**Community Advisory Committees**

**2009 – present**

*Divison of State Parks, Department of Land and Natural Resources*

- Hā'ena State Park Master Plan (2010 – present)
- Kalalau Trail Rehabilitation (2009 – 2013)

**Board of Directors**

**2014 – 2016**

*Kīlauea Point Natural History Association*

- A non-profit organization which works closely with the U.S. Fish and Wildlife Service team to support conservation, education, and preservation efforts for the precious wildlife of Kaua'i.

*Hō'ola Lāhui Hawai'i*

**2008 – 2010**

- A native Hawaiian health care system with a specific focus on serving the needs of Native Hawaiians and their families

**Graduate Research Assistant**

**2002 – 2005**

*Harold L. Lyon Arboretum, University of Hawai'i at Mānoa*

- Research project: Common Garden experiment with *Piper methysticum*
- Caretaker of Beatrice Krauss Ethnobotanical Garden

## ***Selected Individual and Organizational Awards***

**MVP Award** 2017

*Hawai'i Invasive Species Council*

- Awarded to Kāwika Winter for his efforts to protect priority watershed areas and control the spread of invasive species on the island of Kaua'i

**EcoLeaders Top 50** 2016

*National Wildlife Federation*

- In celebration of the career accomplishments of young professionals making their names in the sustainability movement

**Conservation Innovation Award** 2015

*Hawai'i Conservation Alliance, group award*

- Awarded to the E Alu Pū Network for new techniques used in conservation activities in the islands

**Cooperator of the Year Award** 2014

*Soil and Water Conservation District (East Kaua'i)*

- Awarded to Kāwika Winter for his commitment to creating and managing wildlife habitat

**Ho'okanaka Leadership Award** 2013

*Leadership Kaua'i*

- Awarded to Kāwika Winter for exemplifying leadership principles

**Koa Award** 2007

*Hawai'i Tourism Authority*

- Awarded to Limahuli Garden to recognize an exemplary commitment to perpetuating and preserving Hawai'i's host culture

## ***Professional Societies and Selected Organizations***

- |   |                       |
|---|-----------------------|
| <b>Hawai'i Conservation Alliance</b>  | <b>2005 – present</b> |
| <ul style="list-style-type: none"> <li>• Leadership member: Steering Committee (2014 – present) <ul style="list-style-type: none"> <li>○ Subcommittee assignment: Community Engagement</li> </ul> </li> </ul> |                       |
| <b>E Alu Pū Network</b>   | <b>2005 – present</b> |
| <ul style="list-style-type: none"> <li>• Leadership member: Council Representative (2015 – present)</li> </ul>  |                       |
| <b>American Public Gardens Association</b>  | <b>2005 – present</b> |
| <ul style="list-style-type: none"> <li>• Director of Member Garden</li> </ul>   |                       |
| <b>Hui Maka'ānana o Makana</b>  | <b>2005 – present</b> |
| <ul style="list-style-type: none"> <li>• General member</li> </ul>  |                       |
| <b>Kaua'i Conservation Alliance</b>   | <b>2008 – present</b> |
| <ul style="list-style-type: none"> <li>• General member</li> </ul>  |                       |
| <b>The Society for Economic Botany</b>  | <b>2005 – 2009</b>    |
| <ul style="list-style-type: none"> <li>• General member</li> </ul>  |                       |

## ***Professional Training and Development***

- |  |             |
|--|-------------|
| <b>Socio-economic Monitoring Guidelines for Coastal Managers</b>   | <b>2015</b> |
| <i>National Oceanic and Atmospheric Administration</i>   |             |
| <ul style="list-style-type: none"> <li>• To provide opportunities for sharing information, expertise, practices, and experiences in order to develop and strengthen management capacity amongst site-based marine protected area managers throughout the Pacific Islands.</li> </ul> |             |
| <b>Management Development Certificate Series</b>   | <b>2008</b> |
| <i>Hawai'i Employers Council</i>   |             |
| <ul style="list-style-type: none"> <li>• A series of workshops on supervisory development and on human resource administration.</li> </ul>   |             |

**Agricultural Leadership Program** 2006 – 2007  
*Agricultural Leadership Foundation of Hawai'i*  
• A multi-disciplinary program which provides strong leadership content to develop innovative problem-solvers and leaders for Hawai'i.

**Fellow** 2004 – 2005  
*National Wildlife Federation*  
• Research project: Restoring traditional flooded-field agriculture in riparian areas to expand habitat for native water fowl on Kaua'i  
• Lobbyist training in Washington D.C.

## ***Hawaiian Language and Culture***

***Hālau Hula 'o Kukunaokalā*** 1997 – 2005  
*Kumu Hula, John Ka'imikaua*

***Kūpuna Mānaleo (Native-Speaking Elder) Training*** 1997 – 2005  
Eddie Kamakani Kaanaana (Miloli'i) 1925 – 2006  
Lilia Wahinemaika'i Hale (Molokai) 1913 – 2003  
Elia "Kawika" Kapahulehua (Ni'ihau) 1928 – 2007

***Lā'au Lapa'au (Hawaiian Herbal Medicine) Training*** 2002 – 2005  
*Kumu, Levon Ohai (Kaua'i) 1942 – 2012*

***Olanāiwi – Hawaiian Language Field School*** 1997, 2001, 2002

## ***BOTANIC GARDEN MANAGEMENT***

### ***Selected Achievements at Limahuli Garden and Preserve***

#### **Guiding documents**

Improving the management of staff and resources has been achieved by the creation and adoption of several guiding documents. This work supported by general operations.

- Limahuli Comprehensive Conservation Strategy 2016
- Limahuli Vision Statement 2015
- Limahuli Master Landscaping Plan 2007

#### **Conservation projects**

Limahuli is a cutting-edge leader in field of conservation in Hawai'i for the many projects that we manage in our 1,000 acre nature preserve. This work has been supported by grants, contracts, philanthropic foundations, and general operations.

- Resilient Forest Project 2015 – present
- Remnant Forest Management 2014 – present
- Seabird Habitat Conservation and Predator Control 2010 – present
- Incipient Invasive Control 2010 – present
- Mesic Forest Restoration 2005 – present
- Conservation fences
  - Lower Limahuli Preserve (0.8 miles, 66 acres) 2015
  - Upper Limahuli Preserve (3.4 miles, 300 acres) 2009

#### **Interpretive sections and features**

Garden improvements have increased the quality of the visitor experience and raised our profile as a botanic garden. This work was supported by grants, philanthropic foundations, and general operations.

- Dream Trail 2017
- Traditional *hale* (house) 2012
- Whale Trail 2008
- Redesigned front entrance 2007
- Native Forest Walk 2007
- Plantation Era Garden 2006

## ***Selected Grants and Contracts***

### **Kaua'i Island Utility Commission**

A contract to implement a Habitat Conservation Program to mitigate against the "take" of two federally-listed endangered ground-nesting seabirds

- Endangered Seabird Mitigation (\$420,785) 2018
- Endangered Seabird Mitigation (\$417,291) 2017
- Endangered Seabird Mitigation (\$344,231) 2016
- Endangered Seabird Mitigation (\$308,000) 2015
- Endangered Seabird Mitigation (\$381,083) 2013 – 2014

### **U.S. Fish and Wildlife Service Partners Program**

A grant to construct an ungulate fence and conduct applied conservation of T&E species

- Limahuli Preserve Rare Plant Restoration Project (\$146,000) 2013-2018

### **Hawai'i Fish Habitat Partnership Program**

A grant to restore native fish and invertebrate habitat in Limahuli Stream

- Hā'ena 'O'opu Restoration Project (\$125,000) [pending] 2018 – 2019

### **Hawai'i Community Foundation**

Grants to facilitate the fulfillment of NTBG's mission at Limahuli Garden and Preserve

- Kō'ani'ani Foundation (\$60,000) 2015
- Rapozo Foundation (\$2,500) 2013

### **Office of Hawaiian Affairs**

Grants to assist in the creation of Limahuli as a kīpuka for native Hawaiian practices

- Traditional Hale (\$90,000) 2012
- Nā Pua o Kaua'i (\$62,500) 2010

### **Hawai'i Tourism Authority**

Grants to refine interpretation in the botanical garden

- Riparian Restoration and Interpretation (\$25,000) 2008
- Interpretive Signage (\$25,000) 2007

### **Waimakua Foundation (last 4 years only)**

Grants from a family foundation in support of Limahuli Garden

- Infrastructure Improvements (\$50,000) 2018
- Garden Aesthetic Improvements (\$32,000) 2017
- Trail Safety Improvements (\$20,000) 2016
- All-Terrain Vehicle and Garage Repairs (\$23,500) 2015

### **Lannan Foundation**

Grant in support of the Hā'ena Ahupua'a Project

- Indigenous Mapping Project (\$300,000) 2005 – 2007



## **RESEARCH**

### ***Active Research***

**Winter, K.B.**, and T. Ticktin. Assessment of the biocultural and ecological values of various species assemblages in Hā'ena, Hawai'i: Implications for restoring resilience in social-ecological systems. Research funded by National Science Foundation.

**Winter, K.B.** The Social-Ecological Keystone Concept: A metaphor for understanding the structure and function of a system. Research funded by National Tropical Botanical Garden.

**Winter, K.B.**, and B. Nyberg. Cohort senescence and shifting distribution patterns of Kukui (*Aleurites moluccana*): Mapping the transition between agroforestry and naturalization. Research funded by National Tropical Botanical Garden.

Delevaux, J.M.S., R. Whittier, K.A. Stamoulis, L. Bremer, A. Friedlander, S. Jupiter, G. Guannel, W. Goodell, C. Wiggins, E. Conklin, J. Giddens, R. Toonen, K. Burnett, **K.B. Winter**, A. Knudby, N. Kurashima, H. Htun, P. Garrod, M. Blaich-Vaughan, K. Falinski, S. Yee, K. Oleson, and T. Tiktin. Environmental drivers of coral reefs on oceanic islands: A ridge-to-reef perspective.

### ***Book Chapters***

Chang, K., C. Young, B. Asuncion, W. Ito, and **K.B. Winter**. 2019. Kua'āina Ulu 'Auamo: Grassroots Growing Through Shared Responsibility. *Indigenous Food Sovereignty: Restoring Cultural Knowledge, Protecting Environments, and Regaining Health*. University of Oklahoma Press, Norman. [in press]

### ***Guest Editing***

*Sustainability*. 2018. Special Issue on Biocultural Restoration in Hawai'i. Guest editors: K.B. Winter, K. Chang, and N.K. Lincoln. [calling for papers]

## ***Selected Publications: Peer Reviewed\****

\*A research publication hiatus was taken from 2013 – 2014 to focus time and resources on developing and gaining consensus for the Limahuli Comprehensive Conservation Strategy, and to coordinate the research needed to support the rules package and associated management plan for the Hā'ena Community-based Subsistence Fishing Area. The hiatus then continued from 2015 – 2016 to focus on data collection and analysis of a research project funded by NSF's Coastal-SEES program. Several manuscripts, theses, and dissertations are now being produced by this project. The submitted manuscripts from this research project which list me as co-author are included below.

Burnett, K., T. Ticktin, **K.B. Winter**. 2018. Restoring to the Future: Aiming for Resilience in Light of Economic, Cultural, and Ecological Tradeoffs in Limahuli Valley, Kaua'i. *Frontiers in Ecology and the Environment*. [in press]

Delevaux, J.M.S., R. Whittier, K.A. Stamoulis, L.L. Bremer, A.M. Friedlander, S. Jupiter, M. Poti, G. Guannel, N. Kurashima, **K.B. Winter**, R. Toonen, E. Conklin, C. Wiggins, A. Knudby, W. Goodell, K. Burnett, S. Yee, H. Htun, K. Falinski, K.L.L. Oleson, T. Wiegner, and T. Ticktin. A linked land-sea modeling framework to inform ridge-to-reef management in high oceanic islands. *Plos One*. [in press]

Sterling, E.J., C. Filardi, J. Newell, S. Albert, D. Alvira, N. Bergamini, E. Betley, M. Blair, D. Boseto, K. Burrows, N. Bynum, S. Caillon, J.E. Caselle, J. Claudet, G. Cullman, R. Dacks, P.B. Eyzaguirre, N. Gazit, S. Gray, J. Herrera, P. Kenilorea, K. Kinney, N. Kurashima, S. Macey, S. Mauli, J. McCarter, H. McMillen, P. Pascua, P. Pikacha, A.L. Porzecanski, P. de Robert, M. Salpeteur, A. Sigouin, M. Sirikolo, M.H. Stege, K. Stege, T. Ticktin, A. Toomey, R. Vave, A. Wali, P. West, **K.B. Winter**, and S. Jupiter. 2017. Biocultural approaches to sustainability indicators: bridging local and global scales to foster human adaptive capacity and ecological resilience. *Nature, Ecology, and Evolution* (2017) October.

**Winter, K.B.**, and M. Lucas. 2017. Spatial modeling of social-ecological management zones of the *ali'i* era on the island of Kaua'i with implications for large-scale biocultural conservation and forest restoration efforts in Hawai'i. *Pacific Science* 71:4(457-477) (Special Issue: Scaling Up Restoration Efforts in the Pacific Regions)

Pascua, P., H. McMillen, T. Ticktin, M. Vaughan, and **K.B. Winter**. 2017. Beyond Services: A Process and Framework for Incorporating Cultural, Genealogical, and Place-Based Relationships into Ecosystem Service Assessments. *Ecosystem Services* 26(2017):465-475.

**Winter K.B.** 2012. Kalo [Hawaiian Taro: *Colocasia esculenta* (L.) Schott] Varieties: An assessment of nomenclatural synonymy and biodiversity. *Ethnobotany Research and Applications* 10, 403-422.

**Winter K.B.** and W. McClatchey W. 2009. The Quantum Co-evolution Unit: An Example of 'Awa (*Piper methysticum* G. Foster) in Hawai'i. *Economic Botany* 63:4, 353-362.

**Winter, K.B.** and McClatchey W. 2008. Quantifying Evolution of Cultural Interactions with Plants: Implications for Managing Diversity for Resilience in Social-Ecological System. In: Albuquerque UP (Ed) *Ethnobotany: A Focus on Brazil. Functional Ecosystems and Communities* 2 (Special Issue 1), 1-10.

Prance GT, Aiona K, Balick MJ, Bennett BC, Bridges K, Burney DA, Pigott Burney L, Bye RA, Dunn L, Emshwiller E, Eubanks M, Flaster T, Kauka S, Lentz DL, Linares E, Lorence DH, McClatchey W, McMillen H, Merlin M, Miller JS, Moerman DE, Prance AE, Ragone D, Rashford JH, Raven P, Raven PH, Reedy D, Stepp JR, Tavana NG, Thaman R, Thomas MB, Ticktin T, Urban T, Van Dyke P, Wagner W, Whistler WA, Wichman CR Jr., Wichman H, **Winter K**, Wiseman J, Wysong M, Yamamoto B. 2007. Ethnobotany, the Science of survival: A declaration from Kaua'i. *Economic Botany*, 61:1-2.

McClatchey W. and **Winter K.** 2005. Publication of Ethnobotany Research in Local Languages. Editorial: *Ethnobotany Research and Applications* 3: 272-282.

## ***Presented Papers: International/Regional Conferences***

**Winter, K.** and T. Ticktin. 2017. Maximizing the connections between a community and a hybrid forest: Building off an assessment of contemporary relationships with forest plants. Hawai'i Conservation Conference, Honolulu Convention Center, July 18, 2017.

**Winter, K.** and B. Nyberg. Cohort senescence and shifting distribution patterns of Kukui (*Aleurites moluccana*): Mapping the transition between agroforestry and naturalizations. Hawai'i Conservation Conference, Honolulu Convention Center, July 18, 2017.

**Winter, K.**, K. Enos, and C. Wichman. 2016. Conservation of traditional crop varieties in evolving food systems on Pacific Islands: a nexus of cultural resilience, and ecosystem, community, and economic health. Knowledge Café, IUCN World Conservation Congress. Honolulu, HI. September 4, 2016.

Gon, S., T. Menard, **K. Winter**, D. Sischo, K. Kotubetey, D. Eisenberg, J. Carpio, J. Gaudioso-Levita, and H. Springer. 2016. Ignite Conservation: Bright Spots Across the Hawaiian Islands. Opening Session of the Hawai'i-Pacific Pavilion, IUCN World Conservation Congress. Honolulu, HI. September 2, 2016.

**Winter, K.** 2016. The Shifting Narrative: Understanding and Interpreting Climate Change in Hawai'i. American Public Gardens Association, Annual Conference. Miami, Florida. June 10, 2016.

**Winter, K.**, and M. Clark. 2015. Biocultural Resource Conservation: Installation of a hunter-supported ungulate fence for endangered species protection in a traditionally-accessed forest on Kaua'i. Hawai'i Conservation Conference. University of Hawai'i at Hilo, August 6, 2015.

**Winter, K.** 2015. Reassembling a Native Forest in the 21<sup>st</sup> Century. Kona Dryland Forest Symposium. King Kamehameha Hotel, February 27, 2015.

**Winter, K.**, and M. Lucas. 2014. A Model of Biocultural Zones on Kaua'i. Hawai'i Conservation Conference. Hawai'i Convention Center, July 16, 2014.

**Winter, K.** 2012. The past, present, and future of the native plant movement in Hawai'i. Plenary presentation at the annual meeting of the Landscape Industry Council of Hawai'i in Honolulu, HI. October 25, 2012.

**Winter, K.** 2011. Socio-ecological Restoration in Island Ecosystems: Creating a Scalable Model of Sustainability. Annual meeting of the Ecological Society of America. Austin Convention Center, Austin, TX. August 9, 2011.

**Winter, K.** 2011. Culturally-based Forest Restoration in Hawai'i. Hawai'i Conservation Conference: Island Ecosystems – Year of the Forest. Hawai'i Convention Center, Honolulu. August 2, 2011.

**Winter, K.** 2010. Limahuli Garden and Preserve: Using Science and Tradition to Restore a Valley. Hawai'i Conservation Conference: Pacific Ecosystem Management and Restoration. Hawai'i Convention Center, Honolulu. August 3, 2010.

**Winter, K.** 2009. Seeing the *Waonāhele* from Amongst the Trees: A Culturally-Based, Whole-System View of Plant Biology. Annual meeting of the American Society of Plant Biologists. Hawai'i Convention Center, Honolulu, HI. July 20, 2009.

**Winter, K.** 2009. Culturally-Based Solutions for a Multiplicity of Issues in a Changing Climate: Ahupua'a Lessons for Ecological, Agricultural, Fishery and Community Restoration. Hawai'i Conservation Conference: Hawai'i in a Changing Climate. Hawai'i Convention Center, Honolulu. July 28, 2009.

**Winter K., McClatchey W., Bridges K.** 2009. The Role of Linguistics in Determining Social-Ecological Keystones. Supporting Small Languages Together: The First International Conference on Language Documentation and Conservation. University of Hawai'i at Mānoa, Hawai'i. March 14, 2009.

**Winter K.** and McClatchey W. 2008. Ethnobotany as the Science of Survival: Lessons from Paradigms of Limited Resources. The Society for Economic Botany annual meeting, Duke University, North Carolina. June 3, 2008.

**Winter K.** 2008. Culturally-Based Ecological Restoration. 2<sup>nd</sup> Kaua'i Conservation Conference: Community-Based Conservation. Kaua'i Community College, April 11, 2008.

**Winter K.** 2007. Ahupua'a Restoration: Rebuilding Sustainable Communities in Hawai'i. Hō'ea Ea: Hands Turned the Soil Conference 2007. Hilo, Hawai'i. June 15, 2007.

**Winter K.** and McClatchey W. 2007. Tourism and Twisting of Ethnobotanical Concepts in Polynesia. The Society for Economic Botany annual meeting, Chicago, Illinois. June 6, 2007.

**Winter K.** 2007. Ahupua'a Restoration in Hā'ena, Kaua'i. IGERT Marine Conservation and Health Conference. University of Hawai'i at Mānoa. March 8, 2007.

**Winter K.** 2007. Limahuli Garden and Preserve: A Place of Refuge for the Living Hawaiian Culture. Ethnobotany Summit, National Tropical Botanical Garden, Kaua'i, Hawai'i. January 29, 2007.

**Winter K.** 2006. The Hā'ena Ahupua'a Project: Using Ancient Concepts to Solve Contemporary Problems in Hawai'i. Western Chapter International Erosion Control Association's Ahupua'a Conference. Waikīkī, Hawai'i. December 14, 2006.

**Winter K.** 2006. Ethnobotanical Gardens: Beneficial or Detrimental to Indigenous Communities? The Society for Economic Botany annual meeting, Chiang Mai, Thailand. June 7, 2006.

**Winter K.** 2005. Hawaiian 'Awa (*Piper methysticum*): A Look into Re-evolving Traditions and Quantum Ethnobotany Theory. The Society for Economic Botany annual meeting, Fort Worth, Texas. June 5, 2005.

Austin S, **Winter K.** and Chinn P. 2005. Place-based Education: A Hawaiian Perspective. The Society for Economic Botany annual meeting, Fort Worth, Texas. June 6, 2005.

**Winter K.** 2004. Hawaiian *Limu*: Developing Culturally Relevant Science Curriculum. The Role of Indigenous Knowledge in Schools: Science and Mathematics in Pacific Island and Pacific Rim Nations Conference. College of Education, University of Hawai'i at Mānoa. October 14, 2004.

## **TEACHING**

### ***Teaching Experience***

#### **Co-instructor**

**2005 – present**

National Tropical Botanical Garden

- Environmental Journalist Course
  - Lead instructor: Jan TenBruggencate
  - Designed to provide a deep background in tropical ecology, earth sciences, and conservation, and is intended to enhance informed, accurate reporting on environmental issues.
  
- Science Teacher Enrichment Course
  - Lead instructor: Brian Yamamoto
  - Designed to enhance teachers' knowledge of current information about tropical biology, and equip them with innovative techniques using an inquiry-based approach, thus inspiring greater student interest in science education.

#### **Co-instructor**

**2003 – 2010**

*University of Hawai'i at Mānoa*

- Ethnobiology Field School
  - Lead instructors: Will McClatchey, Kim Bridges, Tamara Ticktin
  - Designed to give practical, multidisciplinary field experiences in various aspects of ethnobiology.
  
- Botany 446: Advanced Hawaiian Ethnobotany
  - Lead instructor: Will McClatchey
  - Designed to provide a deep examination of a broad spectrum of aspects in Hawaiian ethnobotany.
  
- Hawaiian Studies 640: Hawaiian Resources Internship
  - Lead instructor: Carlos Andrade
  - Designed within the Hui Konohiki program to give students an opportunity to gain practical field experience in various aspects of culturally-based resource management.

- Botany 444: Ecological Ethnobotany
  - Lead instructor: Tamara Ticktin
  - Designed to explore a broad spectrum of examples in the manners in which indigenous cultures around the globe manage resources in a systems context.
  
- Botany 105: Introduction to Ethnobotany
  - Lead instructor: Will McClatchey
  - Designed to give a basic overview of the discipline of ethnobotany.
  
- Education and Curriculum Studies 433: *Mālama i Ka 'Āina*, Sustainability
  - Lead Instructor: Pauline Chinn
  - Designed to develop standards-based curriculum that is dually founded in both science and culture.

## ***Graduate Student Mentoring***

Mentoring students in both my professional and academic roles is an important aspect of my work. This happens both formally and informally. Formal graduate student mentees are listed here.

██████████ M.S. Candidate, University of Hawai'i at Hilo Anthropology, Heritage Management Program	<b>Current</b>
██████████ Ph.D. Candidate, University of Hawai'i at Mānoa Natural Resources and Environmental Management	<b>2017</b>
██████████ Ph.D. Candidate, University of Hawai'i at Mānoa Natural Resources and Environmental Management	<b>2017</b>
██████████ M.S. Candidate, University of Hawai'i at Mānoa Natural Resources and Environmental Management	<b>2017</b>

## ***Graduate and Undergraduate Mentorship Programs***

- |   |                       |
|---|-----------------------|
| <b>Pacific Internship Program Exploring Science (PIPES)</b><br>University of Hawai'i at Hilo <ul style="list-style-type: none"><li>• Primary Mentor</li></ul> | <b>2014 – present</b> |
| <b>Horticulture Internship</b><br>National Tropical Botanical Garden <ul style="list-style-type: none"><li>• Lead Mentor</li></ul>                            | <b>2005 – present</b> |
| <b>Hawai'i Youth Conservation Corps</b><br>Kupu Hawai'i <ul style="list-style-type: none"><li>• Lead Mentor</li></ul>   | <b>2007 – present</b> |
| <b>Practicum Internship</b><br>University of Montpellier <ul style="list-style-type: none"><li>• Primary Mentor</li></ul>                                     | <b>2015</b>           |



## **COLLABORATIONS**

Collaborations have been an important aspect of my work at National Tropical Botanical Garden. These include, but are not limited to, participating in multi-disciplinary research, implementing applications of innovative research in the area of conservation, and teaching. A selected list of the most relevant collaborations are listed here.

### ***Research Collaborations***

#### **University of Hawai'i at Mānoa**

- *Botany*
  - Tamara Ticktin, Professor Ethnoecology
  - Kasey Barton, Associate Professor Forest ecology
  - Nicole Hynson, Assistant Professor Symbiotic Mycorrhizae
  - Allison Sherwood, Professor and Chair Algal Diversity
  
- *Natural Resources and Environmental Management*
  - Mehana Vaughan, Assistant Professor Adaptive Co-management
  - James Leary, Assistant Specialist Invasive Weed Mgmt.
  
- *Biology*
  - Alan Friedlander, Cooperating Faculty Fishery Monitoring
  - Ken Kaneshiro, Director of CCRT Watershed Monitoring
  
- *School of Ocean and Earth Science and Technology*
  - Mike Kido, Research Associate Stream Research
  
- *Tropical Plant and Soil Science*
  - H.C. "Skip" Bittenbender, Extension Specialist Crop Diversity
  - Noa Lincoln, Assistant Professor Crop Diversity
  
- *Economic Research Organization*
  - Kim Burnett, Associate Specialist Environmental Economics
  
- *Richardson Law School*
  - Malia Akutagawa, Assistant Professor Native Hawaiian Rights
  
- *Hawai'i inuiākea School of Hawaiian Knowledge*
  - Kamana Beamer, Assistant Professor Ahupua'a Management

#### **Hawai'i Institute of Marine Biology (University of Hawai'i)**

- Coral Reef Ecology Program
  - Ku'u lei Rogers Coral Reef Monitoring

**University of Hawai‘i at Hilo**

- *Geography and Environmental Science*
  - J.P. Price, Chair and Associate Professor

Ecological Monitoring

**University of California, Berkeley**

- Berkeley Initiative in Global Change Biology
  - John “Jack” Sculley

Resilience of aquatic Ecosystems

**Carnegie Institution for Science**

- *Department of Global Ecology*
  - Greg Asner, Staff Scientist

Ecological Monitoring

***Conservation Collaborations***

**Pacific Cooperative Studies Unit (University of Hawai‘i)**

- Plant Extinction Prevention Program
  - Wendy Kishida
- Kaua‘i Endangered Seabird Recovery Project
  - Andre Raine
- Hono O Nā Pali Seabird Mitigation Project
  - Sheri Mann
- Kaua‘i Forest Bird Recovery Project
  - L. “Cali” Crampton
- Kaua‘i Invasive Species Council
  - Bill Lucey

Species Conservation

Species Recovery

Predator Control

Species Distributions

Invasive Species Control

**U.S. Forest Service**

- Institute of Pacific Islands Forestry
  - Christian Giardina

Community-Based Forestry



## ***PUBLIC INTERFACE***

We find ourselves in a time where the general public's distrust of institutions and of science is, unfortunately, at an all-time high. This is not only true in Hawai'i, but also has an added layer in native Hawaiian and rural communities where scientists and research institutions have developed a negative reputation for taking knowledge and claiming credit without reciprocation. In order for scientists and research institutions to fulfill their roles in society their beneficial contributions must be understood and embraced. Each of us in these roles has a part to play in writing this narrative.

Administrators are the public face of their institutions. They, therefore, must be known to the public, and must maintain at least a general perception of relevance for their institution in the community. Commonly effective ways of doing this outside the realm of academia include being present and visible in the public sphere via events, as well as both popular and social media (a selected presentation highlighting this is listed below). However, truly effective administrators take the time to develop deep relationships in a broad array of interests with key members of the community. These include, but are not limited to, engaging leaders representing prominent families in a demographically diverse society, key policy makers and bureaucratic administrations, as well as community groups and organizations at various regional scales. Understanding and embracing such an approach is that which effectively enables administrators to take their institutions to the next level.

### ***Selected Panels and Invited Guest Lectures***

**Winter, K.** 2017. Limahuli: A Model for Biocultural Conservation on a System Level. Guest lecture, Botany 350: Resource Management and Conservation Biology in Hawai'i, University of Hawai'i at Mānoa. October 26, 2017.

**Winter, K.** 2017. The System Behind the System: Kalo Diversity in the Context of Ahupua'a Management. Guest lecture, Indigenous Crops Seminar, University of Hawai'i at Mānoa. October 25, 2017.

**Winter, K.** 2016. *Ho'okulāiwi*: The process of indigenization. Convocation Keynote, Kaua'i Community College. Puhī, HI. August 15, 2016.

Anders, A., B. Asuncion, K. Mossman, K. Wallace, **K. Winter**, C. Young, and E. Zanre. 2015. Huliāmahi: Uniting Communities to Seek Nearshore Marine Abundance through Community-based Subsistence Fishing Areas and Fishpond Revitalization. Hawai'i Conservation Conference. University of Hawai'i at Hilo, August 5, 2015.

**Winter, K.** 2015. Another look at *Ahupua'a*: Past, present, and future. Balance of Nature Lecture Series. Kaua'i Community College. March 5, 2015.

**Winter, K.** 2015. Abundance in Hawaiian Forests: Traditions of the past as solutions for the present. Hawaiian Historical Society. February 19, 2015.

**Winter, K.** 2014. Applying Traditional Resource Management Philosophies to Contemporary Conservation Efforts on Kaua'i. Faculty Seminar, Department of Natural Resource Management, University of Hawai'i at Mānoa.

**Winter, K.,** W. McClatchey, and A. Touwaide. Biocultural Conservation: Interpreting the Richness of the Human Experience. At the international symposium, "Agents of Change: Botanical Gardens in the 21<sup>st</sup> Century." United States Museum of Natural History, Washington D.C. October 3, 2014.

Orr D, Raymond L, Aiona K, **Winter K**, Hoffman N, Van Dyke P. 2011. "Botanical Gardens: A Panel Discussion," panel discussion. 7<sup>th</sup> Annual Grow Hawaiian Festival. Any Greenwell Ethnobotanical Garden, Kealahou. February 26, 2011.

Sproat-Beck S, **Winter K.**, Kagawa A., Quitevis K., Enos K. 2010. "Conservation, Land and Culture: Creating Conservation and Cultural Alliances," panel discussion. Hawai'i Conservation Conference: Pacific Ecosystem Management and Restoration. Hawai'i Convention Center, Honolulu. August 4, 2010.

**Winter K.** Introductions to the Hawaiian World View: Culture, Language and Environment. St. Regis Princeville staff training session. July 30, 2010.

Au L, Ihara Jr. L, Love N, Shim P., Sproat K, **Winter K.** 2009. "The Ethics of Change: A Moral Compass in a Rapidly Changing Environment," panel discussion. 5<sup>th</sup> Annual Envision Hawai'i Conference: Creating Connections for Change. State Capitol, Honolulu, Hawai'i. November 14, 2009.

**Winter K.** 2009. Honoring Halele'a: Culture, History and Place. St. Regis Princeville grand opening employee training. Princeville, Hawai'i. September 25, 2009.

**Winter K.** 2009. Traditional Resource Management of Ancient Hawai'i and its Application in a Modern Context. Guest lecture in the Department of Botany, University of Hawai'i at Mānoa (Botany 444 Ecological Ethnobotany, Dr. Tamara Ticktin). April 3, 2009.

**Winter K** and DeMotta M. 2008. Native Plants: Cornerstones for Cultural and Ecological Restoration. Princeville Library Speakers Program. September 10, 2008.

**Winter K** and Aiona M. 2008. *Ahupua'a*: People, Land and Water. National Tropical Botanical Garden's monthly lecture series. August 11, 2008.

**Winter K.** 2008. Coastal Ecosystems in Hawai'i. Kīlauea Point National Wildlife Refuge's annual seminar series. March 13, 2008.

**Winter K.** 2008. *'Iole: The Rat in Hawaiian Culture.* Kaua'i Museum's "Year of the Rat Chinese New Year Celebration." February 2, 2008.

**Winter K.** 2007. Teaching Through Culture. Hawai'i Tourism Authority's annual Industry Holiday Breakfast. December 7, 2007.

McClatchey W, **Winter K**, and Bridges K. 2007. Ethnobotanical Basis of Plant Classification Systems in Polynesia. Jean Andrews Visiting Faculty Fellow of Tropical and Economic Botany, invited speaker, University of Texas, Austin. March 20, 2007

**Winter K.** 2007. Impacts of Invasive Species on Hawaiian Culture. Hanalei, Hawai'i. March 15, 2007. Sponsored by the Kaua'i Invasive Species Council.

**Winter K.** 2005. Hawaiian Taro (*Colocasia esculenta*) Varieties and How to Distinguish Them. Kaua'i Taro Festival, College of Tropical Agriculture and Human Resources (CTAHR) Agriculture Extension Station. Wailua, Kaua'i, Hawai'i.

**Winter K.** 2005. 'Awa Traditions in an Era of 'Awa Bars. Guest lecture for the Hawai'i and Pacific Islands 'Awa Festival. University of Hawai'i at Mānoa. October 9, 2005.

**Winter K.** 2005. Traditional Ecological Knowledge and Traditional Resource Management in Ancient Hawai'i with Specific Examples from Pre-*ali'i* Moloka'i. Guest lecture in the Department of Botany, University of Hawai'i at Mānoa (Botany 444 Ecological Ethnobotany, Dr. Tamara Ticktin), April 17, 2003. The same talk was also given in the Spring 2003 and Fall 2003.

**Winter K.** 2005. Ethnographic Research Methodologies in Hawai'i. Guest lecture in the Department of Urban and Regional Planning, University of Hawai'i at Mānoa (Plan 751 Planning Practicum, Dr. Luciano Minerbi) February 14, 2005.

**Winter K.** 2003. The Binomial Nomenclature and Classification Systems of Pre-contact Hawai'i. Seminar in the Department of Botany, University of Hawai'i at Mānoa, April 2003.

**Winter K.** 2003. 'Awa: A Gift to the Descendants. Hilton Hawaiian Village, Hawaiian Cultural Exhibit from Bishop Museum, June 27, 2003.

**Winter K.** 2002. Cultural Restoration for Biodiversity Conservation in Hawai'i. Seminar in the Department of Botany, University of Hawai'i at Mānoa, December 2, 2002.

**Winter K.** and Yee J. 2002. The Culture and Cultivation of 'Awa in Hawai'i. Lyon Arboretum, October 19, 2002.

## ***Selected Publications: Hawaiian Language***

**Winter K.** 2005. *He Makahiki Hou, E Kāpae I Ka Ino*. “Kauakūalahale” column of the *Honolulu Star Bulletin* (in Hawaiian), January 1, 2005.

**Winter K.** 2003. *No Ka ‘Awa*. “Kauakūalahale” column of the *Honolulu Star Bulletin* (in Hawaiian), September 28, 2003.

**Winter K.** 2002. *A Hua A Pane!* “Kauakūalahale” column of the *Honolulu Star Bulletin* (in Hawaiian), December 15, 2002.

**Winter K.** 2002. *He Kanikau no Ku‘u Koko‘olua*. “Kauakūalahale” column of the *Honolulu Star Bulletin* (in Hawaiian), December 1, 2002.

## ***Selected Publications: Non-Peer Reviewed***

**Winter, K.** 2017. Ahupua‘a System Created Abundance [Opinion Editorial]. *Honolulu Star-Advertiser*, July 12, 2017.

**Winter K.** 2017. Building a Model of Systems-based, Biocultural Conservation. *The Bulletin of the National Tropical Botanical Garden*, Spring 2017.

**Winter K.** 2014. Restoring to the Future: Reassembling a Native Forest for the 21<sup>st</sup> Century. *The Bulletin of the National Tropical Botanical Garden*, 50<sup>th</sup> Anniversary Edition, 2014.

**Winter K.** 2012. Limahuli Garden and Preserve: Modeling Sustainability Solutions. *Edible Hawaiian Islands*. No. 19, Winter 2012.

Brower A. and **Winter K.** 2009. Ahupua‘a Management Offers Lessons. *The Garden Island*, Lihu‘e, Hawai‘i. February 22, 2009.

**Winter K.** 2008. Walking a Hawaiian Forest. *The Bulletin of the National Tropical Botanical Garden* 25(3): 22-25.

**Winter K.** 2006. In the Days When Everything was Sacred. In S. Little and P. Ruthenberg (Eds), *Life in the Pacific of the 1700s* 3:46-47. Honolulu Academy of Arts, Honolulu.

**Winter K.** 2005. Distinguished Economic Botanist 2005. *Plants and People*, Fall 2005.

## ***Selected Popular Media and Interviews***

Dussauy, J. 2017. Is culture missing from conservation? Scientists take cues from indigenous peoples. *The Christian Science Monitor*. November 24, 2017.

Ozawa R. And B. Lum. 2017. *Bytemarks Café*. Hawai'i Public Radio. July 19, 2017.

Herman, D. 2016. Finding Lessons on Culture and Conservation at the End of the Road in Kaua'i: In the remote, tropical paradise called Ha'ena, the community is reasserting Native Hawaiian stewardship of the land and sea. *Smithsonian Magazine*. June 1, 2016.

Winter, K. 2016. The significance of kalo. *Aloha 'Āina Series*, Episode 11. Hawai'i Public Radio. February 5, 2016

Winter, K. 2016. Lo'i systems. *Aloha 'Āina Series*, Episode 10. Hawai'i Public Radio. February 5, 2016

Thome, J. 2015. *'Āina: That Which Feeds Us*. Living Ancestors and Sherpas Cinemas.

Tico, T., and M. Lambert 2013. *Fishing Pono: Living in Harmony with the Sea*. Featured speaker. Kauai Girl Productions LLC and Pacific Islanders in Communication.

Wallace G., G. Shire, and R. Johns. 2012. *Endangered Hawai'i: A film by American Bird Conservancy*. Featured speaker.

Bracken S. 2010. Island Issues: Public Affairs Broadcast. Interview on the contemporary relevance of the *ahupua'a* system of resource management. Lava 105.3FM, January 2, 2011.

Wall S. 2009. Preserving Land and Tradition: Young Professional Kawika Winter. *Pacific Edge Magazine: Hawai'i's Trends in business, culture, lifestyle and art*. April/May/June 2009, pp. 72-73.

Zak J.C.K. 2006. *Pule Wailele*. DVD. Zakwest Productions Inc.