

JAY F. PENNIMAN

Curriculum Vitae

ADDRESS:

[REDACTED]

CONTACT:

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EDUCATION:

B.S. 1977: Portland State University

POSITIONS:

2006 – Present

Project Manager: Maui Nui Seabird Recovery University of Hawai'i,
Pacific Cooperative Studies Unit

- Develop strategies and programs to recover endangered seabird populations and to ensure survival of existing native seabird populations
- Identify, pursue and provide funding to carry out seabird protection and enhancement projects.
- With the University of Hawai'i Principal Investigator, provide staffing and operations management for Maui Nui Seabird Recovery Project
- Design, fund and implement habitat restoration for endangered Hawaiian petrel (*Pterodroma sandwichensis*) and threatened Newell's Shearwater (*Puffinus newelli*) and the Lāna'i watershed. Practice Integrated Pest Management to address the degraded state of the island's watershed.
- Monitor and provide predator protection for Hawaiian stilt (*Himantopus mexicanus knudseni*) and Hawaiian coot (*Fulica alai*) at Lāna'i Waste Water Treatment Facility.
- Lead project to find and protect Hawaiian petrel on the islands of Maui Nui. Delineate colony areas, initiate breeding biology studies of seabirds. Initiate predator control projects. Plan and implement habitat restoration projects.
- Satellite tag chick provisioning adult Hawaiian petrels on Haleakalā and Lāna'ihale to determine at sea foraging range. In cooperation with USGS, FWS and Haleakalā National Park.

- Deploy and retrieve Geo Locator Tags on Hawaiian petrels on Haleakalā and Lānaʻi to determine non-breeding season distribution at sea. Collect samples for genetics and stable isotope analysis. Cooperate and coordinate with USGS, Smithsonian Institution and Michigan State University.
- Work with statewide Hawaiian petrel recovery project group to develop and coordinate inter-agency efforts to carry out research and management of Hawaiian petrels, Newell's shearwater, Band-rumped storm-petrel (*Oceanodroma castro*) and other seabirds.
- Design, implement and manage compliance monitoring at industrial wind energy facilities and mitigation activities on the island of Maui with potential to expand to statewide monitoring program.
- Write up and oversee write up of project methodologies and results for publication in grant funding reports, technical reports and peer reviewed journals.
- Provide education and outreach to inform the public about seabirds and their habitats, threats to their survival and opportunities for volunteer involvement.
- Lead Save Our Seabirds Program for Maui Nui working in cooperation with DLNR/DOFAW, Hawaiian Electric Company, County of Maui, Haleakalā National Park, Auwahi (Invenergy) Wind, TerraForm Power, and Alexander & Baldwin. Retrieve downed seabirds, provide necessary rehabilitation and release or transport to rehabilitation facility. Provide out-reach and education for the public to raise awareness of seabird grounding and appropriate public response.
- Provide services as seabird biologist/ecologist to Maui District Division of Forestry and Wildlife, wildlife staff.

1991 – Present

Owner: Larix –Natural Resources Consulting and Construction

- Provide professional services to The County of Maui, Wastewater Division. Waterfowl & Wader surveys at the Kahului Waste Water Treatment Facility.
- Provide professional services to Hawai'i Department of Land and Natural Resources. First responder to reports of exotic felines on Maui. Emergency assistance to Maui wildlife biologist.
- Provide professional services to Maui Invasive Species Committee. Crew leader – searches for veiled chameleons (*Chamaeleo calyptratus*). Remote field operations, Lānaʻi, control fountain grass (*Pennisetum setaceum*). Office and field crew quarters construction.
- Provide professional services to Auwahi Restoration Group. Night search and destroy Jackson Chameleon (*Chamaeleo jacksonii xantholophus*) in the Auwahi dry forest restoration site.
- Provide residential home construction management and operation. Design services. Sub-contractor oversight. Crew management. Client relations.
- 2005 Annual Nene Survey. Search area from Ukumehame to Launiopoko.
- 2003 Annual census and banding of Wedge-tailed shearwater (*Ardenna*

pacifica, ua'u kani).

- 1992 -1994 Newberry Geothermal Pilot Project. Provided habitat assessment and wildlife population estimates for preparation of Environmental Impact Statement (DOE/EIS-0207)
- 1991 Baseline Surveys of Lacustrine Wetland Vegetation and Waterfowl Use of Silver Lake, Cowlitz County, Washington, prior to introduction of triploid grass carp for aquatic weed control.

1989-1991

Property Manager: Bear Paw District, Idaho Panhandle National Forest.

- Managed diversified operations for private land in-holding in the Idaho Panhandle National Forest. Operations included: Ranch Management - cow/calf operation with hay production, and remote guest lodging with cross country ski trail system.
- Developed cooperative agreement with U.S. Forest Service to establish cross country ski trail system on private and federal lands. Developed system, maintained and operated ski trails for guests.
- Researched Harlequin Duck (*Histrionicus histrionicus*) for the Selkirk-Priest Basin Association. Worked with Idaho Fish and Game and the U.S. Forest Service to improve cooperation and funding for further investigation of Harlequin Duck habitat and occurrence in the Idaho panhandle area.

1983-1989

Staff Biologist: Point Reyes Bird Observatory

- Managed natural resources of Farallon Islands National Wildlife Refuge in concert with U.S. Fish and Wildlife Service, U.S. Coast Guard and National Marine Sanctuary.
- Conducted population and breeding biology studies on seabirds, land birds and marine mammals.
- Conducted at-sea surveys aboard NOAA research ships for seabirds and marine mammals from Point Sur, California to the Olympic Peninsula, Washington and in the Gulf of the Farallons.
- Tracked and studied radio collared harbor seals (*Phoca vitulina*) from Point Sur to Salt Point, north of Bodega Bay. Flew the coast and hiked to haul out points. Operated small boat for netting, tagging and measurement of seals.
- Trained volunteers in Farallon Island research and maintenance operations. Conducted media interviews explaining Farallon Island wildlife biology, geology and history.

COMMITTEES:

2023 – Present: Chairman, Toxoplasmosis and At Large Cat Working Group (TACTWG).

2020 – 2023: Member, Toxoplasmosis and At Large Cat Working Group (TACTWG). Inter-agency Working Group created to share information and facilitate collaboration between natural resources and human health agencies to reduce the impacts of at-large cats, focusing on the impact of *Toxoplasma* to native wildlife and people in Hawai‘i, and predation on Hawaii’s native species.

2020 – Present: Chairman, Natural Area Reserve Commission. DLNR/DOFAW/NEPM

2008 – Present: Member, Seabird Hui. Statewide, multi-agency, recovery planning for Hawaiian petrel, Newell’s shearwater and Band-rumped storm-petrel.

2008 – Present: Chairman, Save Our Seabirds Maui. Coordinate multi-agency and business support for public outreach and recovery of light distracted seabirds in Maui County. Oversee recovery and triage actions for recovered birds.

2015 – Present: Member, Kaho‘olawe Island Seabird Restoration Project

2013 – 2015: Member, Project Management Team. Kaho‘olawe Island Seabird Restoration Project Business Plan.

2010 – 2013: Member, Working Group. Kaho‘olawe Feral Cat & Introduced Rodent Eradication Business Plan.

2008 – 2010: Member, Kaho‘olawe Island Faunal Restoration Working Group

CERTIFICATIONS:

2007 – Present: Hazardous Waste Site Worker (29CFR1910.120 (e) (8) and 49CFR172.704) (HAZWOPER) with additional certification in oiled bird response and recovery.

2016 – Present: Certified Boat Operator, US Coast Guard/State of Hawai‘i, DLNR.

2006 – Present: Certified Pistol Safety and Handling, National Rifle Association.

2008 – 2018: Certified Commercial Applicator for Restricted Pesticides, State of Hawai‘i, Department of Agriculture.

2006 – 2026: Wilderness First Aid, Child and Adult CPR, & AED, Wilderness Medicine Training Institute.

2006 – 2025: Basic Aviation Safety (A-100) & External Load (A-219), US Dept. of Interior, Office of Aviation Safety.

PUBLICATIONS:

Adams, Josh, Jonathan J. Felis, Rob Klinger, Emma C. Kelsey, Joy Tamayose, Raina Kaholoa'a, Cathleen Bailey, **Jay F. Penniman**, Jennifer Learned, Ciara Ganter, John Medeiros, Huisheng Chen. (2023) Predicted distribution of 'ua'u (Hawaiian petrel *Pterodroma sandwichensis*) nest sites on Haleakalā, Maui. *Endangered Species Research*. Vol. 52: 231–246. <https://doi.org/10.3354/esr01280>

Penniman, Jay F. & David C. Duffy. (2021). Best Management Practices to Protect Native and Endangered Birds at Solar Installations in Hawai'i. Pacific Cooperative Studies Unit Technical Report #203. University of Hawai'i at Manoa, Department of Life Sciences. Honolulu, HI. 28 pages. <http://hdl.handle.net/10125/79131>

Wiley, Anne E., Sam Rossman, Peggy H. Ostrom, Christine A. M. France, **Jay Penniman**, Cathleen Bailey, Fern Duvall, Elise F. Zipkin, & Helen F. James. (2019). From ecologically equivalent individuals to contrasting colonies: quantifying isotopic niche and individual foraging specialization in an endangered oceanic seabird. *Marine Biology*. 166:39.

Longcore, Travis, Airam Rodriguez, Blair Witherington, **Jay F. Penniman**, Lorna Herf, & Michael Herf. (2018). Rapid assessment of lamp spectrum to quantify ecological effects of light at night. *Journal of Experimental Zoology*, 2018; 1–11. <https://doi.org/10.1002/jez.2184>

Rodriguez, Airam, Nick D. Holmes, Peter G. Ryan, Kerry-Jayne Wilson, Lucie Faulquier, Yovana Murillo, Andre F. Raine, **Jay F. Penniman**, Veronica Neves, Bencharo Rodr'iguez, Juan J. Negro, Andr'e Chiaradia, Peter Dann, Tracy Anderson, Benjamin Metzger, Masaki Shirai, Lorna Deppe, Jennifer Wheeler, Peter Hodum, Catia Gouveia, Vanda Carmo, Gilberto P. Carreira, Luis Delgado-Alburquerque, Carlos Guerra- Correa, Francois-Xavier Couzi, Marc Travers, & Matthieu Le Corre. (2017). Seabird Mortality Induced by Land-based Artificial Lights. *Conservation Biology*, Volume 31(5), pp. 986-1001.

Duffy, David C., Daniela Dutra Elliott, Georgia M. Hart, Keren Gundersen, Joseph Aguon-Kona, Randy Bartlett, Jean Fujikawa, Patrick Gmelin, Cleve Javier, Larry Kaneholani, Tiffani Keanini, Joseph Kona, Julia Parish, **Jay F. Penniman**, & Aaron Works. (2015). Has the Small Indian Mongoose Become Established on Kaua'i Island, Hawai'i? *Pacific Science*, Volume 69, Number 4, October 2015, pp. 559-565

VanZandt, Marie, Donna Delparte, Patrick Hart, Fern Duvall & **Jay Penniman**. Nesting Characteristics and Habitat Use of the Endangered Hawaiian Petrel (*Pterodroma sandwichensis*) on the Island of Lāna'i. *Waterbirds*, 37(1):43-51.

Wiley, Anne E., Peggy H. Ostrom, Helen F. James, Andreanna J. Welch, Robert C. Fleischer, Hasand Gandhi, John R. Southon, Thomas W. Stafford, Jr, **Jay Penniman**, Darcy Hu, & Fern Duvall, (2013) Millennial-scale isotope records from a wide-ranging predator show evidence of recent human impact to oceanic food webs. *PNAS*, 110, 22,

pp. 8972–8977.

Welch, AJ, RC Fleischer, HF James, AE Wiley, PH Ostrom, J Adams, F Duvall, N Holmes, D Hu, **J Penniman** & KA Swindle. (2012). Population Divergence and Gene Flow in an Endangered and Highly Mobile Seabird. *Heredity*, 2012, 1-10.

Allen, Sarah G., **J.F. Penniman**, & D.G. Ainley. (1987). Movement and Activity Patterns of Harbor Seals at Drakes Estero, California, 1986-87. *Annual Report to the Marine and Estuarine Division, National Oceanic and Atmospheric Administration*

Spear, L.B., T.M. Penniman, **J.F. Penniman**, H.R. Carter & D.G. Ainley. (1987). Survivorship and mortality factors in a population of Western Gulls. In J.L. Hand, W.E. Southern and K. Vermeer, (Eds.), Ecology and Behavior of Gulls. *Studies in Avian Biology* #10. Cooper Ornithological Society.

PRESENTATIONS:

Penniman, Jay F. & Jenni Learned. (2024) The Night Voices of Na Manu O Ke Kai Over Maui Nui. Oral presentation to 2024 Hawai'i Conservation Conference.

Penniman, Jay F., Jennifer Learned, Melissa R. Price, Kristen C. Harmon, Abbey Camaclang, Tara Martin & Scott Fretz (2024) Optimizing Conservation Actions to Recover Seabirds Across Maui Nui. Oral presentation to 2024 Hawai'i Conservation Conference.

Jenni Learned, **Jay Penniman**, Martin Frye, Zoe Gustafson, Jeff Schlueter & M. Tim Tinker. (2024) Analysis of Acoustic Data Reveals Positive Trends for an Endangered Hawaiian Seabird. Oral presentation to 2024 Hawai'i Conservation Conference.

Rooney, Sophia, Jennifer Learned, **Jay Penniman**, Martin Frye, Alex Calma, Joshua DeCambra & Mariah Rivera (2024) Assessing the Uptake and Efficacy of a Rodent Contraceptive. Poster presentation to 2024 Hawai'i Conservation Conference.

DeCambra, Joshua, Martin Frye, Mariah Rivera, Alex Calma, Sophia Rooney, Jennifer Learned & **Jay Penniman** (2024) Using Game Cameras at Trap Locations to Further Investigate Trap Effectiveness and Predator Behavior. Poster presentation to 2024 Hawai'i Conservation Conference.

Rivera, Mariah, Jennifer Learned, Martin Frye, Cheryl King, Joshua DeCambra, Sophia Rooney, Alex Calma & **Jay Penniman** (2024) Estimating the Number of Breeding Pairs of 'Ua'u Kani in Maui Nui. Poster presentation to 2024 Hawai'i Conservation Conference.

Learned, Jenni & **Jay Penniman**. (2024) The Story of 'Ua'u Kani: How an Island Seabird Is Helping Conserve Habitats and Build Resilience. Oral presentation to 2024 Annual Meeting of the Ecological Society of America.

Frye, Martin, Eric VanderWerf, Jennifer Learned, Zach Pezzillo, Alex Calma, Sophia Rooney, Skye Anderson, Cheryl King, Mariah Rivera, Joshua DeCambra and **Jay Penniman** (2024) Continued Observations of Assortive Mate Choice in a Sympatric

Colony of Brown Booby Subspecies in Maui County. Poster Presentation to 2024 Pacific Seabird Group Annual Meeting

DeCambra, Joshua, Martin Frye, Mariah Rivera, Alex Calma, Sophia Rooney, Jennifer Learned & **Jay Penniman**. (2024) Using Game Cameras at Trap Locations to Further Investigate Trap Effectiveness and Predator Behavior. Poster Presentation to 2024 Pacific Seabird Group Annual Meeting.

Rivera, Mariah S., Jenni Learned, Martin Frye, Skye Anderson, Cheryl King, Joshua DeCambra, Alex Calma & **Jay F. Penniman**. (2024) Estimating the Number of Breeding Pairs of Wedge-tailed Shearwaters (*Ardenna pacifica*) in Maui Nui Based on Occupancy Rates. Oral Presentation to 2024 Pacific Seabird Group Annual Meeting.

Rooney, Sophia, Alex Calma, Jennifer Learned, Martin Frye, Mariah Rivera, Joshua DeCambra & **Jay Penniman**. (2024) Updated Status of Red-footed Boobies in Maui Nui. Poster presentation to 2024 Pacific Seabird Group Annual Meeting.

Penniman, Jay F. (2023) Night Lights and Seabird Behavior – What We Observe, Unresolved Questions and a Need to be Proactive. Oral Presentation to 2023 Pacific Seabird Group Annual Meeting.

Penniman, Jay F., David C. Duffy, & Jennifer K. Learned. (2022) Best Management Practices To Protect Endangered and Native Birde at Solar Installations in Hawai'i. Oral Presentation to 2022 Pacific Seabird Group Annaul Meeting.

Frissinger, Cecelia E., Jennifer learned, Martin Frye & **Jay F. Penniman**. (2021) Return of Wedge-tailed Shearwaters Further Defines Success in Fallout Recovery Effort in Maui Nui. Virtual Oral Presentation to 2021 Pacific Seabird Group Annual Meeting.

Learned, Jennifer & **Jay Penniman**. (2021) Long-Term Seabird Banding Efforts, Twenty Years of Wedg-tailed Shearwater Data from Maui. Oral Presentation to 2021 Pacific Seabird Group Annual Meeting.

Penniman, Jay F. (2020). Dark Skies and Hawai'i's Wildlife. Oral Presentation to the Lyman Museum, March 9 & 10, Hilo Hawai'i.

Penniman, Jay F. (2020). Maui Nui Seabird Recovery Project. Oral Presentation to the Hawai'i Division of Forestry & Wildlife, Wildlife Core Group.

Adams, Josh, Jonathan Felis, **Jay F. Penniman**, Michelle Hester, Lindsay Young, & Max Czapanskiy. (2020). At Sea Movements and Ranging Behaviors of Breeding Wedge-tailed Shearwaters (*Ardenna pacifica*) in the Subtropical Hawaiian Metapopulation. Oral Presentation 2020 Pacific Seabird Group Annual Meeting.

Penniman, Jay F. Jennifer K. Learned, Martin J. Frye, & Cecelia E. Frisinger. (2020). Seabird Restoration: Addressing Introduced Predators & Rapidly Rising Sea Level. Oral Presentation 2020 Pacific Seabird Group Annual Meeting.

Learned, Jennifer K., Sasha E. Smith, & **Jay F. Penniman**. (2020). Red-footed Boobies on Maui: First Breeding Account and Implications for Seabird Habitat Protection on High Hawaiian Islands. Oral Presentation 2020 Pacific Seabird Group Annual Meeting.

Frisinger, Cecelia, Jennifer Learned, Martin Frye, & **Jay F. Penniman**. (2020). Reproductive Success at Wedge-tailed Shearwater (*Ardenne pacifica*) Colonies in Maui Nui. Poster Presentation 2020 Pacific Seabird Group Annual Meeting.

Frye, Martin J., Jennifer K. Learned, Karla V. Trigueros, Cecelia E. Frisinger, & **Jay F. Penniman**. (2020). Re-Envisioning The Approach to Predator Control in a Unique Seabird Habitat. Oral Presentation 2020 Pacific Seabird Group Annual Meeting.

Penniman, Jay F., Christine C. Costales, & Dr. Fern P. Duvall. (2019). Restoring Seabirds in Hawai'i: Resilient Beings But Require Our Commitment to Recover. Oral Presentation, 2019 Hawai'i Conservation Conference.

Penniman, Jay F., Jennifer K. Learned, Martin J. Frye, & Karla V. Trigueros. (2019). One Petrel, One Shearwater, Stories of Progress in Restoration on Maui and Molokai. Oral Presentation, 2019 Pacific Seabird Group Annual Meeting. **Penniman, Jay F.**, Christine C. Costales, & Dr. Fern P. Duvall. (2019). Seabirds, Feral Cats, & People. Striving for Harmony. Oral Presentation, 2019 Pacific Seabird Group Annual Meeting.

Penniman, Jay F., Jennifer K. Learned, Nick Gonde, Katsu Che Frausto, Jeff Schlueter, & Matthew W. McKown. (2018). ACOUSTIC MONITORING FOR SEABIRDS ON HALEAKALĀ, MAUI CHANGE OVER TIME, 2014 – 2017. Oral Presentation, 2018 Pacific Seabird Group Annual Meeting.

Learned, Jenni, Che Frausto, Martin Frye, Puakea Mo'okini-Oliveira, and **Jay Penniman**. (2018). Habitat characterization of the endangered Hawaiian petrel (*Pterodroma sandwichensis*) on leeward Haleakalā, Maui. Oral Presentation, 2018 Pacific Seabird Group Annual Meeting.

Mo'okini-Oliveira, Puakea, Fern Duvall, Russell Kallstrom, Jennifer Learned, Wailana Moses, and **Jay Penniman**. (2018). Prevalence and status of avian pox virus and implications for Wedge-tailed shearwater (*Ardenne pacifica*) colonies in Maui Nui. Oral Presentation, 2018 Pacific Seabird Group Annual Meeting.

Frye, Martin, Jenni Learned, Che Frausto, Puakea Mo'okini-Oliveira, and **Jay Penniman**. (2018). Predator activity and Hawaiian petrel recruitment on leeward Haleakalā. Oral Presentation, 2018 Pacific Seabird Group Annual Meeting.

Frausto, Che, Jennifer K. Learned, & **Jay F. Penniman**. (2018). How to Pick up Chicks Anthropogenic Light at Night Distracts and Disorients Seabirds - A New Strategy To Locate and Recover Fallout Birds. Poster Presentation, 2018 Pacific Seabird Group Annual Meeting.

Penniman, Jay F., Jennifer K. Learned, Nick Gondek, Katsu Che Frausto, Jeff Schlueter, & Matthew W. McKown. (2018). 'Ua'u (Hawaiian Petrel, *Pterodroma sandwichensis*):

Nakula Natural Area Reserve and Kahikinui Forest Reserve: Documenting Change Using Automated Acoustic Monitoring. Oral Presentation, 2018 Hawaii Conservation Conference.

Penniman, Jay, Jennifer Learned, & Matthew McKown. (2017). If A Seabird Calls In The Wilderness And No One Is There To Hear, Are Seabirds Still Breeding? Using Automated Acoustic Monitoring to Locate Seabirds in Remote, Difficult to Access Sites in Maui County, Hawai'i. Oral Presentation, 2017 Pacific Seabird Group Annual Meeting.

Frausto, Katsu Che, Jennifer Learned, Emily Severson, & **Jay Penniman**. (2017). Smart Conservation with Smart Devices: Identifying Effective Outreach Tools for Seabird Recovery. Poster Presentation, 2017 Pacific Seabird Group Annual Meeting.

Gallagher, Lynx & **Jay Penniman**. (2017). Techniques, Reflections and Care Practices for Conibear Style Mechanical Trapping in Arid Tropical Ecotypes. Oral Presentation, 2017 Pacific Seabird Group Annual Meeting.

Learned, Jennifer, & **Jay Penniman**. (2017). Early Success in Long-term Monitoring of Protected Hawaiian Petrel Breeding Habitat. Oral Presentation, 2017 Pacific Seabird Group Annual Meeting.

Pederson, Rebecca, Jennifer Learned, Fern Duvall, & **Jay Penniman**. (2017). Band Tracking of Wedge-tailed Shearwaters within Maui Nui. Poster Presentation, 2017 Pacific Seabird Group Annual Meeting.

Penniman, Jay F. Hannah Nevins, & Christine Sheppard. (2016) Seabirds and Human Infrastructure Lighting Conflict – A Review of Current Knowledge and Request to Develop and Implement Mitigating Technologies. Oral Presentation, 2016 Pacific Seabird Group Annual Meeting.

Penniman, Jay F. (2015) Seabirds and Human Infrastructure Lighting Conflict. Invited Spoken Presentation, Animal Responses to Light Roundtable Meeting, Midwest Energy Efficiency Alliance, DOE, Solid State Lighting Program, April 19, 2016, Chicago, Ill.

Penniman, Jay F. (2012) Lana'i Forest & Watershed Partnership. Oral Presentation, Forum, Hawaii Association of Watershed Partnerships at 2012 Hawaii Conservation Conference.

Adams, Josh, David G. Ainley, **Jay F. Penniman**, Cathleen Bailey, Joy Tamayose, Fern Duvall, and Holly Freifeld, (2012). Anti-cyclonic Circulation and the Long-range Foraging Movements of Hawai'ian Petrels (*Pterodroma Sandwichensis*) in the North Pacific. Oral Presentation, 2012 Pacific Seabird Group Annual Meeting

Penniman, Jay F., Fern Duvall, Samuel Aruch, Christine Costales, David Duffy (2010). Hawaiian Petrel (*Pterodroma sandwichensis*) Endangered Seabird Management on the Island of Lāna'i. Poster Presentation, 2010 First World Seabird Conference

Penniman, Jay F., Fern P. Duvall II. (2010) Wedge-tailed Shearwater (*Puffinus*

pacificus) on the Islands of Maui Nui. Oral Presentation, 2010 Hawai'i Conservation Conference.

Costales, Christine C., Mos Masicampo, Edwad T. Morimoto, Roland Pili Gella, **Jay F. Penniman**, Fern P. Duvall II. (2010). Outreach and Public Education for Endangered Species and Watershed Restoration on the Island of Lana'i. Oral Presentation, 2010 Hawai'i Conservation Conference.

Adams, J., D.G. Ainley, **J. Penniman**, H. Freifeld, S. Flora (2010). Anti-cyclonic circulation and the long-range foraging movements of Hawaiian Petrels (*Pterodroma sandwichensis*) in the North Pacific. Invited Spoken Presentation. *Eos Trans. AGU*, 91(26), Ocean Science, Meeting. AGU Ocean Sciences 22–26 February 2010, Portland, OR.

Duvall, F.P., **Jay Penniman**, Brooke Mahnken, Christine Costales. (2009). Experimental Restoration of Lana'ihale Montane Mesic forest for 'Ua'u (*Pterodroma sandwichensis*) Habitat and Watershed Enhancement. Poster Presentation 2009 Hawai'i Conservation Conference.

Penniman, J.F., F.P. Duvall II, C.C. Costales, (2008). Hawaiian Petrel (*Pterodroma sandwichensis*) on the Island of Lāna'i, Hawai'i – A Previously Unknown Breeding Colony. Contributed Talk, Pacific Seabird Group Annual Meeting.

Penniman, Jay, Fern Duvall, Christine Costales. (2007). The Lāna'ihale 'Ua'u colony: Management guided by Research Results. Oral Presentation 2007 Hawaii Conservation Conference.

Adams, J., D. G. Ainley, **J. F. Penniman**, and H. Freifeld. 2007. Summer movements of Ua'u (Hawaiian Petrel *Pterodroma sandwichensis*) nesting on Haleakalā and Lāna'i: can we use satellite tracking to gain new information and advise conservation management? Poster Presentation. 34th Annual Meeting of the Pacific Seabird Group. 7---11 February, 2007 Asilomar, California.

Penniman, Jay, Fern Duvall, ((2006). Blackburn's Sphinx Moth on Windward Maui. Poster Presentation 2006 Hawai'i Conservation Conference.

Adams, Josh, David G. Ainley, Holly Freifeld, **Jay F. Penniman**, Fern Duvall, Joy Tamayose, Cathleen bailey, Nick Holmes, Megan Laut, Greg Spencer, (2006) Summer Movements of 'Ua'u (Hawaiian Dark-rumped Petrel *Pterodroma Phaeopygia sandwichensis* Nesting on Hāleakala & Lāna'i: Can We Use Satellite Tracking to Gain New Information and Advise Conservation Management? Contributed Talk, The Wildlife Society 2006 Workshop – Seabird Conservation & Management in Hawai'i.

Penniman, Jay F., Fern P. Duvall, (2006). 'Ua'u on Lana'ihale: History and Current Status. Contributed Talk, The Wildlife Society 2006 Workshop – Seabird Conservation & Management in Hawai'i.