



'ELEPAIO

Journal of the
Hawai'i Audubon Society
For the Protection of
Hawai'i's Native Wildlife

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State of the Society: Annual Report for 2017

By Linda M. B. Paul, President Hawai'i Audubon Society

Mission Statement: To foster community values that result in protection and restoration of native ecosystems and conservation of natural resources through education, science and advocacy in Hawai'i and the Pacific.

The Hawai'i Audubon Society (HAS) celebrated its 78th year of operations in 2017. It was established in 1939 by a small group of dedicated birders to further the protection and conservation of Hawai'i's native wildlife and ecosystems. In 1967 it was granted non-profit §501(c)(3) status by the U.S. Treasury Department. HAS is now a state-wide conservation organization with a membership of approximately 2,000. Although it became a chapter of the National Audubon Society (NAS) in 1978, it is independent of that organization in matters of governance, policy, financial control, and programs.

Society Governance

Programs, policies and activities are guided by our Mission Statement and the purpose, organization, and procedures are set forth in our Constitution and By-laws. HAS is governed by a Board of Directors. During 2017 officers included President Linda Paul, First Vice President Elizabeth Kumabe, Treasurer Anthony Leiggi, and Directors Phil Bruner, Alice Roberts, Anna Pickering, Rich Downs and Wendy Kuntz. Wendy Johnson served as Executive Director.

Education and Outreach

HAS has a number of standing committees headed by Officers and Directors. In 2017, Linda Paul headed the Conservation Policy Committee and Wendy Johnson headed the Education Committee. The 'Elepaio and Field Activities Committees included all Board members. Committee membership is open to all members of HAS. (See www.hawaii-audubon-society.org for more information.)

The 'Elepaio: Our peer-reviewed journal focuses on research and conservation work in Hawai'i and the Central Pacific and provides educational outreach to membership and subscribers. In 2017, Rhea Berg served as Managing Editor and Glenn Metzler as the 'Elepaio's Scientific Editor. Six bi-monthly issues were published in 2017, received by members both electronically and by mail. Volunteers, Pat Moriyasu & Fiona Potts digitized past issues of the 'Elepaio. In 2017, the Board put together new 'Elepaio Submission Deadlines, posted on our website. Scientific articles in 2017 included *A brief review of Hawai'i's only native owl, the pueo* by Afsheen Siddiqi; *Novel technologies for addressing avian malaria in Hawai'i* by Joshua Fisher; *Keeping track of Honolulu's growing white tern population*, by Hui Manu

o Ku; 2016: A year of average productivity and provisioning at the Freeman Seabird Preserve, by K. David Hyrenbach; *'Alawi: a new old name for the Hawai'i creeper*, by Noah Gomes; *State Art Museum renovation schedule yields to pair of nesting white terns*, by Rich Downs & Keith Swindle; *Can biotechnology stop Hawai'i's invasive mosquitoes?* by Jennifer Howard; *New egg at Hawai'i State Art Museum*, by Keith Swindle; *Predator trap efficiencies at Kealia Pond National Wildlife Refuge*, by Mike Nishimoto; *UH scientists researching pueo in citizen science project*, by Frederika Bain; and *Hawaiian Islands Bird Checklist - 2017*, by Eric A. VanderWerf et al. (Please contact hiaud-soc@pixi.com to order a copy of the checklist.)

www.hawaii-audubon.com: The HAS website provides a comprehensive source for up-to-date information on the Society and its activities. It includes electronic versions of the 'Elepaio, field trips, service projects, programs, meetings, volunteer opportunities, membership information, an on-line store, information on birding in Hawai'i, a gallery of beautiful bird photos, and links to a number of related organizations and issues. Office manager Rhea Berg managed the website and Director Wendy Kuntz and Rhea managed the Society's Facebook page.

Conservation

Kawainui-Hamakua Marsh Complex: The Kawainui-Hamakua Marsh Complex on windward O'ahu is the largest remaining wetland in Hawai'i and share international recognition as biosphere reserve sites under the auspices of UNESCO and as Wetlands of International Importance under the RAMSAR Convention. These wetlands are part of a single mountain-to-ocean ecosystem that has been degraded by upstream and downstream water diversions, pollution from an industrial park, ranching and stables, introduced alien species, and human overuse. HAS members have been working for decades for its protection, including advocating for state matching funds to construct habitat ponds for endangered waterbirds and migratory birds, the return of city-owned parts of the marsh complex to the State Department of Land & Natural Resources, and for a master plan that has as its primary focus the restoration of these badly degraded wetlands and detailed and comprehensive wetlands ecosystem restoration and habitat management plans in order to protect four endangered Hawaiian waterbirds and several migratory waterbird species that live there. These birds and wetlands are protected by the federal

Endangered Species Act (ESA), the federal Migratory Bird Treaty Act (MBTA), the federal Clean Water Act (CWA), the federal Coastal Zone Management Act, and their Hawai'i State Law counterparts. The Society believes that (1) these wetlands should be closed to all visitors during the wetland birds' nesting seasons; (2) no leases or granting, of month-to-month permits to build on state land within 2,000 feet of the wetlands should be allowed; (3) the Kapa'a Industrial Park should be relocated out of the Kawainui-Hamakua complex watershed; and (4) the central peat mat should be removed and the historic natural water flow through the Complex should be restored.

Freeman Seabird Preserve: In September 2007, the HAS was given a one-acre coastal property at Black Point on the southern coast of O'ahu thanks to an unprecedented gift from the Houghton Freeman Foundation. The Freeman Seabird Preserve (FSP) is home to the island's only remaining south shore nesting colony of Wedge-tailed Shearwaters ('ua'u kani, *Puffinus pacificus*). With the valued guidance of experts and hundreds of volunteers over the years, this vacant residential property now supports over 24 native plants typical of Hawaiian coastal habitats. In 2017, new and returning volunteers spent over 970 hours caring for the native plants, paths and nesting sites, as well as conducting predator control. Wedge-tailed Shearwater population monitoring results and other information about research at FSP in 2017 can be found in the report by Dr. David Hyrenbach in this 'Elepaio issue. The Preserve website, www.freemanseabirdpreserve.com, focuses on habitat restoration, scientific research, and educational components of HAS conservation programs at the Freeman Seabird Preserve.

The Pueo: Board members Tony Leiggi and Alice Roberts attended a meeting convened by the State Senate to discuss the current status of the pueo, Hawai'i's native owl. (See January/February 2017 issue of the 'Elepaio.) In 2017 the Senate introduced Senate Resolution 6 urging DLNR to conduct an extensive statewide pueo habitat inventory. The Society, the American Bird Conservancy, DLNR, and several others submitted testimony in favor and SB6 SD1 passed. Hawai'i has declared the pueo endangered on Oahu due to extensive loss of habitat due to urban development, mortality due to alien species predation, and motor vehicle collisions.

Rim Island 2: On July 29, 2017, HAS and the Concerned Citizens of Hawai'i sent a 60-day notice letter to the U.S. Fish & Wildlife Service (FWS), the U.S. Army Corps of Engineers (ACE), Honolulu District, the Environmental Protection Agency (EPA), the State of Hawai'i Department of Health (DOH), the State of Hawai'i Department of Land & Natural Resources (DLNR), the City & County of Honolulu Department of Planning & Permitting (DPP), and the Hawai'i Kai Marina Community Association (HKMCA) notifying them of the intent to file suit, pursuant to the citizen suit provisions of the Endangered Species Act (ESA), 16 U.S.C. §§ 1531 et seq., the Clean Water Act ("CWA"), 33 U.S.C. §§ 1251 et seq. and the Administrative Procedures Act (APA) 5 U.S.C. §§ 501 et seq. to challenge the FWS and the ACE failure to comply with all federal laws applicable to the depositing of dredge spoils onto the nesting habitat of the endangered Hawaiian Black-necked Stilt or "Ae'o" on Rim Island 2 (RI-2) on Oahu, Hawai'i.

RI-2 is a small, isolated island in the middle of the Hawai'i Kai

marina with a large, shallow pond in its middle and is a known nesting habitat for the ae'o. A 1947 map labels it as a bird sanctuary. During 1959-61, a developer dredged out and filled in the surrounding wetlands and designated RI-2 as a dump site for future dredge spoils. Ae'o numbers are less than 2,000 individual breeding birds in the entire State. Recovery on Oahu has been very slow because of diminishing nesting habitat due to urban development and predation. The last Five Year Review was completed on August 27, 2010. It did not recommended down-listing the species. This suggests that after 50 years on the endangered species list more needs to be done to enable the Ae'o to recover. At the very least critical nesting habitat needs to be identified and designated. The FWS responded to our letter and said that on September 27, 2017, USACE requested re-initiation of ESA section 7 consultation on the USACE Permit.

Northwestern Hawaiian Islands Ecosystem Protection: Linda Paul represents HAS and the broader conservation community on the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve Advisory Council (RAC) and has been its vice-chair since 2004. The Papahānaumokuākea Marine National Monument was the result of an initiative to protect the NWHI begun by HAS in 1999. In 2017, the RAC sent in comment letters in response to Presidential Executive Orders 13792 and 13795. The RAC is strongly opposed to any executive action that would reduce or rescind the Marine National Monument created in 2006 and expanded in 2016. The RAC also submitted comments regarding the Draft Hawai'i-Southern California Test and Training Environmental Impact Statement/Overseas EIS. In 2017 the RAC amended its Charter and supported a Five-Year Strategy for the National Marine Sanctuary System that was put together by the Office of National Marine Sanctuaries. HAS continues to support the conversion of the Reserve into a Northwestern Hawaiian Islands National Marine Sanctuary as mandated by Executive Order 13178 when the Reserve was created by President William J. Clinton. (See www.papahanaumokuakea.gov for more information about the Monument and the Reserve.)

Manu o Kū Festival: On May 20th, HAS again co-sponsored a festival at 'Iolani Palace in celebration of the Centennial of the Migratory Bird Treaty and managed an information table with activities for kids. The festival featured the Manu o Kū, a white seabird (also known as the fairy tern), which has been designated the City Bird of Honolulu. Participants viewed the white tern first hand and learned about their distribution, natural history and role in navigation by Hawaiian voyagers. HAS provided an information table, hourly birding tours, and kids' birding hunt activities on the Palace grounds.

Legislature: Conservation Committee Chair Linda Paul reviewed and monitored environmental bills and resolutions introduced in the Legislature related to the HAS mission statement. Testimony was submitted in behalf of the HAS in support of restoration of funds for the Legacy Land Conservation Program and for increasing fiscal support TO DLNR for watershed management, CIP fencing work, invasive species control, and education programs. Testimony was also submitted in support of a statewide inventory of Pueo habitat, and in support of a long term data set on the viability of the Rim Island 2 Hawaiian Stilt

nesting habitat. A joint letter with Audubon Alaska was sent to Senator Brian Schatz asking him to co-sponsor the Arctic National Wildlife Refuge Wilderness Bill, which opposed drilling in the Refuge, and thanking him for his work on combating climate change.

Events, Field Excursions, Service Opportunities and Educational Programs

Christmas Bird Counts: last CCB of the 2016-2017 was held on Maui at the Pu'u kaka'e Circle on 01/03/2017.

Freeman Seabird Preserve 2017 Fieldwork Season, 01/7/2017 - 3/18/2017. Habitat Restoration activities included maintenance of native plants and man-made nesting structures, along with invasive species, trash and debris removal from the coastline area. On March 18th **Sunset and Shearwaters: Volunteer Appreciation Night** was held to show our thanks to all of our steadfast volunteers.

Paiko Lagoon Wildlife Sanctuary Farewell to Our Shorebirds, 04/15/2017. Tour led by Alice Roberts. Society members and other interested participants explored the lagoon while learning about Hawai'i's wintering shorebirds.

Honolulu Zoo Earth Day Aloha 'Aina Festival, 04/22/2017. Wendy Johnson, Rich Downs, and Lorraine Shaunessy manned a table, talking to the public about bird and the need to protect native species, in part by encouraging people to keep their cats indoors.

Brigham Young University Hawai'i Museum of Natural History Tour, 05/06/2017. Tour leader Phil Bruner discussed the large mammals of North America.

Manu o Ku Festival, 05/20/2017. Held at 'Iolani Palace in celebration of the Centennial of the Migratory Bird Treaty.

Marine Corps Base Hawai'i (MCBH): Tour of the Red-footed Booby Colony, 05/27/2017. Led by Todd Russel (MCBH) and Tony Leiggi (HAS board member). Participants had a rare chance to view the colony, which is located on the seaward edge of an active training range on the Base, one of only two large booby colonies in the Main Hawaiian Islands. About 2,500 boobies rest or nest in the Ulupa'u Crater Wildlife Management Area. (The other colony is on Kauai & is managed by the USFWS.)

Paiko Lagoon Wildlife Sanctuary: Just a Summertime Low Tide, 06/24/2017. Led by Alice Roberts. Participants learned about the many native plants at the waters' edge and saw the stay-behind shorebirds as well as a resident pair of Hawaiian Black-necked stilts, and year round 'iwa, egrets, & herons, and many urban birds & ducks.

Nature Hike to Kahuku Point & Wetlands at Turtle Bay, 07/29/2017. Led by Angela Huntemer, participants saw Hawaiian monk seals, turtle nest sites, endangered & endemic plants, endangered Hawaiian bee nesting areas, endangered water birds, and seabirds. The 4-mile round trip walk to Kahuku Point was optional.

Service Trip at Mount Ka'ala, 08/26/2017. Led by Wendy Kuntz (HAS board member). Participants worked with Natural Area Reserve (NAR) staff to remove non-native species on the top of Waianae mountain range. Mount Ka'ala is home to many of Hawai'i's rare and endemic species.

Paiko Lagoon: Welcome Home to Our Shorebirds, 09/16/2017. Alice Roberts led a walk to look for wintering shorebirds recently returned to Hawaii from their nesting grounds across the Pacific.

Hawai'i Island Festival of Birds, 09/15-17/2017. A celebration of Hawai'i's unique blend of birds - from endemic honeycreepers to common urban birds from five continents. The annual festival supports the Hawai'i Island Coast to Coast Birding Trail & the Hawai'i Wildlife Center.

Haleakala National Park: Waikamoi Preserve Hike, 09/29/2017. Led by Chris Warren. Participants met at Hosmer Grove, then hiked along a 4WD road to a trail that led to a boardwalk in the native forest. They saw native birds such as the Hawai'i Amakihi, Apapane, Maui Alauahio, and I'iwi. A few lucky ones also saw Kiwikiu & Akohekohe. Tour led by a biologist from the Maui Forest Bird Recovery Project.

Hawai'i Audubon Society Volunteer Day with the Army Natural Resources Program, 10/6/2017. Led by Army Natural Resources Program staff. Participants helped with invasive weed control. They used small hand tools, such as saws, pruners and loppers, to remove invasive weeds within a fenced management unit. They hiked along the summit trail, where they learned about native plants and animals in the area and enjoyed incredible views of Central Oahu and the Leeward coast.

Pueo Project Presentation at KCC STEM Center, 10/12/2017. Project investigates the population size, distribution, and habitat use of the Hawaiian short-eared owl on Oahu. Presentation by Javier Cotin.

Bishop Museum Vertebrate Collection Tour, 11/15/2017. Led by Alice Roberts (HAS board member) and Molly Hagemann (Vertebrate Zoology Collection Manager). Participants viewed bird skins and bones as well as bats and other vertebrates.

Alaka'i Boardwalk Hike & Learn, Kauai, 11/18/2017. Lisa "Cali" Crampton talked about the Kauai Forest Bird Recovery Project's efforts to monitor & protect the Puaiohi, 'Akikiki, and 'Akeke'e using mist netting, banding, re-sighting, sample collection, rodent control, and egg collection to create a captive population.

HAS Annual Member Meeting & Member Dinner, 11/29/2017. Held at the Waikiki Yacht Club, members and guests enjoyed a delicious buffet meal and heard David Hyrenbach presented the latest data, photos, and an overview of habitat restoration and monitoring of the Wedge-tailed Shearwater colony on the Society's Freeman Seabird Preserve on Black Point, Oahu, since 2008.

118th Annual Christmas Bird Count Citizen Science Oppor-

ter colony on the Society's Freeman Seabird Preserve on Black Point, Oahu, since 2008.

118th Annual Christmas Bird Count Citizen Science Opportunity, 12/14/2017-1/5/2018. Society members and friends participated in the longest running citizen science survey in the world, which provides critical data on bird population trends. All over the United States tens of thousands of people participate. Society members and volunteers counted birds within historic circles in Honolulu and Waipio on O'ahu, and at several locations on the neighbor islands. Results were submitted to National Audubon Society data base and can be viewed on the NAS website.

Nature Hike to Kahuku Point & Wetland at Turtle Bay, 12/30/2017. Led by Angela Huntemer. Led by Angela Huntemer, participants saw Hawaiian monk seals, turtle nest sites, endangered & endemic plants, endangered Hawaiian bee nesting areas, endangered water birds, and seabirds. The 4-mile round trip walk to Kahuku Point was optional.

Society Awards, Grants and Donations

The Society gratefully received generous donations from the North Valley Community Foundation in behalf of Lynn R. Thomas (annual legacy gift), the Anderson-Beck Fund, Brad & Sherry Ei-

chorst, Craig & Susan Scott, the Hawaii Community Foundation, and the Bill Healy Foundation pass-through grant from to support editor Cindy Hunter's a new revision of "A Natural History of the Hawaiian Islands: Selected Readings III, and donations from many, many other generous supporters.

Finances and Fundraising

A new three-year lease was signed for our office space on Richards Street. The Society currently derives the majority of its operating and programmatic funding from membership dues, generous gifts, and sales of its educational products, which include the incomparable book *Hawaii's Birds* and its audio companion *Voices of Hawaii's Birds* (2 vol. CD). In 2017 work began on the 7th Edition of *Hawaii's Birds* and Lance Tanino, a former Board member, is heading the effort to find new photographs to add to the many excellent ones already in our book. The Society also sells *Hawaii's Kolea*, *Treasurers of O'ahu*, a birding & family hiking map, *Hawaii's Rare & Endangered Birds* Art Collection greeting cards illustrated by Patrick Ching (pkg of 8), Elepaio patches, check lists of the birds of Hawaii, Micronesia, and the Mariana Islands, a field card, and 'Elepaio, Kolea & Ruddy Turnstone "Akekeke" T shirts. The Society also depends on the many generous donations and matching gifts from our members and benefactors.

2017: Peak Colony Count During Another Year of Average Productivity and Provisioning at the Freeman Seabird Preserve

By K. David Hyrenbach, Associate Professor of Oceanography, Hawai'i Pacific University, khyrenbach@hpu.edu

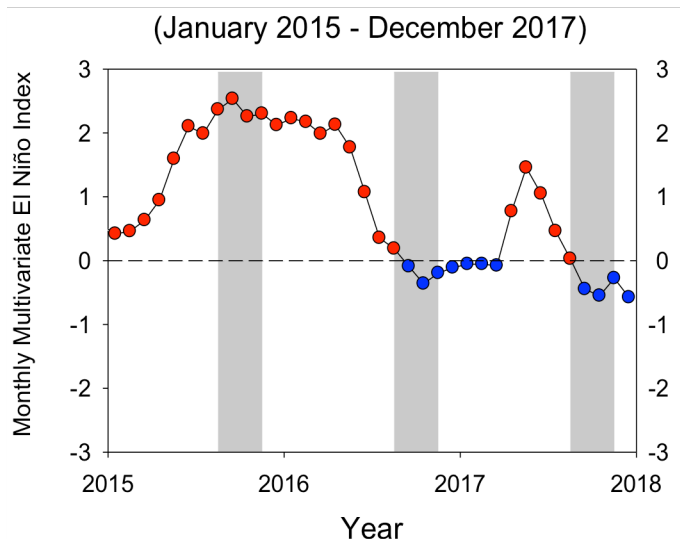


Figure 1. Time series of the Multivariate El Niño Index (MEI) between January 2015 and December 2017, spanning the last three Wedge-tailed Shearwater chick-provisioning seasons (August – November) of 2015, 2016 and 2017 (shaded). Positive anomalies (red) and negative anomalies (blue) are color coded.

We report on the ongoing monitoring and restoration efforts at the Freeman Seabird Preserve by Hawai'i Audubon since 2009, provide updates on the findings from the 2017 breeding season, and briefly discuss the plans for future monitoring, habitat restoration, and predator control at the site.

2017 Update

This year we documented 273 active nests of Wedge-tailed Shearwaters (*Ardenna pacifica*, 'Ua'u kani) at the Freeman Seabird Preserve, 21 % higher than the count of 226 nests in 2016. In fact, this is the highest count to date, surpassing the peak of 268 nests documented in 2015 (Hyrenbach 2016). Overall, the annual population censuses continue to show a statistically significant trend ($F = 52.0264$; $df = 1, 7$; $p = 0.0002$) with an average increase of 23.4 (± 9.7 S.D.) nests per year, which captures 86 % of the year-to-year variability in the time series (Fig. 2). The population rebound observed in 2017 mirrors a similar increase in 2011, following the warm-water conditions of 2010. Thus, despite the decrease in the number of active nests after the 2015-16 El Niño event, the overall trend for the colony has not changed.

The July 14 count of 273 nests was followed by a count of 145 nests, after the peak hatching period (September 14). This decline represents a loss of 46.9 % of the nests during the two-month period spanning hatching and the first month of the chick's life. Furthermore, the weekly monitoring of 54 nests between July and November revealed that 2017 was characterized by low egg loss, with 22.2 % of the monitored eggs being lost. Furthermore, chick mortality was very low in 2017, with only 8.0 % of the monitored chicks being lost.

The colony monitoring also revealed that 2017 was characterized by average phenology, similar to that documented in previous years. In 2017, chick hatching dates spanned from July

30 to August 20, with a mean of August 7 (+/- 5.4 S.D. days). These hatching dates fell in line with those from previous years, except 2010, when the mean hatching date was delayed substantially (August 19 +/- 9.0 S.D. days). Chick peak masses were also comparable to those recorded in the past. In 2017, they ranged from 312 to 595 grams, with a mean of 503.0 (+/- 54.2 S.D. grams). Again, the 2017 mean value fell in line with observations during “average” years (2010, 2012, 2013, 2014), was above those during a year of poor provisioning (2009) and below those during a year of good provisioning (2011).

Furthermore, weekly monitoring of the chicks’ growth over time suggests that parents provisioned their chicks through early November in 2017, as evidenced by increasing body masses late in the breeding season (Fig. 3). This pattern, which mirrors the findings from 2016, contrasts with the previous warm-water year (2015), when chick masses continued to increase through mid November (Hyrenbach 2015, 2016).

In summary, the monitoring data suggest that 2017 was a year of low egg losses and low chick losses, with average phenology and chick provisioning, in the context of the available time series (2009 – 2017). Chick peak masses in 2017 (mean = 503.0 +/- 54.2 S.D. grams) were, on average, intermediate between those documented in 2016 (mean = 513.7 +/- 52.4 g S.D.) and in 2015 (mean = 496.8 +/- 56.1 g S.D.). This result suggests that, chick provisioning improved after the transition from El Niño to La Niña conditions in the fall of 2016. Nevertheless, the return to a positive Multivariate El Niño Index (MEI) in the spring / summer of 2017 lead to average provisioning during the 2017 breeding season, despite a transition into negative MEI conditions in the fall of 2017 (Fig. 1). The La Niña conditions currently underway are expected to weaken, and to transition to ENSO-neutral conditions by late spring (See NOAA’s Climate Prediction Center ENSO Diagnostic Discussion, www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/). Based on these model predictions, we can anticipate that 2018 will be another “average” year for Wedge-tailed Shearwater breeding at the Freeman Seabird Preserve. Altogether, the findings from 2016 and 2017 underscore the dynamic conditions faced by breeding shearwaters during the last two years, since the end of the 2015 - 16 El Niño (Hyrenbach 2016, 2017).

Ongoing Efforts

Habitat restoration efforts continued during 2017. From January through March, while the Wedge-tailed Shearwaters were at sea, Hawai’i Audubon Society members and other volunteers worked to remove alien plant species, to maintain natural nesting sites, and to create new artificial nesting sites. Additional restoration and management efforts in 2018 will involve monitoring the colony and enhancing the breeding habitat at the Freeman Seabird Preserve.

Habitat Restoration: From January through March, volunteers will remove alien plant species and will create new artificial nesting sites on the terrace.

Colony Monitoring: Population censusing and nest monitoring for phenology, chick growth and reproductive success will continue in 2018, to augment the ongoing time series started in 2009.

Predator Control: Ongoing surveillance for predators is planned during the 2018 nesting season, to minimize and document predation by rats, cats and mongooses on breeding shearwaters.

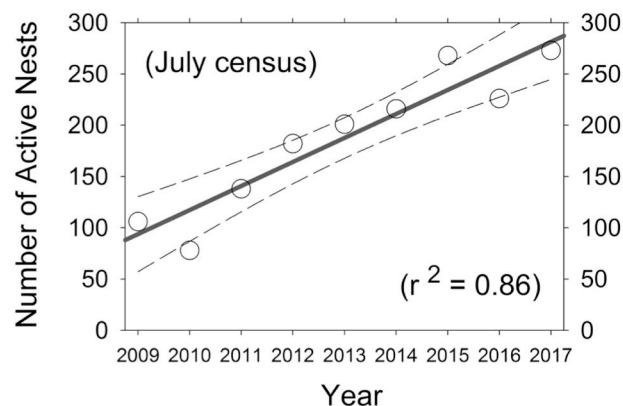


Figure 2. Trend in the number of Wedge-tailed Shearwater active nests at the Freeman Seabird Preserve, from the annual colony-wide census during the peak incubation period (July 14), showing the best-fit linear regression (solid line) and the 95% confidence interval envelope (dashed lines).

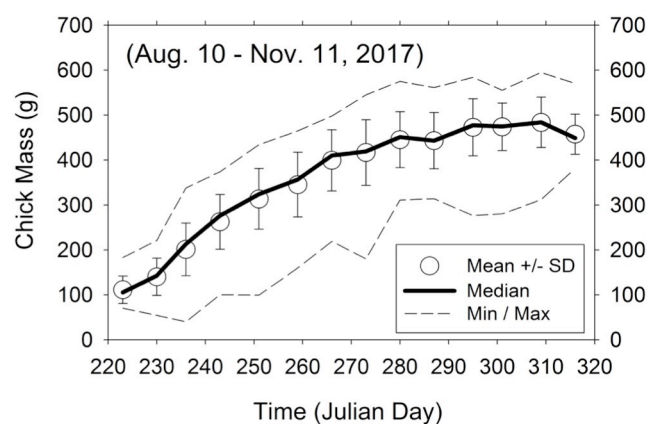


Figure 3. Time series of chick mass collected during the 2017 breeding season, showing the mean +/- S.D., the median and the range of values (maximum – minimum). Sample size = 35 chicks.

Literature Cited

- Hyrenbach, K.D. 2015: Another Record Population Count at the Freeman Seabird Preserve During a Year of Low Productivity. 'Elepaio 76(2): 13-14.
- Hyrenbach, K.D. 2016: A Year of Average Productivity and Provisioning at the Freeman Seabird Preserve. 'Elepaio 77(2): 13-14.

Hanauma Bay Presentations co-sponsored by the Hawai'i Audubon Society

Where: Hanauma Bay Nature Preserve, Theater **When:** April 5th, 12th, 19th, and 26th

1. April 5th 6:30pm – 7:30pm, by Chris Cramer, (Historian and Educator). Maunalua Fishpond Heritage Center.

Title: Rebounding From the Edge of Destruction - A Successful Community Effort to Protect and Restore Our Last Fishponds.

Abstract: The inspiring story of an 11-year community effort to protect and restore Maunalua's ancient ponds at Kalauha'iha'i Fishpond and Kānewai Spring. These historic sites are now successfully protected and have seen incredible turn-arounds through community restoration.

2. April 12th 6:30pm – 7:30pm, by Carmen Antaky and Kristen Harmon, University of Hawai'i, Mānoa Department of Natural Resources and Environmental Management

Title: Endangered Waterbird Conservation at the Hawai'i Wildlife Ecology Lab

Abstract: Sharp declines in waterbird populations in the Hawaiian Islands have occurred over the last 1100 years, since the arrival of humans. Species are threatened due to habitat loss, invasive predators, human impact, and climate change. At the Hawai'i Wildlife Ecology Lab we seek to address impacts of threats to Hawaiian waterbirds and help guide management to aid in species recovery. One project in our lab focuses on the Hawaiian Band-rumped Storm Petrel (*Oceanodramo castro*), listed in 2016 as federally Endangered, which nests in remote locations that are difficult to access and spends most of its life at sea. As such, very little is known about movement among islands and the potential for establishing new breeding colonies in managed areas with predator controls. As a first step in assessing connectivity, in this study we evaluated patterns in genetic diversity between populations on two islands known to host breeding populations. Blood or feather samples were collected from breeding colonies on Kauai and Hawai'i Island. We performed next-generation sequencing on pooled samples from each island. Results suggest minimal differences among populations, as well as population contraction in recent history, which is not surprising, given the relatively recent introduction of nonnative predators, which likely led to a decline in population numbers over the previous centuries. Findings from this study may be used to inform seabird conservation efforts in Hawai'i.

Another project in the Hawai'i Wildlife Ecology Lab focuses on the Hawaiian Stilt (*Himantopus mexicanus knudseni*), an endangered, native Hawaiian waterbird that inhabits wetlands throughout the Hawaiian Islands. Nest survival may vary temporally and spatially, as causes of nest failures may be dependent on nest initiation time, as well as nest site location. Quantifying causes of nest failures, as well as identifying when and where they occur, is necessary for effective conservation of this endangered species. In this study weekly nest surveys were conducted in wetlands located on the windward, leeward, and north shore regions of O'ahu. Nest status and approximate nest initiation time were recorded. Nest failures were classified as predated, flooded, abandoned, or unknown. For known causes of nest failure, we evaluated the relationship between cause of nest failure and (a) nest site location, and (b) nest initiation time. Additionally, we calculated nest survival probability during the incubation period for each nest site location in each nest initiation month. Overall, nest survival probability increased with nest initiation month. For each month nest survival probability was lowest in windward wetlands. Cause of nest failure was found to be dependent on nest site location, as well as nest initiation month, which may be due to spatial and temporal variation in weather patterns that occurs in the Hawaiian Islands. Our results may be used to inform management decisions of Hawaiian Stilt populations.

3. April 19th 6:30pm – 7:30pm, Rich Downs, HAS Board Member

Title: Increasing Our Understanding of Oahu's White Terns with Citizen Science

Abstract: This presentation will provide an introduction to the population of White Terns that breed on Oahu and the citizen science activities underway that are focused on helping us to better understand the unique relationship that exists between this seabird and the greater Honolulu area. Presenting will be Yvonne Chan and Rich Downs. Dr. Chan is the John Kay Teaching Chair in Research Science at 'Iolani School as well as the director of the Sullivan Center Research Lab at the school. Rich is coordinator of the Hui Manu-o-Ku White Tern Citizen Science initiative. Rich will give a brief overview of the Manu-o-Ku (White Terns) and the opportunities for interested individuals to get involved in monitoring and collecting data on this exceptionally interesting bird. Yvonne will talk about her work with students at the 'Iolani School and teachers from across Oahu to develop curriculum designed to increase awareness and appreciation of the terns and their place in the island's ecosystem.

4. April 26th 6:30pm – 7:30pm, by Michelle Hester, Oikonos Ecosystem Knowledge.

Title: Art & Science Collaborations Improve Nesting Habitat for Seabirds

Abstract: In the main Hawaiian Islands there is a need to protect nesting seabirds from urban threats related to introduced predators and habitat loss from development. At the Freeman Seabird Preserve on O'ahu, a trans-disciplinary effort is underway to design artificial nests to protect Wedge-tailed Shearwaters from these threats. Ceramic artists, designers, and scientists came together to customize clay nest modules where shearwaters can safely raise chicks. Clay has many benefits that include mimicking natural burrow habitats and durability for 30+ years. This collaboration with artists at Windward Community College and California College of the Arts and scientists at Oikonos and Hawaii Pacific University will also engage students and the community in seabird restoration solutions.

Hawai'i Audubon Society Renewal/Donation Form

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*Thank you for your concern and commitment to protecting
Hawaii's native wildlife and ecosystems.*

Congratulations! 2017 Winter/Spring Research Grant Recipient

Learn more about our Student Research Grants at
www.hawaiiiaudubon.org/programs
NEXT DEADLINE: April 1st, 2018 for Summer/Fall
grants



Kathryn Van Dyke

"Important plants for Nectarivorous Birds in a Continuous and Naturally Fragmented Forest on Hawaii Island".

Upcoming Events, Field Trips, & Volunteer Opportunities

*For full descriptions of our Events, Field Trips and Volunteer Opportunities, go to our
website: <http://www.hawaiiiaudubon.org/>*

FIELD – OUTINGS

Farewell to Our Shorebirds: Paikō Lagoon Wildlife Sanctuary

When: April 14th, 2018 8:30am – approximately noon, East Honolulu

Leader: Alice Roberts (HAS Board Member)

Description: Explore the lagoon while learning about Hawaii's visiting shorebirds. We may see some shorebirds (Kōlea, Ruddy Turnstone, Wandering Tattler) as well as a resident pair of Hawaiian Stilts, year round 'Iwa, Egrets & Herons, lots of urban birds & ducks. *Please RSVP to Alice with your name and phone number at 808-864-8122.*

VOLUNTEER OPPORTUNITIES

Freeman Seabird Preserve 2018 Fieldwork Season

Seeking Volunteers for Habitat Restoration!

8:30am-11:30am, Every Saturday morning

JAN through MAR 2018

In November and early December, Wedge-tailed Shearwater adult birds and chicks leave the Freeman Seabird Preserve at Black Point to forage at sea for several months before returning in the latter part of March to nest.

Volunteers are needed for fieldwork at the site on Saturday mornings from 8:30am-11:30am beginning January 6th. Activities will include maintenance of native plants and man-made landscape features, along with removal of invasive plants, trash and debris. Other dates and times can be arranged for groups wishing to contribute their time in an effort to preserve rare Hawaiian coastal vegetation and seabird nesting habitat.

If you would like a ride to the Preserve, please meet at the Paikau St. side of Triangle Park (other park boundaries are Diamond Head Road and Kahala Avenue) at 8:15. Habitat restoration activities will take place from 8:30-11:30 a.m.

All past and present FSP volunteers are cordially invited to a picnic lunch party at the Preserve in honor of the Society's appreciation for all of your help and hard work. Pizza and cold drinks will be provided at the Preserve beginning at 11:30 am on Saturday March 17. If you are able to attend, please contact Alice Roberts at (808) 864-8122 or mermaidshi@aol.com.

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