



# 'ELEPAIO

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## 2025 Shearwater Nesting at Freeman Seabird Preserve: A Mixed Year for 'Ua'u Kani

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



Volunteers participate in the yearly chick count at Freeman Seabird Preserve. ©Alice Roberts

We report on the ongoing monitoring and restoration efforts for Wedge-tailed Shearwaters at the Freeman Seabird Preserve (FSP) by Hawai'i Audubon Society (HAS) and Hawai'i Pacific University since 2009, share findings from the 2025 breeding season, and briefly discuss the plans for future monitoring, habitat restoration, and predator control at the site.

### 2025 Update

With participation of 28 volunteers, we counted the number of Wedge-tailed Shearwaters (*Ardenna pacifica*) nesting at FSP during the incubation (July 14) and early chick-rearing (September 14) periods.

In July, we documented 562 active nests, which is the highest count to date, and surpasses the previous record of 482 nests observed in 2024 (Hyrenbach 2025).

## Shearwaters at Freeman Seabird Preserve

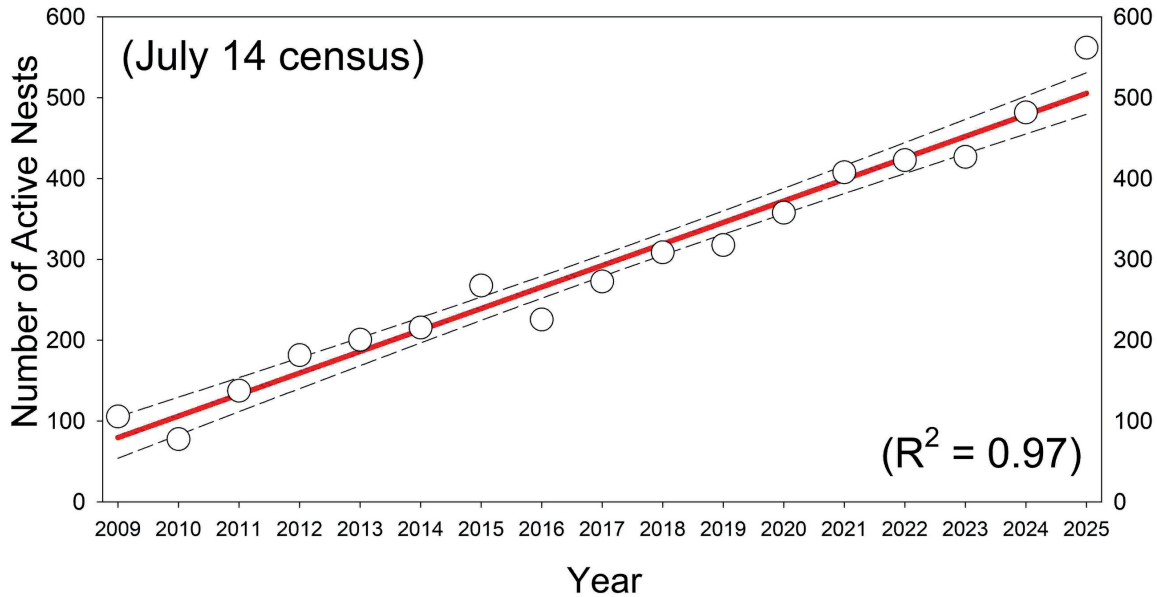


Figure 1. Trend in the number of Wedge-tailed Shearwater active nests, derived from the annual colony-wide census during the peak incubation period (July 14), showing the best-fit linear regression (solid line) and the 95% confidence interval envelope (dashed lines).

Overall, the annual population surveys show a statistically significant increase ( $F = 429.870$ ;  $df = 1, 15$ ;  $p < 0.001$ ) with an average of 26.6 ( $\pm 5.3$  S.D.) additional nests per year, which captures 97% of the variability in the 17-year time series (2009-2025; Figure 1). This trend demonstrates that the colony continues to grow, in response to the ongoing habitat restoration and predator control. Notably, the 2025 count was 16.6% higher than the 2024 count, which was 12.9% higher than the 2023 count.

The July 14 census of 562 active nests (occupied by an incubating adult or an egg) was followed by a count of 330 chicks on September 14. This represents a loss of 41.3% of the nests during the two-month period between peak egg-laying and the first half of chick-rearing. This loss rate is higher than the long-term average over the 17-year time series (36.6%  $\pm 14.7$  S.D.), but lower than the rates observed during the El Niño years of 2014 (68.7%) and 2015 (64.2%), when the colony experienced major egg loss and chick mortality events, likely due to poor food provisioning and unusual environmental conditions. For comparison, average nest success of Wedge-tailed

Shearwaters at Ka'ena Point was 38% when predators were controlled or excluded with a fence (VanderWerf et al. 2014), though that value represents the entire nesting season rather than the two month period from July 14 to September 14.

Weekly checks of 54 focal nests in 2025 revealed that 86% (12 of 14) of the nest failures occurred early in the season (July 27 – September 12), when 10 eggs (8 disappeared and 2 did not hatch) and 2 chicks (1 died while pipping and 1 was predated) were lost. Additionally, 14% (2 of 14) of the monitoring nest failures occurred after the September 14 census, when two chicks were predated.

Despite the lower nest success rate in 2025, the colony monitoring revealed that 2025 was characterized by earlier timing of breeding (phenology) and rapid chick growth. Chick hatching dates spanned from July 23 to August 26, with a mean of August 2 ( $\pm 5.9$  S.D. days), and the peak chick weights ranged from 445 to 630 grams, with a mean of 547.5 grams ( $\pm 44.0$  S.D.). Chick masses started declining the last week of October,

and fledging started the first week of November (Figure 2). Altogether, these observations suggest that the foraging conditions during the 2025 chick rearing period (August - November) were similar to those during the previous year. In 2024, chicks hatched on average four days later (August 6) and reached a 3% higher average peak weight (563.1 grams).

Since May-June 2024, the tropical Pacific Ocean has remained in the cold-phase of the El Niño-Southern Oscillation (ENSO) pattern. Accordingly, the average Multivariate El Niño Index during the Wedge-tailed Shearwater breeding season (early June - late November) was indicative of a weak cold (negative) phase (-0.68 +/- 0.13 S.D.) in 2024, and a strong cold (negative) phase (1.07 +/- 0.16 S.D.) in 2025. Our colony monitoring documented the response of breeding shearwaters to this ENSO variability, with the two

highest numbers of active nests recorded in 2024 and 2025. The number of breeding shearwaters at FSP continues to grow, underscoring the success of the ongoing management.

Despite the growing number of active nests documented during the last four annual colony censuses in July (ranging from 427 to 562) the number of active nests in September has remained fairly constant (ranging from 308 to 330). This pattern suggests that Wedge-tailed Shearwaters may have reached carrying capacity at FSP (Figure 3).

While the concurrent spikes in the number of breeding shearwaters and the higher rate of nest losses may seem counterintuitive, both are likely responses to the previous “triple-peak” La Niña episode from May-June 2020 to February-March 2023. These prolonged cold-water conditions

(Aug. 9 - Nov. 14, 2025)

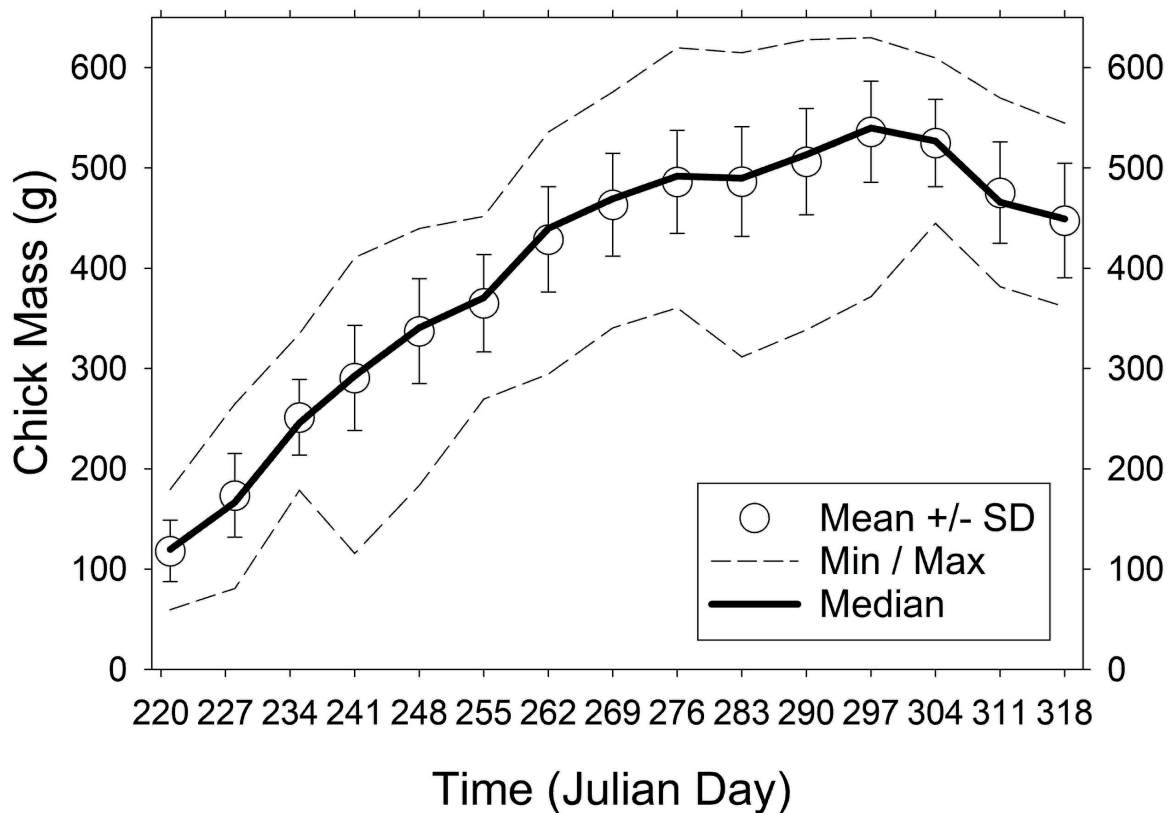


Figure 2. Time series of chick masses during the 2025 breeding season, showing the mean +/- S.D., the median, and the range (maximum - minimum) of weekly measurements. Sample size = 40 chicks.

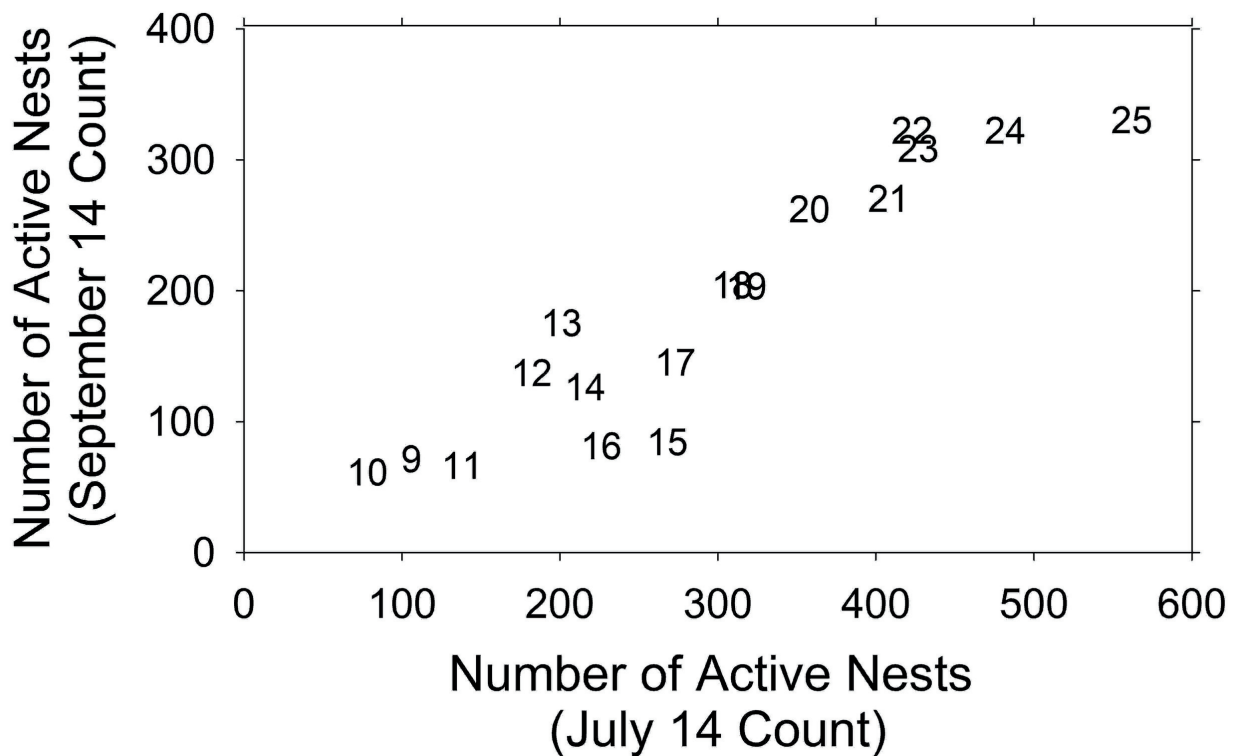


Figure 3. Time series of the number of active nests censused during chick incubation (July 14) and the chick provisioning (September 14), illustrates the growing number of breeding shearwaters from 2009 to 2025, and suggests the colony may have reached carrying capacity after 2021. Each year is labelled using two digits (i.e., 9 is 2009 and 25 is 2025).

likely enhanced shearwater winter survival and foraging, leading to higher juvenile recruitment to colonies and lower skipped breeding in adults. In turn, the higher rate of nest losses may indicate that more young inexperienced birds are attempting to breed, and failing.

The current La Niña is expected to transition into neutral conditions during February-March 2026 (75% chance), with increasing probability of a developing El Niño between June (50%) to September (60%). While model predictions do not extend into fall, it is likely that neutral or warm-water conditions will prevail in 2027 (See NOAA’s Climate Prediction Center ENSO Diagnostic Discussion, [www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/)). Future colony censuses and monitoring during years of varying oceanographic conditions will help us to interpret if Wedge-tailed Shearwaters have reached carrying capacity, or if their numbers will continue to grow at FSP.

### Ongoing Management Efforts

Predator control, weeding, and construction of rock and artificial nesting structures continued during 2025. From January through March, while the shearwaters were at sea, Hawai’i Audubon Society members and other volunteers removed alien plant species and improved natural nesting sites.

With participation of volunteers, additional restoration and management in 2026 will involve monitoring the colony and enhancing the breeding habitat at FSP.

**Predator Control:** Ongoing surveillance for predators is planned during the 2026 nesting season, to minimize and document predation by rats, cats, dogs, and mongooses on breeding shearwaters.

**Habitat Restoration:** From January through March,

volunteers will remove alien weeds, plant natives, and improve the existing rock nesting sites on the terrace.

**Research:** Population censusing and nest monitoring for phenology, chick growth, and reproductive success will continue in 2026, to augment our 17-year dataset.

**Acknowledgements:** Funding from Disney Conservation Fund, Atherton Family Foundation, Hawai'i Audubon Society, and individual donors. In-kind support from HPU and Oikonos. We thank the many volunteers and students who contributed to the restoration, monitoring and research efforts.

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## Freeman Seabird Preserve Gets a Facelift

By Susan Scott

For the last 20 years, the Freeman Seabird Preserve has been an outstanding seabird laboratory, a place in urban Honolulu to protect, shelter, and study the thousand or so 'ua'u kani that now breed there. (For comparison, about 130,000 'ua'u kani breed in the main Hawaiian Islands, nearly 500,000 in the Papahānaumokuākea Marine National Monument, and about a million worldwide.) It's a human labo-

ratory as well. The preserve is one of the few places in the world where humans and seabirds live together in an urban setting. It recalls the oft-quoted line, "Good fences make good neighbors" from Robert Frost's poem *Mending Wall*. Our fences, however, don't mask the bird's odors and calls, which like cheese and music, aren't universally appreciated.

The 2007 donation of this one-acre plot to the Hawai'i Audubon Society was the result of discovering 60 or so 'ua'u kani parents attempting to raise chicks in the vacant lot. After a team of landscapers unwittingly destroyed the birds' homes of bushes and burrows, the community worked to save the 31 federally protected orphaned chicks. Volunteers (I was one) worked out a schedule to feed the youngsters twice a day. The rescue attempt succeeded: 26 chicks survived to fly away.



'Ua'u kani or Wedge-tailed Shearwater. ©Cynthia Vanderlip

A year later, when the parent birds returned to try again, the property owners, the late Houghton and Doreen Freeman, donated the property to the Hawai'i Audubon Society. The subsequently named Freeman Seabird Preserve was an extraordinary gift both to the birds and to the people who care about them.

For years, Hawai'i's native 'ua'u kani (Wedge-tailed Shearwaters) have been raising chicks and increasing in number in this gated oceanfront community of about 75 homes.

The preserve recently got some remodeling, done with sensitivity to both the shearwaters that breed there and the neighbors. In about a quarter of the upper lot now stand two young heliotrope trees amid a crushed coral workspace and corridor. A drip-irrigated planter in the center will eventually host native coastal plants. Embedded on one side of this white gravel walkway are puka lava pavers that accommodate two parked cars (parking is limited in the neighborhood.)

These improvements look good (the neighbors love it) and will better serve the aesthetics of the neighborhood, future research projects, and Hawai'i Audubon volunteers who work there. But it's more than a facelift.

Given neighbor concerns, predator control issues, plant propagation decisions, and ongoing research, managing FSP is a tricky job that requires kind diplomacy. Fortunately, we have the right people for our preserve management team.

HAS Executive director Keith Swindle will manage the preserve. His 25 years in Hawai'i, the mainland, and abroad as a biologist and as a special agent for the U.S. Fish and Wildlife Service, give him experience in all of the above matters, including the initial discovery of those 31 abandoned 'ua'u kani chicks. Keith is extremely fortunate to have an outstanding preserve research and management team. Seabird researchers Michelle Hester and Dr. David Hyrenbach, along with their students and colleagues, have annually monitored shearwaters at the preserve since 2009. Board members serving on the preserve's management committee include life-long Black Point resident and community liaison Wendy Johnson, 20-year FSP

volunteer coordinator Alice Roberts, and University of Hawai'i and Kapi'olani Community College Professor Dr. Wendy Kuntz. The preserve also benefits from tireless volunteers Robynn Yim and Tony Querubin who give near daily care to its native plants, including rare coastal sandalwood (*Santalum ellipticum*), endangered 'ohai (*Sesbania tomentosa*) and many others.



Crushed coral, puka lava pavers, and a planter in the center of the main workspace show the first phase of FSP's remodeling completed. ©Wendy Kuntz

February's upgrade at FSP is the first phase of more to come. In addition to preparing the area for returning shearwaters, another goal includes convincing other Black Point Association members that FSP is an attractive asset to their community.

Change can be hard, but we HAS Board of Directors intend to proceed with respect to our neighbors, gratitude for dedicated volunteers, and confidence in the skilled leadership that will guide us forward. With thoughtful planning and the continued support of the community, the Freeman Seabird Preserve is ready for its next chapter.

\*\*\* END \*\*\*

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This year, we are partnering with [Pacific Birds Habitat Joint Venture](#) to celebrate the 'alae 'ula with an educational campaign. On O'ahu, we are organizing two volunteer days to mālama 'alae 'ula and their habitat. Please consider signing up to help protect these special birds.

Join us and volunteer for the 'alae 'ula:

- **Saturday, May 16** at Waimea Valley
- **Saturday, June 6** at Hāmākua Marsh

### Did you know?

The 'alae 'ula (Hawaiian Common Gallinule) is an endangered waterbird unique to Hawai'i. There are only around 700 left in the world (on O'ahu and Kaua'i).

### Stay up-to-date by visiting us online:

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## Events

**May 2:** Manu o Kū Festival on the grounds of 'Iolani Palace (O'ahu)

**May 30:** Science & Sustainability Festival at Bishop Museum (O'ahu)

**June 22 - 26:** Kōlea Quest to Nome (Alaska)

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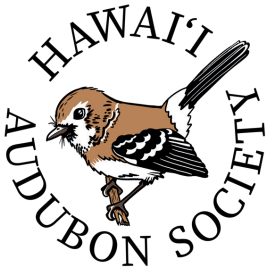
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Hawai'i Audubon Society

850 Richards St, Suite 505, Honolulu, HI 96813

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HAWAII AUDUBON SOCIETY  
850 RICHARDS ST, SUITE 505  
HONOLULU, HI 96813-4709

<https://hiaudubon.org>  
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## Table of Contents

2025 Shearwater Nesting at Freeman Seabird Preserve: A Mixed Year for 'Ua'u Kani	21
Freeman Seabird Preserve Gets a Facelift	25

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