

Wedge-tailed Shearwater

COMMON NAME: Wedge-tailed shearwater

HAWAIIAN NAME: 'Ua'u kani

SCIENTIFIC NAME: *Ardena pacifica*⁷

LEGAL STATUS: MBTA protected

APPEARANCE: Wedge-tailed shearwaters are the largest tropical shearwater species with slender body, long thin wings, wedge-shaped tail, and hooked bill; they are approximately the size of a pigeon. Both sexes have two color phases, dark and light dusky brown. In Hawai'i, they tend to be light colored with grayish brown above, white underparts, and dark edges on wings and undertail.



NATIVE RANGE: Wedge-tailed shearwaters are indigenous to Hawai'i. "Wedgies" are among the most common nesting seabirds found on the main Hawaiian Islands.

HABITAT: Shearwaters spend most of their time airborne over the open ocean. They frequent offshore waters, land only to breed, and are site faithful to sand dune burrows, under large rocks, and natural crevices in mountain cliffs. On MCBH, they nest underground in colonies in coastal sand dunes along the Fort Hase shoreline, the berm of the former Moving Target Range, and in vicinity of the Kaimalino housing fenceline.



DIET: Shearwaters feed on fish, squid, and similar ocean food.

REPRODUCTION: Shearwaters nest annually, land only to breed, and are nocturnal at breeding sites. Adults arrive to their nesting sites in late April - early May and lay a single white egg by mid-June. Once hatched (late July - August), chicks mature in situ and are fed by their parents, who forage daily between dawn and dusk. On Kaua'i, the peak of chick fledging occurs in September and October. At MCBH, fledging occurs between November and December, peaking in mid-December.

ECOLOGICAL THREATS: Threats include mammalian predators, urban encroachment, and avian malaria. Introduced mammalian predators, cats, dogs, rats, and mongoose consume adults, eggs, and young chicks. The native pueo is also known to predate on the wedgies at the Fort Hase colony. Another threat is collision with power cables, poles, or other man-made structures, when young fledglings are disoriented by urban lights and fly inland rather than out to sea. This is known as "fallout." Shearwaters may become disoriented and collide with structures, potentially causing injury, or they become exhausted, causing them to land and making them more susceptible to injury or death by cars or predators. Yellow crazy ants can cause wedgies to abandon their nests due to infestation and can cause deformities in chick's beaks and feet, as well as causing blindness due to the yellow crazy ant spraying them with formic acid.

⁷ In 2016 the scientific name for the wedge-tailed shearwater was changed from *Puffinus pacificus* to *Ardena pacifica*.

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USFWS AND HAWAII DLNR CONSERVATION STRATEGIES: State-organized recovery efforts save hundreds of immature birds annually and birders and resource managers note fall in Hawai'i as "shearwater fallout season."

MCBH CONSERVATION MEASURES: Wedge-tailed shearwaters occur only at MCBH Kaneohe Bay. "Wedgies" have established a colony at the Nu'upia Ponds WMA near the Fort Hase shoreline. Since its 1994 discovery, it has expanded from about 24 to over 900 active burrows, as documented in annual wedge-tailed shearwater burrow surveys every September.

MCBH employs conservation measures to benefit the wedge-tailed shearwater population, including:

- **Habitat protection and enhancement.** Non-native invasive plants are opportunistically removed in and around the shearwater colony. Periodic shoreline trash removal and ocean debris removal also occurs. Restricted access and control of invasive species are important to maintaining a healthy population of shearwaters at the colony. Established BMPs and conservation measures are employed when a project may have an effect on birds.
- **Limiting disturbance.** Human access by foot and vehicle within and around the burrow area is restricted and pets are prohibited. Colonial nesting birds are highly sensitive to disturbance; destruction of their nests during or near the nesting season could result in a significant level of take. Visitation to these areas by people getting too close and subsequently disrupting nesting activities, can result in take since young birds may be frightened, leave their nests prematurely, become displaced, and die from starvation as their parents return only to the vicinity of the nest site. Humans may also inadvertently crush burrows when they enter nesting areas.
- It is required that actions within WMAs, in around active nests and ground nesting birds are restricted during nesting season. Environmental Protection and Compliance Division (ECPD) Natural Resource Managers will review the proposed action and make a determination based on the provided details. If actions during nesting season are emergency in nature or mission essential, a biological monitor will be required to be onsite for the entire duration of the action or as required by ECPD Natural Resource Managers.
- **Controlling invasive species (plants, animals, and insects).** Yellow crazy ant (*Anoplolepis gracilipes*) control is performed just before nesting season. Yellow crazy ants can cause adults to abandon nests and chicks, resulting in increased mortality. On-going mammalian predator control of cats, rats, and mongoose is performed around the burrow area with live and kill traps, with efforts intensified during nesting season. MaxForce bait had been used to control the Yellow crazy ant; however, it is not labeled for use in natural environments or WMAs. Instead, Amdro Home Perimeter Granular Ant Bait will be tested to determine its effectiveness. It will be applied in close proximity to the wedge burrow; it will NOT be broadcast spread.
- **Wildlife friendly lighting.** All exterior lights for new construction, replacement of existing fixtures, and renovations shall meet or exceed light requirements developed in consultation with U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA), which incorporate International Dark-Sky Association (IDA) standards and research focused on identifying wildlife-friendly lighting. Natural Resources staff work with base planners to incorporate wildlife-friendly lighting standards into all projects, which will address seabird fallout concerns. Appendix E defines the requirements for wildlife-friendly lighting.
- **Monitoring to help direct management activities.** Natural Resources staff, supported by volunteers, conduct an annual census of occupied shearwater burrows. Monitoring involves

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identifying potential issues (e.g., yellow crazy ant and predation). Each year, the USFWS is offered an opportunity to participate in the burrow count.

- **Education and outreach.** Development and distribution of informational material, including videos, fact sheets, and briefings for military personnel and civilians on base, including outreach with volunteers. Information is disseminated via social media and distribution of fliers regarding "shearwater fallout season" and the proper protocols for reporting downed and disoriented birds to MAG-24 squadrons. A box with marked with Environmental and the natural resources staff phone number are provided to the Squadrons and Provost Marshal's Office. Since the early 2000s, records have been kept on numbers of reported fallen shearwaters transferred to appropriate authorities for rest/release.



FEDERALLY PROTECTED WEDGE-TAILED SHEARWATER
SEABIRDS NEED YOUR HELP!

Nov/Dec is "annual shearwater fallout" season on base and around the islands. Juvenile Wedge-tailed Shearwaters (seabirds) are learning to fly, often get disoriented by city lights, fly inland instead of toward the sea, fall to ground and get injured or become vulnerable to predators, road kill, etc.

WHAT TO DO IF SHEARWATER IS FOUND
 Contact Military Police at 257-2123

-working hours: seabird will be picked up
-after hours: response may be delayed until next day, seabird may need to be secured (see below)

How and When to Handle Shearwaters

If the seabird is in a safe location, and will be picked up soon, then leave it there. However, if after hours and/or seabird is in harm's way (e.g. road kill, predation), seabird should be secured in a cardboard box. When handling (see picture), cup the bird "firmly without squeezing". Keep wings close to body. Birds have strong muscles, but fragile bones. Gloves are desirable; although their bite is not hard, their fish-catching beak is very sharp. A towel or t-shirt may be used to cover seabird prior to handling. Keep the box in a quiet location until picked up.



Wedge-tailed Shearwaters nest in burrows near the ocean.



Juvenile shearwaters may still have down on their head. Handle them "firmly without squeezing".

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REFERENCES

- American Ornithologists Union. 2016. The A.O.U. Check-list of North American Birds.
- DLNR. 2015. *Hawaii's State Wildlife Action Plan*
- Hawaii Audubon Society. 2005. *Hawaii's Birds*. 6th Edition.
- Hebshi, A. 2004. *Assessment of threats to Wedge-tailed Shearwaters on breeding colonies around O'ahu 2003-2004*.
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- Tanino, L.T. and M.J. Rauzon. 1994. *Shearwater Colony Discovered on Mokapu Peninsula- MCBH*. In Hawaii DLNR Hawaii's Forests and Wildlife Newsletter, Fall, Vol. IX, No. 3, pg 9.
- For more information:** MCBH Integrated Natural Resources Management Plan. 2022. Sections 6, 7.1, and 7.4,
- USFWS. 2021. U.S. Fish & Wildlife Service Bird Nests What you need to know.

PHOTOS

1. Forest and Kim Starr.
2. Shearwater in burrow at MCBH Kaneohe Bay. Dr. Diane