Finding Honua at Ka‘ena Point: Refugia on the Main Hawaiian Islands serve as sea level rise adaptation tools

Photo: Anukriti Hittle

O‘ahu’s western most extent, Ka‘ena Point Natural Area Reserve has a dream-like quality about it—sapphire blue waves wash the rocky shores, native plants cover the white coralline beaches, and the calls of seabirds float over the air. The seabirds, such as Laysan albatross and Wedge-tailed shearwater, nest in the vegetation while not foraging at sea. To maintain this important habitat, managers at the Department of Land and Natural Resources (DLNR) restored the area, fenced it from mammal predators, and are working to rid it of invasive plants.

Fortunately, sea level rise (SLR) is not projected to impact Ka‘ena Point severely, making it an important refuge for future climate change adaptation as many refugia on low-lying atoll islands in the Northwestern Hawaiian Islands (NWHI) will see the effects of SLR. According to Beth Flint, US Fish and Wildlife Service National Wildlife Refuge Manager, millions of seabirds are at risk from climate change and SLR. Rising seas will directly impact their ability to nest and raise young in coastal habitats, and the warming of the seas will affect their ability to find food. It is imperative to find solutions to such problems now, rather than wait for these events to reach a tipping point. Once a population declines severely, it takes several years to establish new colonies.

Habitats like Ka‘ena Point provide excellent research venues for wildlife biologists to understand colony dynamics, and seek answers to climate change impacts on seabirds. Biologists have worked extensively with Laysan albatross colonies at Ka‘ena Point, and with Wedge-tailed shearwater on islands off the coast of O‘ahu. Colony dynamics are well understood here in Hawai‘i as well as in New Zealand, where new colony establishment has been successful. Using this information, biologists at James Campbell National Wildlife Reserve, on nearby Kahuku Point, are establishing a new colony of Laysan albatross.

Such refugia also serve as excellent education tools. “Most people will never visit the NWHI, but the [Ka‘ena Point] refuge serves to educate people on what the remote portion of the island chain looks like,” said Marigold Zoll, Natural Area Manager at DLNR. Zoll hopes that the public may come to appreciate the beauty and function of the NWHI once they have been in direct contact with a similar habitat, such as Ka‘ena Point. Such education will go a long way in sparking enlightened conversations about the rebuilding of seabird colonies in closer proximity to where people live, as SLR and other climate impacts are seen in the low lying areas of the NWHI.

Sturdy fencing at Ka‘ena Point NAR provides refuge for seabirds from mammalian predators. Photo: Anukriti Hittle

Laysan albatross nest among the native plants at Ka ‘ena Point, something that is only made possible by fencing (above). Photo: Anukriti Hittle

RECOMMENDATIONS FOR STATE SLR PLANNING

1. Acknowledge and incorporate the crucial role of Ka‘ena Point Natural Area Reserve and similar refugia. To this effect, the state should work with the Papahānaumokuākea Marine National Monument’s Climate Change Action Plan

2. Develop coordinated and concerted education plans to help communities understand what effects SLR will have on seabird populations.

3. Prioritize the areas needed for new and expanded refugia in the low lying areas of the MHI. This will be a contentious issue as it involves a shrinking land base, but a forum for these talks will be essential if a solution is to be found for these complicated issues.

Written by Anukriti Hittle, Visiting Scholar, East-West Center, and Instructor, Washington University in St. Louis; based on interviews with Marigold Zoll, Natural Area Manager, DLNR, and Beth Flint, National Wildlife Refuge Manager, USFWS November 13, 2015 and November 20, 2015, respectively. Edited by Ali Andrews, Tetra Tech.