

Kīlauea Point NWR Predator Exclusion fence

Background

Kīlauea Point National Wildlife Refuge is excited to begin construction on a predator exclusion fence around the refuge boundary that will protect the thousands of native birds nesting there from mammalian predators. Construction will begin in early 2022 and expected completion date is September 2023. The fence will be 11,200 feet (3,414 meters) long and encloses 168 acres. All non-native mammalian predators (cats and rats) will be removed from the inside. The fence is tall enough to prevent animals from jumping over, has a curved hood to prevent them from climbing over, mesh that is small enough to prevent even mice from squeezing through, and a skirt that extends underground to prevent them from digging under it. All materials are marine grade stainless steel.

Fence information	
Length	11,200 ft (3414 m)
Area enclosed	168 acres
Project manager	Pacific Rim Conservation
Builder	Pono Pacific LLC
Expected completion date	September 2023
Cost/foot	\$103.91
Total cost	\$1,091,100



Existing predator exclusion fence at KPNWR (Nihokū seabird translocation site)

What is a predator exclusion fence?

A predator exclusion fence is a special type of fence that can keep out all non-native mammalian predators, including cats, dogs, pigs, mongooses, rats, and mice. It is taller than a typical farm fence, has several design features that keep out invasive animals, and is made from more durable materials (more on that below).

Why and where are they used?

Predator exclusion fences are used primarily on islands where mammalian predators have been introduced and are damaging native species. They are used to create predator-free sanctuaries for vulnerable island species. They were developed in New Zealand and have been used in Hawaii since 2011 and more recently in Australia and Mexico.

How do they keep out large animals like dogs, cats, and pigs?

They are tall enough (6-7 feet) that a dog or cat cannot jump over, and have a curved hood on which climbing animals cannot get traction. There are several gates to allow people and vehicles in and out.

How do they keep out the small animals like rats and mice?

The mesh is small enough that even mice cannot squeeze through it, and there is a skirt buried underground that prevents them from digging under it.

How many birds could nest inside this fence?

The KPNWR predator fence encloses 168 acres, more than eight times the size of the seabird nesting area on Tern Island in Papahānaumokuākea Marine National Monument. Tern Island currently supports more than 240,000 nesting pairs of seabirds (i.e. more than a half a million birds). So hundreds of thousands of birds could nest inside. Seabirds only need the fenced area for nesting, they find all their food in the ocean. Nēnē will use the enclosed refuge area year round for both nesting and foraging.

Where will this fence go?

The fence alignment will follow, and replace the existing boundary fence. In areas where the fence is more visible than the older fence (since it is higher), it will be painted to blend in with the surrounding vegetation.



KPNWR Predator Resistant Fence Proposed Line



Legend

KPNWR Fence Line 2015
Current Fence Line
Current Fence Line
Proposed Predator Resistant Fence Line

0 0.1 0.2 0.4 0.6 0.8 Miles

Approximate Length (Linear Ft)

Current Fence Line- 13,300 Ft

Proposed Fence Line- 11,200 Ft



KPNWR Predator Resistant Fence Approximate Gate Locations



Legend

KPNWR Fence Line 2015
Current Fence Line
Current Fence Line
Proposed Fence Line
Vehicle Gates
Pedestrian Gates

0 0.1 0.2 0.4 0.6 0.8 Miles

Approximate Length (Linear Ft)

Proposed Fence Line- 11,200 Ft