False Killer Whales: Sentinels of Ocean Health

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Recovery grants help fill in the missing pieces for Hawaii's false killer whales.

'alse killer whale. Credit: Robin Baird/Cascadia Research.

f you have never heard of false killer whales, you are not alone. Outside of the ɔopulation in Hawaii, little is known about this rare member of the dolphin family. False :iller whales do not look like killer whales and are not closely related, but they are both op predators and share similar life histories. Preferring warmer waters, false killer whales ɔan be found in tropical and warm temperate oceans worldwide.

But there is a special group, an insular group, of false killer whales ranging around the main Hawaiian Islands. Genetically different from their long-ranging brethren in the open ocean, Hawaiian insular false killer whales are the only ones known to restrict

themselves to an island group—sticking to shallower waters and even passing on cultural knowledge to younger generations, just as their *kanaka maoli* counterparts do on land.

However, the number of main Hawaiian Islands false killer whales has fallen to roughly 150 individuals, and in 2012 this distinct population segment was listed under the Endangered Species Act as part of NOAA Fisheries' mission to conserve protected species and healthy ecosystems.

False killer whale and mahi mahi jumping. Credit: Lynn Padilla/Cascadia Research.

Species Recovery Grants Fill in the Gaps

The first step in figuring out how to save an endangered species is determining the threats to its survival. According to research, at least 20 percent of main Hawaiian Islands false killer whales showed signs of injuries from fishing gear. The most common injury: cuts on the mouth—and sometimes dorsal fin—that were likely caused by struggling against fishing lines.

NOAA Fisheries has provided federal funding to the state of Hawaii through a Species Recovery Grant since 2015 to support research, assist with strandings, and provide education and outreach on false killer whales. This particular grant has prompted large-scale collaboration and coordination with numerous groups, including the Hawaii Department of Land and Natural Resources, who received the grant; Cascadia Research Collective, a non-profit research organization that has been working with false killer whales since 2000; the Hawaii Institute of Marine Biology at the University of Hawai'i at Manoa, that necropsies tranded whales; and NOAA Fisheries.

'The work performed under this grant will increase our knowledge of the endangered nsular false killer whale, including its spatial and temporal overlap with state fisheries, and this research will fill other data gaps that are necessary to support management and recovery," said Ann Garrett, assistant regional administrator for the protected esources division at the NOAA Fisheries Pacific Islands Regional Office. "Collaboration with partners, like the State of Hawaii, is important to help understand the threats to endangered species and enhance their chances of recovery."

Strandings on the Rise

There have been three strandings of the insular population in the past year and a half, all found in the same location on the island of Hawaii. According to Kristi West, affiliate faculty at the Hawaii Institute of Marine Biology at the University of Hawaii at Manoa and resident stranding expert in the islands, these events are uncommon compared to the usual rate of one stranding every 3 years.

False killer whale breaking the surface of the water. Credit: Annie Gorgone/Cascadia Research.

While it is too soon to speculate whether there is any pattern to the recent strandings, the knowledge gained from these events is important to establish baselines for false killer whale research. Far from shore and underwater most of the time, it is difficult to get any type of comprehensive idea of how false killer whales live their lives. Those that die in the ocean are eaten by scavengers or swept away by currents, and satellite tags tracking their movements usually only last a few weeks to a few months.

"Understanding mortality is vital to recovery efforts," said West. "We have to understand why they die to mitigate threats. We're not only digging into why they're dying, but also getting foundational information about how false killer whales live."

Through a combination of photo identification and genetic analyses, researchers have determined that there are three different clusters—similar to killer whale pods—in the main Hawaiian Islands population. The clusters show signs of varying interaction and injury from fishing gear. However, more information is needed on where the whale clusters stay year-round.

New Research to ID Hotspots

This March, there will be another research effort off of Maui and Lana'i, islands where satellite tagging of false killer whales has never been attempted. Once some of the whales are tagged, the Hawaii Department of Land and Natural Resources and Cascadia Research will be able to use the new

False killer whale. Credit: Randy Wells/Cascadia Research.

tracking information and pair it with state fisheries data to pinpoint the most likely spots for interaction with fisheries.

Grant-related outreach and education efforts should lead to more documentation and reporting from the public to add to first-hand research data. Enhanced resources for strandings will allow a swift response to any stranded animals. Taken together, scientists will have better access to more current information on Hawaiian false killer whales than ever before.

"False killer whales and other cetaceans are sentinels of ocean health," said West. "They're high in the food chain and depend on our ocean to live. Learning about them and the challenges they face gives us important insight into our oceans and marine environment."

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