

{ Natural History }

PacMam's Purposeful Porpoise Research

By Arlene Cook, Photos by Cindy Elliser

When we Fidalgo Islanders think of local marine wildlife, orcas usually leap first to mind, but Dr. Cindy Elliser wants us to know there are other, less iconic marine mammals that are part of the Salish Sea ecosystem. Cindy is a marine biologist who runs the Anacortes-based non-profit Pacific Mammal Research (PacMam), and has a particular passion for harbor porpoises. These are small, shy, somewhat solitary animals that Cindy has been observing and photographing, along with harbor seals, since 2014. She says that while many of us live near or on the water, most of us are hardly aware that the porpoises are there.

What's the difference between porpoises and dolphins? Cindy explained to me that, taxonomically, though both are Cetaceans, they belong to different families—porpoises are Phocoenidae, dolphins (including orcas) are Delphinidae. The most obvious differences are in body size and shape: porpoises have blunt faces, where dolphins have beaks; porpoise dorsal fins are small and triangular, those on dolphins are curved (falcate). Porpoises also exhibit different behaviors from dolphins: the latter are bolder, more socially gregarious animals, while porpoises are the “introverts” of the marine mammal world. Cindy says that harbor porpoises (*Phocoena phocoena*) are most often sighted in groups of three individuals or less. They also prefer to steer clear of boats, and they don't show off before human observers in the flashy way that orcas and other dolphins do.

As a species, harbor porpoises are not in any immediate ecological danger, but as Cindy observes, their position with the orcas at the top of the local marine food chain makes them an indicator of overall



Calves are usually sighted first in early fall, often following close behind an adult.



Harbor porpoises don't often ride bows or wakes ride, but occasionally they do. This porpoise is in the wake of a passing boat.

ecosystem health. As their common name suggests, they inhabit waters close to shore, where human influences tend to be greater than in open ocean areas, so changes in localized harbor porpoise populations may be an indicator of site-specific onshore pollution or related problems.

Cindy considers, in any case, that harbor porpoises have been overlooked from a scientific point of view, as well as by the rest of us. In part, this is because of their very lack of endangerment, but they are also a difficult species to study. As Cindy observes, “they're not only shy, but small—a bit more than five feet long, on average—and maybe 150 pounds in weight, and they're quick!”

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Cindy and Katrina on the job.

Cindy is a woman with a purpose, however, and her work with PacMam is dedicated to getting to know harbor porpoises better as a species, and as individuals. Several times a week, for several hours at a time, she and her research assistant, Katrina MacIver, watch the waters of Burrows Pass from an overlook in Washington Park, documenting porpoise and seal sightings. This is an old-fashioned approach to scientific research that requires both time and patience, although Cindy also employs the modern technique of digital photography to aid in the identification of individuals. Since beginning her study, she has learned that, as with orcas, many porpoises have unique distinguishing marks—scars or lesions, variable pigmentation along their sides, and some differences in their dorsal fins. This has allowed Cindy and Katrina to build up a database of some fifty-five recognizable individuals that visit Burrows Pass. All have been assigned names, though Cindy says this is not to anthropomorphize them, but because names are easier to remember than numbers. About a third of the animals are repeat visitors, and as Cindy and Katrina collect more observations they hope to correlate sightings with other environmental factors (tides, winds, other species, etc.). Cindy told me, a bit ruefully, that porpoise sightings are least common in summer, when conditions for observing them are more pleasant.

In founding PacMam and undertaking this work, Cindy's aim is to increase scientific understanding of the lives and habits of harbor porpoises and harbor seals within the Salish Sea, with a view to protecting and conserving the animals and their environment. Cindy also believes in sharing this knowledge with students and the general public. A self-described "educator at heart," she runs STEM workshops in local schools, gives frequent presentations to community groups, as well as at scientific conferences, and she teaches classes at Skagit Valley College.

As a nonprofit research organization, PacMam is funded by a mixture of grants and corporate and private donations. For further information, or to view a video about Cindy and her PacMam work, visit <http://pacmam.org>. Cindy welcomes reports of porpoise sightings: email pictures and sighting notes (date, time, location; how many animals; behaviors?) to cindy.ellis@pacmam.org



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