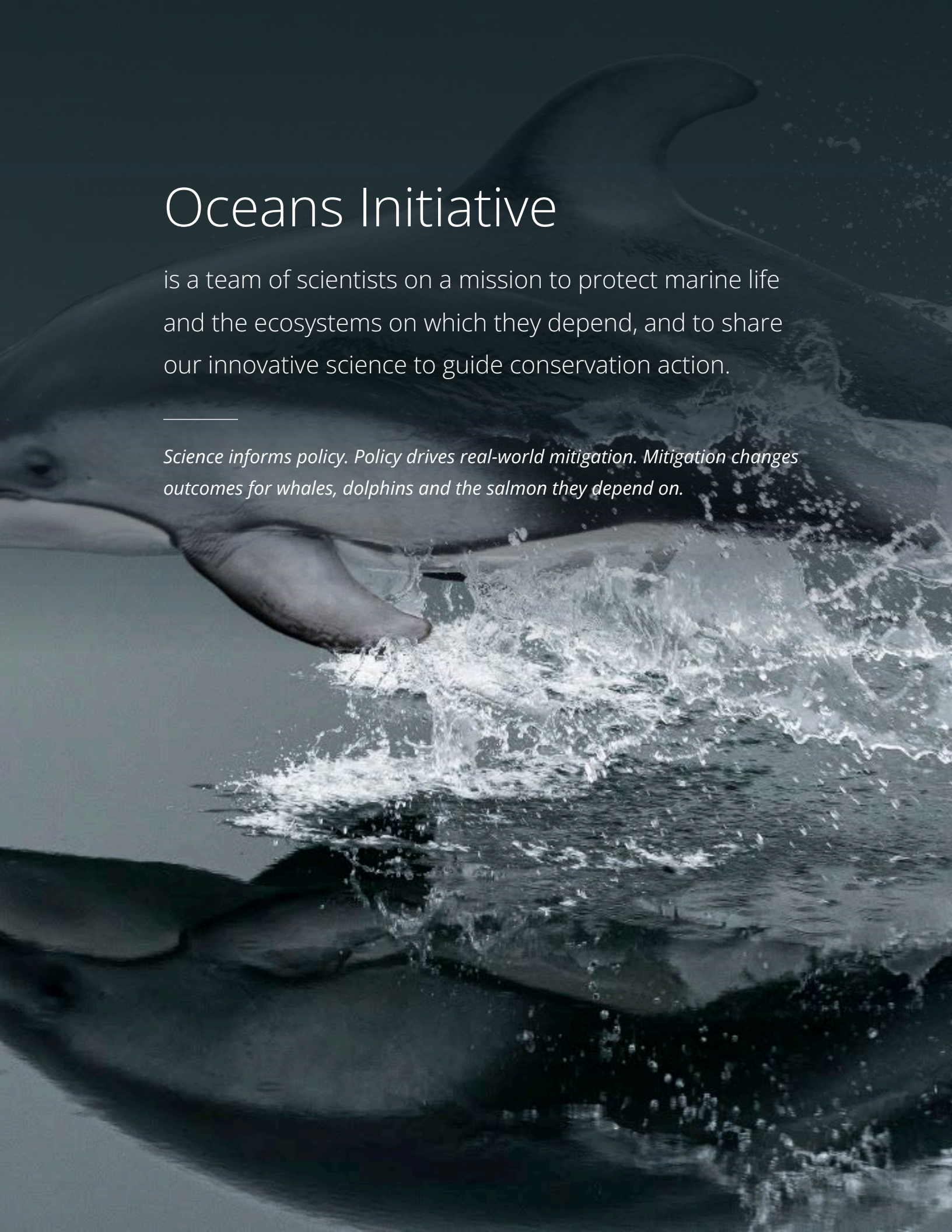
OCEANSINITIATIVE

Impact Report 2025





Oceans Initiative

is a team of scientists on a mission to protect marine life and the ecosystems on which they depend, and to share our innovative science to guide conservation action.

Science informs policy. Policy drives real-world mitigation. Mitigation changes outcomes for whales, dolphins and the salmon they depend on.

Dear Friends,

Oceans Initiative was built on a simple idea: careful science, shared with the people who make decisions, can change outcomes for whales, dolphins and the ecosystems they depend on. This report shows that idea at work.

Southern resident killer whales are still in trouble. Our population analysis showed that they are not holding steady but slowly declining, and that the decline is likely to accelerate without action. That finding shapes everything we do.

This year we expanded into four areas where a nimble team can make an outsized difference: **noninvasive ways to spot early signs of poor health** in individual orcas; **technology that protects salmon from seals and sea lions without culling them**; **artificial intelligence** that makes counting wildlife faster and less costly; and a **One Health** approach that treats the health of whales, dolphins, fish and people as connected.

Throughout, we balance three kinds of work: time on the water collecting data, time at the computer turning data into answers, and time in the rooms where decisions are made. Our science is cost-effective by design and partnered by default, with Tribes, First Nations, agencies, veterinarians and universities on both sides of the Canada–U.S. border. Colleagues have noticed, with two awards in 2024 for our conservation science and our salmon work.

None of this happens alone. Our research team brings rigor and heart to long days on the water and longer days at the computer. Our board of directors gives its time and wisdom to keep us on course. A network of consultants, professional volunteers and scientific partners extends our reach far beyond our size. And our supporters, from foundations to individual donors to the families who adopt a dolphin, make every field season possible.

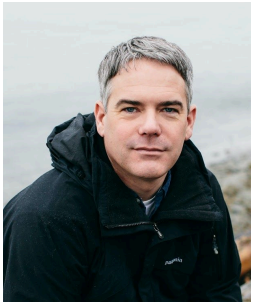
To all of you: thank you for keeping us on the water, at the keyboard and at the table.

With oceans of gratitude,



Erin Ashe

Dr. Erin Ashe
Co-founder, Executive Director and Senior Scientist



Rob Williams

Dr. Rob Williams
Co-founder and Chief Scientist

Where we are growing

Our core work on endangered southern resident killer whales continues. Around it, we are expanding into four frontiers where small, smart investments can change outcomes.

1 Early warning for orca health

Noninvasive measures, such as breathing rate and swimming speed, that flag a sick whale before it is too late to help.

2 Saving salmon without culling seals or sea lions

Conservation technology that keeps predators away from dams, bridges and fish ladders so more Chinook reach their spawning grounds.

3 AI for wildlife conservation

Machine learning that matches photographs of individual animals faster and at lower cost, without sacrificing the accuracy that conservation decisions depend on.

4 One Health

Disease surveillance in wild dolphins and killer whales, because the health of marine mammals, the ecosystem and people are linked.

HOW WE WORK

Cost-effective. Small boats, shore stations and existing data.

Transboundary. Science that crosses the border, as the animals do.

Partnered. Tribes, First Nations, agencies and universities.

Science to policy. Fieldwork, analysis and advocacy, in balance.



FRONTIER 1 · KILLER WHALE CONSERVATION

Early warning for orca health

By the time a wild orca looks thin, it is often too late to help. We are learning to spot trouble earlier, from shore, without touching the whale.

Every whale counts

In 2024, working with experts in killer whale biology, contaminants, genetics and veterinary medicine, we published a population analysis in *Communications Earth & Environment*. It showed that southern residents are not holding steady. They are slowly declining, there are too few reproductive-age females to turn things around, and the decline is likely to speed up.

In a population this small, preventing or delaying a single death matters. Our veterinary colleagues think more than a quarter of recent deaths might have been preventable with earlier detection.

Health checks from shore

Since 2003 we have tracked orcas from land with a surveyor's theodolite, recording how often they breathe and how fast they swim. In the *Journal of Wildlife Diseases*, we showed that these respiratory intervals and swimming speeds can serve as remotely sensed health metrics.

Like labored breathing in a person, a change in a whale's rhythm may be an early clue. We did this with partners at the SeaDoc Society and wildlife veterinarians, so a flagged whale can get a closer look while help is still possible.

Looking under the surface

Health is also about what we can't see. With colleagues at the University of Washington, Oceans Initiative graduate fellow Natalie Mastick found widespread parasite infections in living resident killer whales. That kind of baseline helps veterinarians know what "normal" looks like.

> "If we can prevent or delay even one death every few years, we can turn decline into recovery."
>
> — Dr. Rob Williams, Chief Scientist

Williams et al. 2024, *Communications Earth & Environment* 5:173 · Williams et al., *Journal of Wildlife Diseases* · Mastick et al. 2024, bioRxiv preprint

FRONTIER 2 · SALMON RECOVERY

Saving salmon without culling seals or sea lions

Southern residents need Chinook salmon. Where people have built bottlenecks such as dams, bridges and fish ladders, seals and sea lions have learned to wait for them. We are testing a humane fix.

Seal and sea lion populations have recovered since the U.S. Marine Mammal Protection Act of 1972. That is a conservation success, but it creates conflict where predators gather at pinch points. Some call for culls. Others call for removing dams or rebuilding bridges, which will take years.

In the meantime, we partner with the University of St Andrews and GenusWave to test the Targeted Acoustic Startle Technology (TAST). It plays a sound that startles seals but sits above the hearing range of fish. Seals keep a little more distance, and more salmon slip through.

We have tested TAST at the 5th Avenue Dam in Olympia with the Washington Department of Fish and Wildlife and the Squaxin Island Tribe, and at the Hood Canal Bridge with the Port Gamble S'Klallam Tribe and Long Live the Kings. We have also begun testing a signal designed for California sea lions.



The results hold up. At the Olympia dam in 2023, we estimate 508 adult Chinook were spared from seal predation, about a day's food for the whole southern resident population. A 2024 study in *Scientific Reports*, with colleagues at Western Washington University and the University of St Andrews, followed individual harbor seals and found the device reduced their foraging success.

RECOGNIZED IN 2024

The Washington-British Columbia Chapter of the American Fisheries Society honored Oceans Initiative for significant contributions to protecting Pacific Northwest salmon runs using innovative methods with TAST.

WHAT'S NEXT

Testing whether TAST protects juvenile salmon as well as adults, and scaling up our sea lion work, so the fish that make it upstream today feed orcas in four to five years.

McKeegan et al. 2024, *Scientific Reports* · Supported in part by the National Fish and Wildlife Foundation

FRONTIER 3 · DOLPHIN ECOLOGY

AI for wildlife conservation

Pacific white-sided dolphins are fascinating and charismatic, and among the hardest species to fund. Their population status has not been assessed since 1990. Artificial intelligence could help us count them faster and at lower cost, if we get the math right.



Without a legal listing, it is extremely difficult to find funding to study this species. Our symbolic dolphin adoption program fuels our dolphin fieldwork.

Dr. Erin Ashe has studied these dolphins since 2008. Her photo-identification catalog of more than 1,000 individuals incorporates photos taken by colleagues starting in 1990. It is the longest-running study that monitors this species as living individuals.

The bottleneck is matching photographs: deciding whether we are looking at two photographs of the same individual, or two separate individuals.

80% If AI photo-matching algorithms work reliably, we can cut the time and cost of matching photos by 80%.

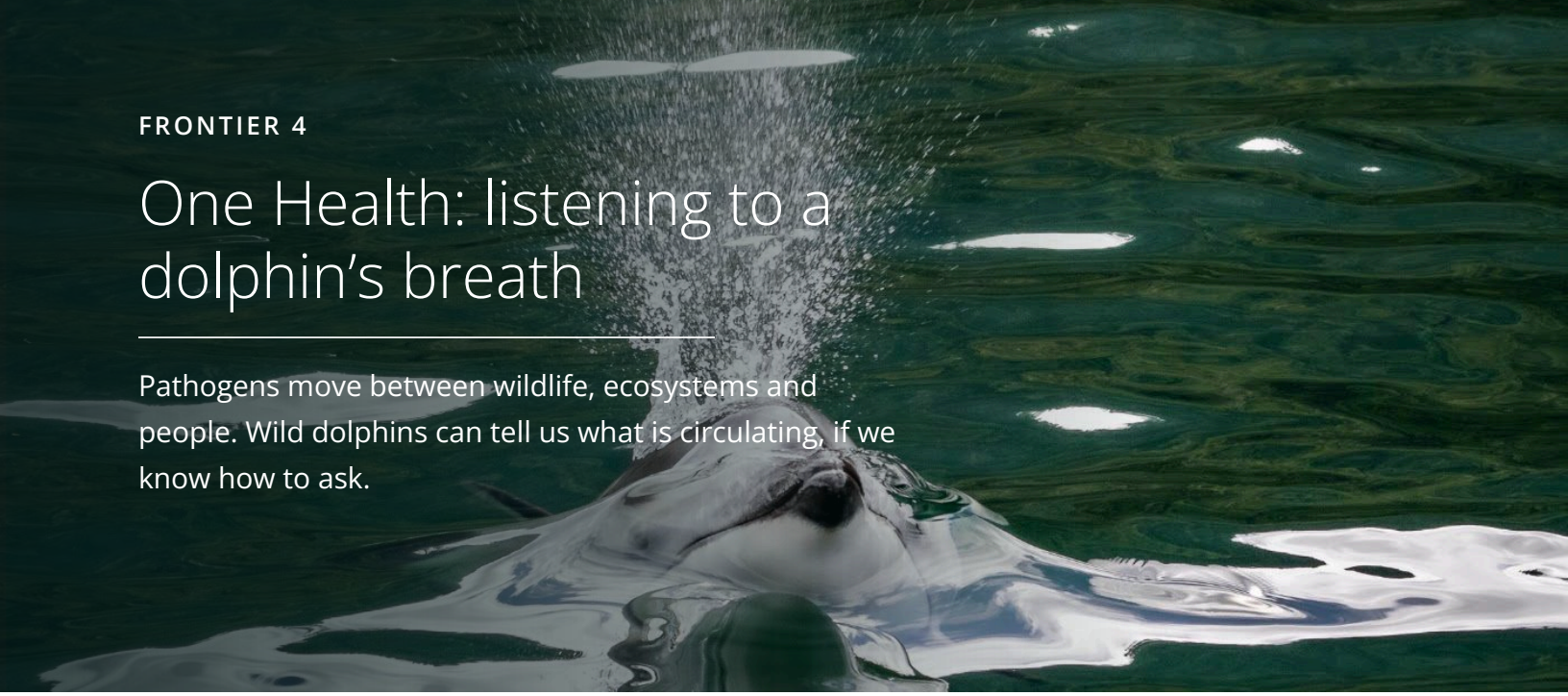
Getting the math right

Erin's research in *Mammalian Biology* showed that a missed match is not a small error. If two photos of the same dolphin are logged as two animals, we overestimate how many dolphins there are and underestimate how long they live.

In 2023, Erin joined an international team showing that a deep learning approach can identify individuals with high performance across two dozen whale and dolphin species. In 2025, the same team published guidance in *Conservation Biology* on when to trust fully automated matching and when a person should check the algorithm's suggestions. Across 39 photo-ID datasets from 24 whale and dolphin species, a 2% rise in missed matches led to roughly a 5% bias in abundance estimates.

Bias and precision in our abundance estimates will decide whether we can tell if this population is healthy or in trouble.

Patton et al. 2025, *Conservation Biology* 39(4):e14436 · Patton et al. 2023, *Methods in Ecology and Evolution* 14(10):2611–2625 · Ashe & Hammond 2022, *Mammalian Biology* 102(3):781–792



FRONTIER 4

One Health: listening to a dolphin's breath

Pathogens move between wildlife, ecosystems and people. Wild dolphins can tell us what is circulating, if we know how to ask.

In October 2025, we published a new study in *BioScience* arguing that disease surveillance should include wild dolphins and killer whales. It is a One Health approach: the health of animals, ecosystems and people are connected.

This is extremely delicate work. In BC's Broughton Archipelago, our team held petri dishes on a long pole over the blowholes of Pacific white-sided dolphins to catch their exhaled breath. From 48 samples collected over 10 years, we cultured 59 distinct bacterial isolates and found resistance to multiple antibiotics.



Collecting dolphin breath samples.

Why dolphins, and why here

These dolphins travel widely and sometimes associate with northern resident killer whales. Several kinds of bacteria we found in their breath have also been found in breath samples from southern resident orcas. That does not prove transmission, but it shows why monitoring matters.

The Broughton has little farming or urban development, but it hosted open-net salmon farms for decades. Most were decommissioned in 2023, giving us a rare chance to see how dolphin microbiomes change.

Common species matter

Funding usually follows species already in trouble, yet abundant species are often the hosts that carry disease. Careful and noninvasive veterinary work is the key to detecting problems before they are irreversible. Crucially, early monitoring allows us to detect diseases before they jump from dolphins to other species, including critically endangered orcas, or humans.

Ashe, Gaydos, Nielsen, Raverty, Yruretagoyena & Williams 2025, "Broadening disease surveillance to include wild dolphins and killer whales: novel components of One Health," *BioScience*

From science to policy, across borders

Whales, dolphins and salmon cross the Canada–U.S. border every day. Our team works on both sides of it, and we shepherd our science all the way into the decisions that protect them.



RECOGNITION

Newman Award for Excellence in Conservation, 2024. The Raincoast Conservation Foundation honored our science on both sides of the border, from southern resident orcas and Pacific white-sided dolphins to ocean noise, deep-sea mining and marine protected areas.

Room to hunt

Washington Department of Fish and Wildlife tasked our team with evaluating its new rule requiring boaters to stay 1,000 yards from southern residents. We found that when boaters give the whales more space, the orcas spend more time hunting.

Right whales

Rob served on NOAA's Northeast U.S. Implementation Team for the North Atlantic right whale recovery plan, helping to save another transboundary whale in trouble by modeling how far ship strikes and fishing gear deaths must fall.

The deep sea

Our 2025 study found that noise from proposed deep-sea mining in the Pacific's Clarion-Clipperton Zone would affect a broad range of marine animals.

SELECTED PUBLICATIONS, 2024–2025

Williams R et al. 2025. Noise from deep-sea mining in the Clarion-Clipperton Zone, Pacific Ocean will impact a broad range of marine taxa. *Marine Pollution Bulletin*.

Linden DW et al. A multistate capture-recapture model to estimate reproduction of North Atlantic right whales. *Endangered Species Research*.

Linden DW et al. 2024. Quantifying uncertainty in anthropogenic causes of injury and mortality for an endangered baleen whale. *Ecosphere*.

Williams R et al. 2024. Warning sign of an accelerating decline in critically endangered killer whales (*Orcinus orca*). *Communications Earth & Environment* 5:173.

Nelson BW et al. 2024. Identifying drivers of demographic rates in an at-risk population of marine mammals using integrated population models. *Ecosphere* 15:e4773.

Kanaji Y et al. 2024. Density dependence only affects increase rates in baleen whale populations at high abundance levels. *Journal of Applied Ecology*.

Full list: oceansinitiative.org

2024–2025 by the numbers

1990 the year our Pacific white-sided dolphin photo catalog begins: the longest-running study of this species as living individuals.

1,000+ individual dolphins in that catalog, each known by the nicks and notches on its fin.

59 bacterial isolates cultured from 48 dolphin breath samples for our One Health study.

508 adult Chinook salmon spared from seal predation at one Olympia dam in a single season.

1,000 yards: the distance Washington boaters must keep from southern residents. We found that with more space, the orcas spend more time hunting.

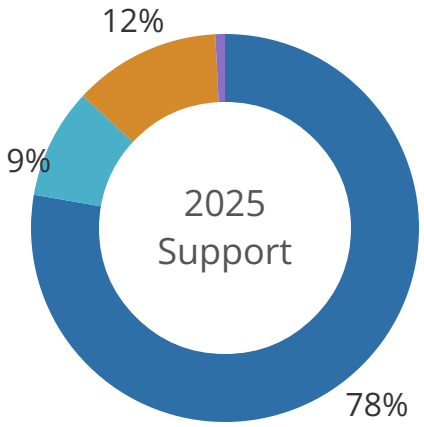
2 awards in 2024, for our salmon work and our conservation science.

88¢ of every dollar we spent in 2025 went directly to research and conservation programs.



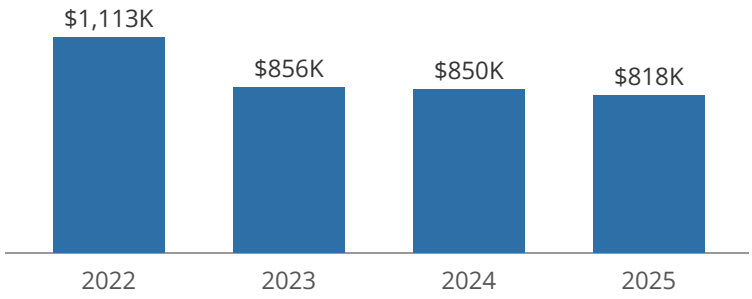
Financials

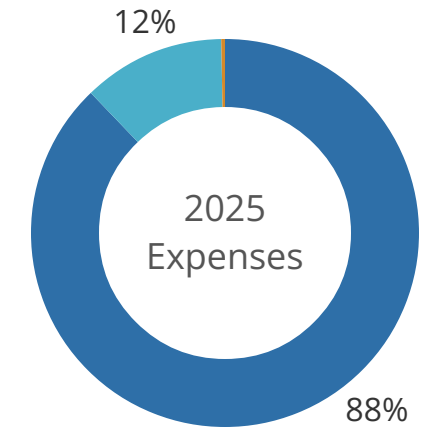
In 2025 Oceans Initiative received $818,000 in support and spent $829,000 on our mission. Eighty-eight cents of every dollar we spent went directly to program services: the research, fieldwork and science that inform ocean conservation decisions.



2025 Support

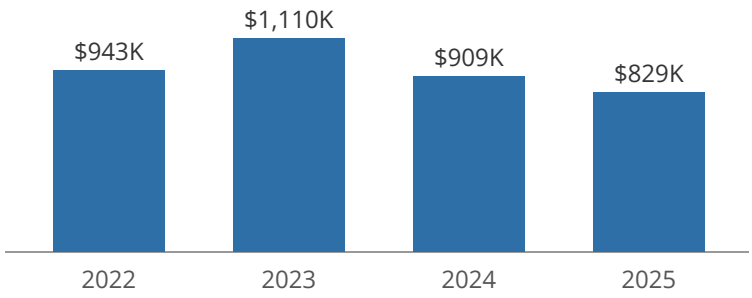
Foundation grants	$635,000
Multi-year grant installment (receivable)	$75,000
Individual contributions	$100,000
Corporate, government and other	$8,000
Total support	**$818,000**





2025 Expenses

Program services	$727,000
Management and general	$98,000
Fundraising	$4,000
Total expenses	**$829,000**



2025 was a challenging year for many research nonprofits. Cuts or delays in federal funds in 2025 required us to scale back programs and spend our operational reserves to balance our budget. We are trying to replenish our contingency funds in 2026.

Our People

We are grateful for the chance to do work that protects marine life and serves the planet. Our dedicated volunteer board and our team make it possible, and we thank them for their many contributions.

Board of Directors

Gae Weber, MSW
President

Duschka Fowler-Dunning, MBA
Treasurer

Melissa Hornbein, MSc, JD
Secretary

Renee Erickson, BFA
Director

Erin Ashe, PhD
Director

Rob Williams, PhD
Director

Oceans Initiative Team

Erin Ashe, PhD
Co-founder, Executive Director and Senior Scientist

Rob Williams, PhD
Co-founder and Chief Scientist

Katie Holt, PhD
Postdoctoral Researcher in Quantitative Ecology

Kimberly Nielsen, MRes
Research Associate

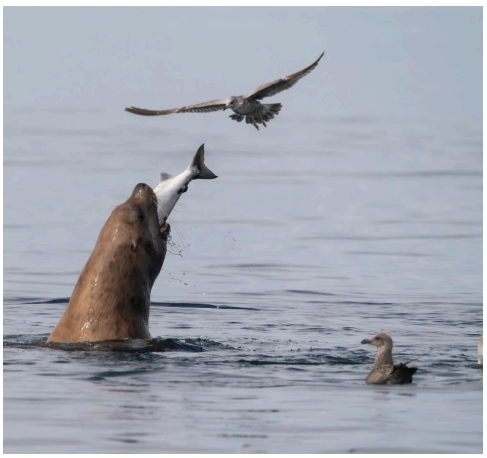
Nora Cate, BSc
Research Assistant

Karen Sinclair
Volunteer nonprofit consultant

We also rely on a network of consultants and professional volunteers who extend our capacity on the water, at the computer and behind the scenes.







Get Involved

Please spread the word about our work, and know that your support makes all the difference.

Oceans Initiative is a transboundary team: a Seattle-based 501(c)(3) nonprofit and a Canadian registered charity, Oceans Research and Conservation Association, dba Oceans Initiative. We rely on your donations to keep whale and dolphin habitats clean, quiet and full of life.

Adopt a dolphin. Our symbolic dolphin adoption program fuels our Pacific white-sided dolphin fieldwork, and makes a meaningful gift.

Donate online at **oceansinitiative.org**

Canadian residents may give through **canadahelps.org**

EIN: 90-1015993
CRA Reg #: 808781330RR0001

Oceans Initiative
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Seattle, WA 98103

A partial list of our partners, and a big thank you to all of our supporters

TRIBES

Lummi Nation
Nooksack Indian Tribe
Port Gamble S'Klallam Tribe
Squaxin Island Tribe
Tulalip Tribes

AGENCIES

Washington Department of Fish and Wildlife
Puget Sound Partnership
NOAA Fisheries
Fisheries and Oceans Canada
National Fish and Wildlife Foundation

SCIENCE PARTNERS

SeaDoc Society
University of St Andrews
GenusWave
University of Washington
Western Washington University
Long Live the Kings

3417 Evanston Ave N #416
Seattle, WA 98103

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Photo credits: Erin Ashe, Lindsay Borden, Jenny Jimenez, Ryan Tidman and Rob Williams

All photos of marine mammals were taken under the following research permits: NMFS Permit No. 26623 (US waters) and MML-12 (Canadian waters).

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