Sea Grant ALASKA

2022–2023 Annual Report

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WHO WE ARE

Alaska Sea Grant, one of 34 Sea Grant programs nationwide, is a statewide program headquartered at the University of Alaska Fairbanks.

Sea Grant has been serving Alaska for over 50 years. Our work supports healthy coastal resources, strong economies, and vibrant communities. We do this through research, education, and outreach via Alaska Sea Grant staff and Marine Advisory Program agents who live and work in communities across Alaska.



Photographers. Front cover courtesy of Sandy Roe/Photos at 1020 (Kodiak Island). P 4 all photos by Alaska Sea Grant faculty or staff. P 5 (top) Sunny Rice/Alaska Sea Grant (Petersburg), (middle) courtesty of Chris Maio (Dillingham), (bottom) Alaska Sea Grant (Bethel), (thumbnails) Alaska Sea Grant faculty. P 6 courtesy of Sandy Roe/Photos at 1020 (Kodiak). P 7 Ginny Eckert/Alaska Sea Grant (Metlakatla). P 8 Joe Spencer/Alaska Department of Fish and Game (Anaktuvuk River). P 9 Photo courtesy of Harmony Wayner. P 10 courtesy of Arron Jones (Kodiak). P 11 Brenda Konar/University of Alaska Fairbanks (Kachemak Bay). P 12 courtesy of Jim Moore (Southeast Alaska). P 13 Karen Grosskreutz/Alaska Sea Grant State Fellow (Swinomish Reservation, near LaConner, Washington). P 14 Photo courtesy of Roy J. Atchak (Chevak). P 15 Sean Kelly/Alaska Sea Grant. P 16 Gay Sheffield/Alaska Sea Grant (Nome). P 17 Davin Holen/Alaska Sea Grant. P 18 Leigh Lubin/Alaska Sea Grant (Seward). P 19 Caleb Taylor/Alaska Sea Grant. P 20 (left) courtesy of Joi Gross, (middle) Dawn Montano/Alaska Sea Grant, (right) courtesy of Alice Qannik Glenn. P 21 Chris Sannito/Alaska Sea Grant. P 22 all photos courtesy of the fellow. P 23 (left) courtesy of Kimberly Kloeckner, (middle) courtesy of Dana Bloch, (right) courtesy of Amanda Kelley/University of Alaska Fairbanks (Jakolof Bay). P 24 all photos by Alaska Sea Grant. P 25 Dawn Montano/Alaska Sea Grant. P 26 stock graphic. Back cover Leigh Lubin/Alaska Sea Grant (Valdez).

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LETTER FROM THE DIRECTOR

When reflecting on the past year for Alaska Sea Grant, it could be described as a year of growing—growing seaweed and oysters to improve food security for Alaska, growing partnerships and connections, growing the number of workshops and environmental literacy programs, and growing the Alaska Sea Grant team in order to better serve coastal Alaskans through science.



Our impact and reach are broad. A few examples include Alaska Sea Grant's workforce development programming and resources reached 1,226 people

this year through resources for teachers, technical training courses, lunch and learn programs, field-based summer camps, and more. Alaska Sea Grant supported 46 university students this year through research traineeships, our State Fellowship program, and the Community Engaged Internship program. Our Alaska Mariculture Research and Training Center offered customized training and expertise to support new seaweed and shellfish farmers and provide new tools to current ones.

We responded to important emerging issues this year, and here are a few highlights. We co-organized a workshop to increase awareness and train participants on how to sample and identify a new invasive species in Alaska, green crabs (*Carcinus maenas*). Following a harmful algal bloom event in northwestern Alaska in 2022, Alaska Sea Grant and partners worked together to both understand the impacts of the event and proactively communicate with communities in the region about the risks to subsistence food safety associated with harmful algal blooms.

We hope the following collection of stories and highlights will provide our readers—our supporters, our partners, our friends—with an overview of the work of Alaska Sea Grant. We look forward to continuing all of these efforts and more in 2024.

Best wishes,

Dung L. El

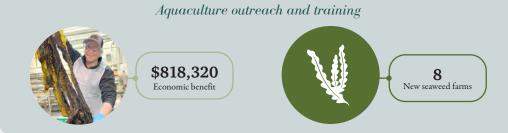
Ginny L. Eckert, PhD Alaska Sea Grant Director

WE SUPPORT ALASKA AND ALASKANS

In 2022, Alaska Sea Grant had an **\$8.6 million impact in Alaska.**



Not all economic impacts can be monetized.





Our mission is to enhance the sustainable use and conservation of Alaska's marine and freshwater resources through research, outreach and education.

Alaska Sea Grant provides workforce development for Alaska's diverse needs

We offer a broad range of opportunities and experiences, from small engine repair and smoked seafood training, to graduate fellowships.

Alaska Sea Grant convenes and facilitates critical conversations

We host dozens of workshops and conferences every year to support collaborative approaches to important issues.

Alaska Sea Grant answers relevant questions through research

We fund independent research projects through competitive research grants.

Alaska Sea Grant provides year-round placebased support to coastal communities

Our Marine Advisory Program agents and specialists in Nome, Petersburg, Dillingham, Valdez, Kodiak, Juneau and Anchorage respond to the needs of Alaskans.













HEALTHY COASTAL ECOSYSTEMS



EARLY DETECTION OF INVASIVE CRABS

A new crab species was recently spotted in Alaska for the first time, and it has the potential to disrupt native species and ecosystems. It was first identified in Alaska at Annette Island in July 2022, when biologists working with the Metlakatla Indian Community monitoring for invasive species found a carapace on the beach at Tamgas Harbor, located near the community of Metlakatla. These invasive crabs have distinctive carapace characteristics unlike crabs native to Alaska; five spines on either side of the eyes and three bumps between the eyes. Since the initial detection of European green crab (*Carcinus maenas*), local groups, supporting agencies, and Tribes quickly began response efforts, including an early-detection training workshop for partners and nearby community members to learn how to detect and sample these invaders. Responding to the need for increased European green crab monitoring in southern Southeast Alaska, Alaska Sea Grant joined with the Metlakatla Indian Community, NOAA, Alaska Department of Fish and Game, Southeast Alaska Tribal Ocean Research, and the Organized Village of Kasaan to host a two-day workshop in April 2023 for regional residents and agency employees that spend time on beaches where European green crab may be expanding. Alaska Sea Grant and our partners continue work on this issue, raising awareness and planning additional training opportunities.



INVOLVING LOCAL COMMUNITIES IN SHAPING ARCTIC RESEARCH

Alaska Sea Grant funded a team of researchers to explore the patterns, processes and consequences of increasing Pacific salmon in the high north. The aim was to harness the best available Western and Indigenous knowledge to better understand what increasing prevalence of Pacific salmon in the Arctic may mean for salmon, other native fishes, and the people of the region. The team employed a coproduction approach, with Arctic residents playing an integral role in shaping the direction and focus of the project through conversations and a workshop. The resulting field work confirmed reports that pink salmon are spawning in the Arctic, further north than traditionally observed. The team also found chum salmon in the rivers on Alaska's North Slope that lead to the Arctic Ocean. UAF lead researcher Peter Westley said these observations align with the hypothesis that salmon are being pushed north as their traditional habitat changes. While southern populations are declining due to climate change, the Arctic may become the new salmon frontier.

ADDRESSING MARINE DEBRIS IN ALASKA

Alaska Sea Grant, in collaboration with the Ocean Plastics Recovery Project, launched the Center for Marine Debris based in Kodiak this year. With funding from NOAA's Marine Debris Program, the Center will support targeted removal operations and work to serve the emergent needs of local communities across the state, including debris collection, monitoring, analysis, transport and disposal.

Additionally, an Alaska Sea Grant State Fellow worked with the NOAA Marine Debris Program to <u>develop and implement the first</u> <u>Alaska marine debris action plan</u>. The plan provides for a community-driven process to build a framework for marine debris prevention and management specific to the state. The plan will highlight the complexity of debris mitigation and guide future funding priorities. The fellowship involved leading outreach efforts and facilitating listening sessions to ensure that the marine debris strategy and plan reflect Alaska's diverse partners and stakeholders.

As part of National Sea Grant's marine debris funding initiatives, Alaska Sea Grant and PKS Consulting received funding to develop a mobile recycling system to convert plastic waste and debris into recycled plastic lumber. This project aims to create local projects, reduce landfill usage, increase jobs in Alaska, and decrease environmental harm from plastics.





SUSTAINABLE FISHERIES AND AQUACULTURE



RESEARCH ON SEA OTTERS TO HELP THE MARICULTURE INDUSTRY

With funding from Alaska Sea Grant, UAF researcher Brenda Konar and graduate student Emily Reynolds are studying sea otters in Kachemak Bay, an area that combines a booming sea otter population with the highest density of oyster farms in the state. The pair are working with oyster farmers to conduct field surveys comparing sea otter activity and foraging behavior in farmed and unfarmed areas. Results from two monitoring seasons suggest that sea otters behave similarly within and outside of farms—sea otters had similar foraging success, consumed similar food items, and spent the majority of their time resting. "Alaska has vast potential for mariculture development," said Konar, "but the sustained use of these waters requires an understanding of the relationship between the farms and their environment. This project will help farmers, agencies, and the public better understand how sea otters interact with oyster farms."



COLLABORATION BETWEEN FISHERMEN AND SCIENTISTS

Two projects led by the Alaska Trollers Association (ATA) and facilitated by Alaska Sea Grant are working to address information needs of managers, biologists, and oceanographers to understand the marine habitat and distribution of salmon and other fish in Southeast Alaska.

The first project is funded by Alaska Sea Grant and the Alaska Ocean Observing System and directed by UAF researcher Tyler Hennon. Scientists are providing fishermen with instruments to measure the temperature and salinity of the water. Fishermen collect samples yearround at set stations near the fishing grounds and along frequently used transit routes to provide valuable data of environmental conditions.

The second is a pilot project funded by the National Fish and Wildlife Foundation to resurrect and modernize a

logbook program that was active from 1976–1991. Fishermen will collect a wide range of physical and biological information on the marine ecosystem. The new logbooks are electronic and can provide managers and researchers real time access to data. Researchers will use these data to address questions ranging from abundance and distribution of king salmon forage fish, to oceanographic conditions in the understudied inside waters of Southeast Alaska.

Fishermen will benefit from both projects with increased understanding of the waters where they fish, improved management of their target species, annual summaries of aggregate data provided by researchers and ATA, and the ability to collect, store and organize their own catch data.



SUPPORTING REGIONAL INDIGENOUS AQUACULTURE

Alaska Sea Grant is participating in the Indigenous Aquaculture Collaborative (IAC), which includes Pacific-region Sea Grant programs, Northwest and Alaskan Tribes, First Nations in Canada, Native Hawaiian organizations, Indigenous communities and practitioners, and other organizations and universities. The network supports place-based biocultural relationships and advances Indigenous aquaculture, with a focus on community engagement, knowledgesharing across cultures and traditions, restoration, and applied research. This summer, Alaska Sea Grant joined IAC partners for the Salish Summit, hosted by the Swinomish Tribe, where participants supported Tribe efforts to build a clam garden and other restoration and aquaculture projects in the Salish Sea. Alaska Sea Grant State Fellow Karen Grosskreutz is working with the IAC to support Indigenous knowledge-holders and culture-bearers to connect with members of other tribes. Grosskreutz convened an IAC panel to discuss securing safe, local shellfish harvest, and facilitated Alaska participation at a gathering in Washington of Sea Grant programs, tribes, and Indigenous leaders across the Pacific. Grosskreutz is also working with IAC to raise awareness about sea gardens—areas cultivated for enhanced production of clams and other seafood—as well as other traditional harvest technologies in Alaska.

RESILIENT COMMUNITIES AND ECONOMIES



ADDRESSING CLIMATE-INDUCED HUMAN MIGRATION

Alaska Sea Grant hosted the workshop <u>People on the</u> <u>Move in a Changing Climate</u> in Anchorage, bringing together experts and stakeholders to discuss research needs, socioeconomic consequences, and building resilience and adaptation related to climate-induced human mobility in U.S. coastal and Great Lakes regions.

Organized by a Sea Grant-led research coordination network, this April event was the last in a series of five regional workshops held across the country over two years, and focused on Alaska, the Pacific Northwest, and the greater international Pacific Region. The event leveraged Sea Grant's trusted relationships with local communities to facilitate collaboration among researchers, practitioners, resource managers and coastal community members in order to improve our understanding of how climate change influences migration away from the coast, and areas where people might migrate to.

Participants came from as far as Moloka'i, Hawai'i, and Montegut, Louisiana, and others attended online from even more distant regions, such as the Northern Mariana Islands. Attendees included Alaska researchers, community planners, tribal representatives, university students, and others, including a large contingent from Western Alaska. Tribal Council members from the Native Village of Hooper Bay and members from the nearby Native Village of Paimiut attended the workshop. Having coped recently with <u>the impacts of Typhoon Merbok</u> in 2022, Western Alaska community residents and leaders were interested in sharing their experience and learning from others to improve resilience. **■**



SCIENCE OUTREACH IN THE BERING STRAIT REGION

This year, the "Strait Science" lecture series had its 100th recorded presentation added to the <u>Alaska Sea</u> <u>Grant channel on YouTube</u>. Strait Science is a longrunning public science seminar series covering topics of interest and issues relevant to the Bering Strait region of Alaska, ranging from climate change to a US Navy mission that resulted in a community rescue effort. There have been <u>more than 200 Strait Science</u> <u>talks</u> since the program began in 2012, with recorded presentations shared since 2019.

The Bering Strait is a fifty-two-mile-wide maritime corridor between Chukotka in Russia, and Alaska. The U.S. portion of the transboundary region stretches over 23,000 square miles, and is home to about 10,000 Alaskans—including 20 Alaska Native tribes—in 16 communities.

Strait Science is a partnership between Alaska Sea Grant and the UAF Northwest Campus (NWC). Gay Sheffield, Alaska Sea Grant Marine Advisory Program Agent based in Nome, along with NWC staff, created the series to foster connections between residents and researchers. According to Sheffield, Strait Science addresses a need for communication between researchers who conduct fieldwork in the Bering Strait region and the residents who depend on healthy ecosystems and wildlife resources for nutritional, cultural, and economic well-being.



INTERDISCIPLINARY APPROACH TO COASTAL RESILIENCE

A team from Alaska Sea Grant, UAF Geophysical Institute, UAA Economics Department, along with filmmaker Brian Peterson, is working with students and the community in Chevak, located in Alaska's Yukon-Kuskokwim Delta region, to address issues around coastal change, food security and migration in this region.

Chevak has relocated three times over the past 100 years. During Typhoon Merbok in 2022, storm surges surrounded the community on three sides. The rising water scattered boats, nets, and other subsistencerelated equipment across the tundra.

The interdisciplinary team prioritized community involvement. Project leaders met with the Chevak Traditional Council and shared a presentation about the project. The project team worked with the Council to map the current coastline and understand coastline changes and the impact of the typhoon. They also led 150 school students through several days of science lessons related to coastal change. The project's filmmaker is documenting their experiences and also taught local students about filmmaking. The team is also working to ensure that the research benefits the community and the Council's initiatives involving food security. During one visit, the team cooked dinner for over 300 community members.

The <u>POLARIS project</u> is part of the NSF Navigating the New Arctic Initiative which includes researchers from the Pennsylvania State University and Michigan Technical University.

ENVIRONMENTAL LITERACY AND WORKFORCE DEVELOPMENT





MEETING DEMAND FOR SKILLED SEAFOOD TECHNICIANS

Alaska Sea Grant is supporting an effort by iWorkWise and the Alaska Research Consortium to address the lack of in-state training opportunities for refrigeration technician jobs to support the fisheries industry and its refrigeration needs. The new Professional Ammonia Refrigeration Operator Education for seafood processors program (ProAROE) offers Alaska's seafood industry employees refrigeration training, while saving money for seafood processors by offering the training in state. ProAROE is a three-level program that teaches skills and competencies specific to Alaska's seafood ammonia refrigeration systems. Commercial ammonia refrigeration systems require regular inspection, maintenance and operation, with ammonia refrigeration engineers and technicians working to keep systems functioning throughout the harvest and processing season. These jobs require specialized technical training, and without such opportunities in Alaska to meet industry needs, seafood companies have sent workers out of state for training and certification. Much of Alaska's commercially caught seafood—5.3 billion pounds in 2021—is exported to more than 100 countries, with most of that product frozen after initial local processing. Every step of the way, fish and crab must be kept cold or frozen to prevent spoilage and ensure freshness. Upon successful completion of both the online and in-person ProAROE training, trainees receive a certificate of acquired skills and competencies.



Joi Gross Alaska Environment Southcentral Alaska Avery Herrman-Sakamoto Alaska Sea Grant Petersburg, Alaska Alice Qannik Glenn Marine Mammal Commission Anchorage, Alaska

STUDENTS ADDRESS ISSUES IN THEIR COMMUNITIES

The Community Engaged Internship (CEI) program for undergraduate students continues to grow, with Alaska Sea Grant providing opportunities to three students this year. Central to the program is that each student's experience includes a research question with relevance and connection to local community needs. Joi Gross, an environmental science undergraduate student at the University of Alaska Southeast, worked with Alaska Environment to sample waterways across Southcentral Alaska for microplastics. CEI intern Avery Herrman-Sakamoto worked with Alaska Sea Grant on a summer science camp for middle school students, which included designing and leading a lesson on the subject of historic Lingít (Tlingit) fish traps in the Séet Ká Kwáan (Petersburg, Alaska) area. Alice Qannik Glenn, originally from Utqiaġvik, Alaska, worked with the Indigenous Peoples Council for Marine Mammals to create media productions as part of their communications strategy, through a partnership between Alaska Sea Grant and the Marine Mammal Commission.



ALASKA SEAFOOD SCHOOL TRAINING

Alaska Sea Grant continues to provide specialized technical training in seafood processing through our Alaska Seafood School, including a class on safe processing and packaging. The Better Process Control School course was developed by Alaska Sea Grant to satisfy U.S. Food and Drug Administration training requirements. It provides safety information important for home canners, quality assurance technicians, and personnel in plants who pack and process both low acid foods and acidified foods in sealed containers.

The course gives an overview of equipment requirements, container closure and evaluation, and record-keeping for glass jars and cans. The threeday course was taught by Chris Sannito, seafood technology specialist with Alaska Sea Grant, and Dr. Scott Whiteside, a professor with the Department of Food, Nutrition, and Packaging Sciences at Clemson University. Both instructors are registered food process authorities for validating equipment process and product safety.

Alaska Seafood School offers a variety of workshops and classes for food businesses, seafood processing employees and all Alaskans interested in smoking or canning seafood.

ALASKA SEA GRANT STATE FELLOWSHIP PROGRAM

Class of 2023



Jake Cohen Alaska Sea Grant



James Currie NOAA Fisheries Alaska Region Aquaculture Program



Lia Domke NOAA Fisheries Habitat Conservation Division



Kelly Drummond Alaska Fisheries Development Foundation



Michelle Dutro NOAA Fisheries Protected Resources Division



Sean Kelly Alaska Sea Grant



Jenna Kennedy Alaska Mariculture Alliance



Angela Korabik NOAA Fisheries



Maddie McArthur Alaska Center for Energy and Power



Taylor McCoy Alaska Sea Grant



Katherine Pietrucha US Fish and Wildlife Service Marine Mammals



Drew Porter NOAA Alaska Fisheries Science Center



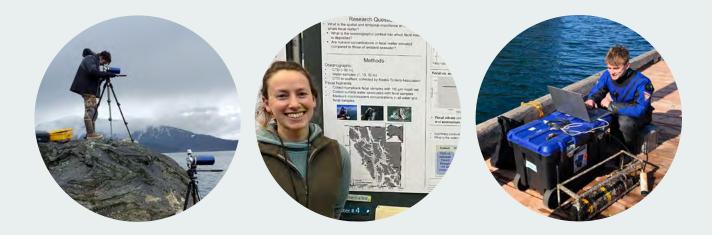
Biz Wallace Alaska Sea Grant Clean Harbors Program



Spencer Weinstein Alaska Sea Grant Tribal Capacity for Climate Change Adaptation







ALASKA SEA GRANT RESEARCH TRAINEES

Dana Bloch MS oceanography Southeast Alaska trolling vessel ocean measurement program

Kristopher Carroll MS interdisciplinary geospatial data science Climate-driven Arctic coastline modeling: improving erosion forecasts for communities

James Currie MS marine biology Geographic variation of nearshore carbonate chemistry in the Gulf of Alaska

Muriel Dittrich MS marine biology Development of cultivation protocols for the red seaweed, dulse, to support traditional food systems in Southeast Alaska

Amy Hendricks PhD atmospheric sciences Supporting coastal community resilience in Alaska: an evaluation of the Sea Ice for Walrus Outlook (SIWO)

Erika King MS fisheries Reassessing hatchery mating policy in Alaska: is non-selective mating unnatural? Elizabeth Mik'aq Lindley PhD fisheries Pink Arctic: patterns, processes, and consequences of increasing Pacific salmon in the high north

Drew Porter MS marine biology Copper toxicity to Bristol Bay sockeye salmon larvae under field-relevant water quality conditions

Emily Reynolds MS marine biology The relationship between oyster farms and their environment, a sea otter's perspective

Chris Sergeant PhD fisheries Assessing the resilience of Southeast Alaskan salmon to a shifting freshwater environment

Zach Stamplis MS fisheries A transformative approach to rapidly assess critical life history and energetic responses of fish to environmental change

Brian Ulaski PhD marine biology The importance of seaweed wrack as habitat and resource

ALASKA SEA GRANT FACULTY AND STAFF



Ginny Eckert Director, Juneau



Tav Ammu Marine Advisory Agent, Dillingham



Kate Barber Science Writer and Public Information Officer, Anchorage



Molly Cain Associate Director for Research, Fairbanks



Brooke Carney Deputy Director, Anchorage



Gabe Dunham MAP Leader and Fisheries Specialist, Juneau



Trinda Huffman Administrative Assistant, Anchorage



Julie Parshall Program Administrator, Fairbanks

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Ashley Dunker Program and Event Coordinator, Kodiak



Arron Jones Mariculture Technician, Kodiak



Dave Partee Technology and Communications, Fairbanks



Quentin Fong Seafood Marketing Specialist, Kodiak



Leigh Lubin Marine Education Specialist, Valdez



Sunny Rice Marine Advisory Agent, Petersburg



Melissa Good Mariculture Specialist, Kodiak Seafood and Marine Science Center coordinator, Kodiak



Julie Matweyou Marine Advisory Agent, Kodiak



Chris Sannito Seafood Technology Specialist, Kodiak



Davin Holen Coastal Community Resilience Specialist, Anchorage



Dawn Montano Communications Project Lead and Bookstore Manager, Fairbanks



Gay Sheffield Marine Advisory Agent, Nome





ADVISORY COMMITTEE

Chair: Michael Kohan, Science and Policy Director, Sitka Salmon Shares Vice-chair: Dee Williams, Deputy Regional Director, US Geological Survey

Barb Amarok, Director University of Alaska Fairbanks Northwest Campus

Jodie Anderson, Director UAF Institute of Agriculture, Natural Resources and Extension

Kaja Brix, Arctic Program Director NOAA Fisheries Alaska Region

Diana Evans, Deputy Director North Pacific Fishery Management Council

Nicole Kimball, Vice President Pacific Seafood Processors Association

Jon Kurland, Alaska Regional Administrator NOAA National Marine Fisheries Service

Scott Lindsey, Regional Director NOAA National Weather Service

Angela Lunda, Assistant Professor of Education University of Alaska Southeast Vera Metcalf, Director Eskimo Walrus Commission at Kawerak, Inc.

Hazel Nelson, Board of Directors Bristol Bay Native Corporation

Kris Norosz, Petersburg

Aaron Poe, Network Program Officer Alaska Conservation Foundation

Dave Reggiani, Aquaculture Expert Prince William Sound Aquaculture Corporation

Chris Siddon, Marine Fisheries Scientist Alaska Department of Fish and Game

Sheyna Wisdom, Executive Director Alaska Ocean Observing System



FURTHERING THE GOAL OF EQUITY AND INCLUSION

Alaska Sea Grant continued to develop its thinking, learning, and programming this year to implement diversity, equity, inclusion, justice, and accessibility (DEIJA) across the organization. Progress was made through informal assessments, formal training, and considerations of how to expand and adjust programming to serve all coastal Alaskans. Alaska Sea Grant identified and worked towards several specific goals in 2023, including:

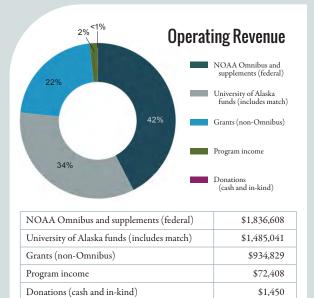
- Revising our 2024–2027 Strategic Plan to increase DEIJA throughout all focus areas.
- Adding DEIJA to our core values: Proactively engage with the range of identities, cultures, communities and capacities present throughout our areas of work, with respect and sensitivity to each person's experiences, history and systemic challenges.

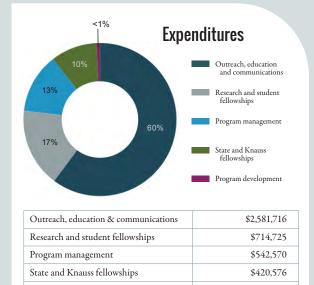
- Supporting the Community Engaged Internship for undergraduate students. This internship provides opportunity for undergraduate students from rural communities in Alaska, Alaska Native students, and students from other underrepresented populations.
- Consideration of how criteria used to evaluate applications to the Alaska Sea Grant State Fellowship program serve a diverse and inclusive pool of applicants.
- Continuing to conduct extension and education activities in rural coastal communities in Alaska and committing to increase diverse partnerships in our activities.

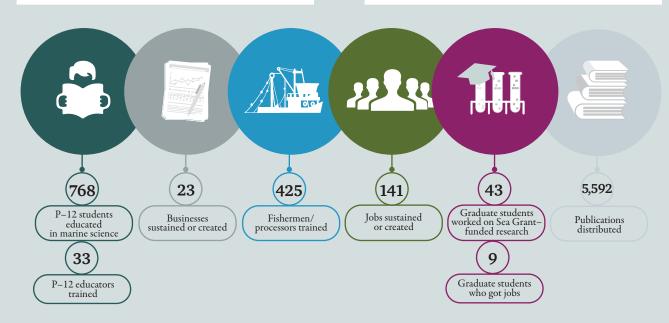
This work will be ongoing.

ALASKA SEA GRANT BY THE NUMBERS

Program development







\$30,024

NEW AND NOTABLE EFFORTS

Alaska Sea Grant is working with partners to develop a robust mariculture workforce development program. This effort is supported in part through the Alaska Mariculture Cluster project with funding from the Economic Development Administration.

A \$1.5M award from the NOAA Monitoring and Event Response for Harmful Algal Blooms program is supporting research led by Alaska Sea Grant in collaboration with the Kodiak Area Native Association, SeaTox Research Inc., and the National Centers for Coastal Ocean Science HAB Forecasting Branch. The work builds on past research by project team members and partners in the region.

AK On-Board is a new project led by Alaska Sea Grant with support from the National Sea Grant Office. The Young Fishermen Training and Apprenticeship Program draws upon program strengths from each project partner, including the Alaska Longline Fishermen's Association and the Alaska Marine Conservation Council, to assist with crew training, apprenticeships, and network building, helping new crewmembers be successful on the water.

Sea Grant

ALASKA

NOAA

A new project supported by the Department of Energy and led by Alaska Sea Grant will assess the necessary workforce qualifications for maintaining renewable energy systems and available technical training programs in remote coastal villages, and create informational materials with partners for communities to understand the various renewable energy options that can meet the challenges of Alaska's diverse environment.

The Alaska Waters educational hub for Alaska teachers has a new name and a new look. Originally developed by Alaska teachers in the 1980s, the new Alaska Waters website is easier to navigate and new resources have been added to the P-12 curriculum.