



C A L I F O R N I A  
**OCEAN  
SCIENCE  
TRUST**

# 2022 Annual Report

Created by the California Legislature in 2000, Ocean Science Trust bridges the gap between cutting-edge science and sound ocean management

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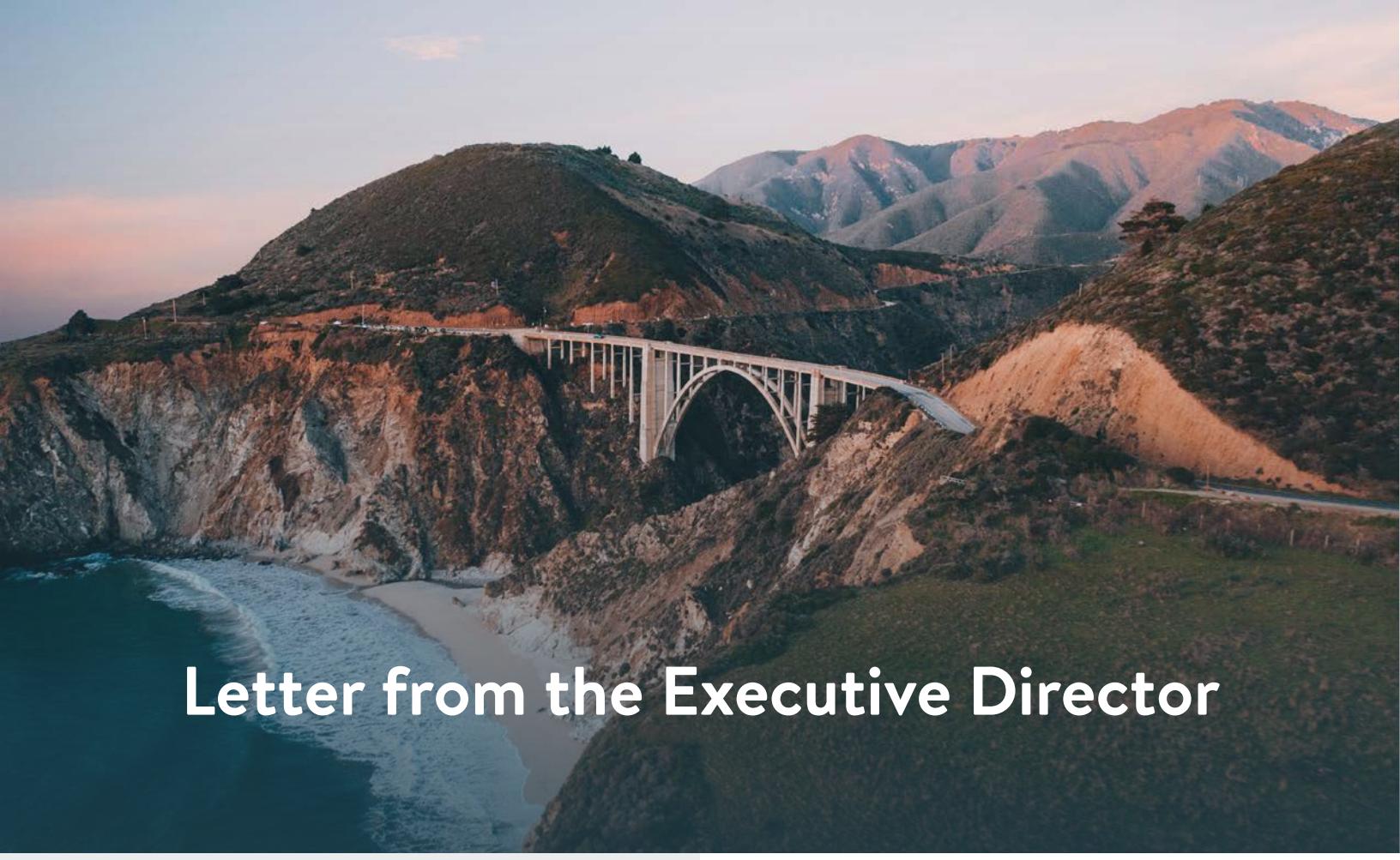
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# Letter from the Executive Director

2022 was one of the most important years in our organization's history. In recognizing the value of independent science and the wealth of scientific expertise in the state's public and private universities, Ocean Science Trust (OST) was created in 2000 by legislation: the California Ocean Resources Stewardship Act (CORS), with the visionary goal of bridging the gap between cutting-edge scientific research and sound ocean management.

In October 2022 we celebrated the passage of AB 2287, which updated our founding legislation, and reaffirmed the essential role of independent science in spurring action on critical coastal and ocean issues. We thank the Honorable California State Assemblymember Mark Stone for his long-standing commitment to protecting California's coastal communities and ocean resources. Co-author Senator John Laird provided leadership in securing a parallel investment that secures, in perpetuity, the core role of our organization on behalf of the state's ocean and coast.

The staff and Board of Trustees at OST are

honored and humbled by the state's support and commitment to our organization. While we operate as an independent science nonprofit, our relationships with California's executive and legislative government branches are critical to our success. We are committed to continuing to deliver on the promise of CORS and we look forward to the new opportunities that AB 2287 brings.

During 2022 we continued to build upon our legacy of providing the best-available science to California's policymakers to ensure informed, effective ocean management. From developing science-based strategies to address the impacts of climate change to supporting diverse, equitable graduate education to delivering the latest science on pressing issues to the state legislature, our team continues to play a crucial role in accelerating progress towards climate resilient coastal communities and ocean ecosystems.

Warm Regards,

Dr. Liz Whiteman, Executive Director

# A Focus on Coastal Resilience



## Advancing Social Equity in Nature-based Coastal Adaptation

Nature-based management approaches are increasingly being recognized as climate adaptation options that offer co-benefits beyond the original goal of shoreline protection in response to rising seas and other shoreline hazards. The growing interest in California for these climate adaptation options presents an opportunity to invest in approaches that produce positive environmental outcomes and simultaneously advance social equity for frontline communities and Native American Tribes, which continue to be disproportionately impacted by climate change.

OST convened a panel of scientific experts with diverse disciplinary expertise including qualitative and quantitative social science, social equity, Native American Studies, marine policy, and coastal habitat restoration. We simultaneously engaged Tribal and community leaders along the California coast to collaboratively develop investment and policy recommendations and identify knowledge gaps. We shared the results of our work in a virtual briefing for the California Legislature titled "Advancing Social Equity and Nature-based Coastal Adaptation," which convened a panel of experts to discuss the project's findings. Read more in the [summary report](#), which identifies nine evidence-based policy recommendations and seven research needs for improving social equity in coastal management, funding decisions, and research related to nature-based coastal adaptation.

## Internship Spotlight:

Emilia Atrim-Caldari

California State University, San Marcos



For years I envisioned a career for myself influencing policy. While I was unsure as to what this career might look like or even how to pursue such a path, I knew I was passionate about environmental sustainability, the social sciences, and matters important to Indigenous communities. It wasn't until I was selected as a CSU COAST summer intern with OST, a nonprofit that delivers scientific guidance to policy makers and legislatures, that I realized such a career existed where I could fulfill my passions. My internship experience with OST has been one of the most influential experiences of my educational journey.

[Read more about Emilia's internship experience](#)

## Accelerating Coastal Resilience via Insurance

The insurance industry, which increasingly views coastal-climate impacts as unchecked risks, can be a tool for mitigating these risks if activated through climate adaptation and mitigation efforts. In partnership with the California Department of Insurance and the newly established Center for Coastal Climate Resilience at the University of California, Santa Cruz, in late 2022 our team [launched an initiative](#) to gather decision makers, coastal and ocean experts, and climate insurance thinkers to collaboratively design demonstration projects that can move from theory to practice at the nexus of nature-based solutions and insurance. We look forward to advancing this work with our partners in 2023 and beyond.



# Supporting State Action on Ocean Climate Solutions



## Using Best Available Science To Value Blue Carbon Habitats

Coastal wetlands can make a meaningful contribution to achieving the state's climate change goals by removing carbon from the atmosphere and building natural resilience. However, state policymakers and regulators don't have easy access to cutting-edge research results or an established pathway for "counting" those wetland contributions. As a result, these habitats are under-valued, and we risk further habitat loss and degradation. In partnership with the California Ocean Protection Council (OPC), we authored a memo to the California Air Resources Board signed by 40 coastal wetland experts, including members of the OPC Science Advisory Team, recommending that California's coastal "blue carbon" habitats be included in the state's Climate Change Scoping Plan. Today, with the updated Scoping Plan in effect, newly articulated research needs are generating momentum and a policy pathway for investments in coastal wetland conservation and restoration.

## **Exploring Seaweed Farming as a Multi-benefit Climate Solution**

We sought to leverage our independent role on the science-policy landscape by exploring pathways for multi-benefit climate solutions, such as ocean-based seaweed farming. In late 2022, OST engaged key staff from state regulatory and permitting agencies through one-on-one interviews, followed by a virtual roundtable discussion, to identify needs and discuss consensus recommendations for advancing sustainable marine aquaculture in California. Our engagement fostered solution-oriented discourse between agency staff and complemented the Ocean Protection Council's forthcoming Aquaculture Action Plan.



## **Sharing Science on Kelp Restoration and Aquaculture**

To illuminate ocean-based policy options for addressing the climate crisis, OST supported Legislative staff in organizing a panel discussion regarding kelp restoration and aquaculture at the 49th Annual Zeke Grader Fisheries Forum hosted by the Joint Committee on Fisheries and Aquaculture in October 2022. The expert panel elevated science pathways to address the kelp loss crisis and examined the benefits of kelp farming including carbon capture, local amelioration of ocean acidification, food security, and supporting livelihoods of coastal communities.



# **Building Capacity for Researching Climate-Smart Fisheries in California**

## **Exploring Flexible Fishing Permits**

To ensure sustainable, viable fisheries, it is critical to study how California's fishing permits, access rules, and other policies can be more responsive and adaptable. To explore new approaches to fisheries management and access, OST partnered with researchers at the University of California, Davis, to explore the potential for flexible fishing permits to meet California's climate and fishing community policy goals, and to be more responsive to unexpected climate-driven changes while maintaining ecosystem stewardship.

## **Internship Spotlight:**

### **Jeffrey Palm**

### **University of California, Davis**



Through my master's program, I partnered with OST to advance a project investigating flexible management solutions for fisheries in response to climate change implications. This included a multitude of tasks, notably summarizing current Pacific groundfish management plans, conducting a literature review on the 2003 Pacific Groundfish Buyback program and Mesoamerican Reef Insurance program, and researching comparable case studies encompassing flexible fisheries management in practice. Through this partnership with OST, I have been able to contribute to a project that may better protect our oceans and prepare communities, and I look forward to continuing this work as I complete my master's degree and pursue a career in marine resource management.

[Read more](#) about Jeff's internship experience

### **Understanding Community Resilience in Response to Ocean Acidification**

We continued to work with partners at UC Santa Cruz, UC Davis, and Oregon State University to examine the impacts of ocean acidification (OA) on ecosystems, people, and coastal economies. Bringing the multidisciplinary team of academics together with natural resource managers, OST supported the experts in exploring adaptation and resilience strategies to respond to the harms associated with OA in regard to shellfish farming. With the research grounded in state policy and management needs, the results can inform decisions that facilitate coastal community response, resilience, and adaptation to OA.



# Legislative Science Services

## Bringing Science to California Lawmakers



Lawmakers are grappling with complicated issues, choices, and challenges facing California's ocean and coast. They need an honest, politically neutral knowledge broker to help them craft proactive solutions based on the best-available science. OST's Legislative Science Services addresses this need, bringing cutting-edge science directly to California's lawmakers, empowering them to make smart, informed policy decisions. In 2022, we continued to build relationships with member offices across the coastal districts, and committee staff in the natural resources, environmental quality, energy and climate sectors, to provide rapid-response science knowledge on questions they are confronting.

Highlights of our work in 2022 include:

- We leveraged our deep network of scientific experts in California to provide technical advice on bill ideas across a variety of topics, including **DDT+ pollution**, blue carbon potential, and the kelp loss crises, directly informing AB 2593, AB 2787, and AB 1279 during the 2021-2022 legislative session.
- We used science to bridge the gap between California's government branches. For example, we partnered with the California Coastal Conservancy on recommending science-based policy action for equity in nature-based coastal adaptation projects. And we supported Legislative staff in bringing state agency perspectives to a Joint Committee hearing on kelp restoration and aquaculture.
- On urgent topics with rapidly advancing scientific understanding, including **equitable coastal adaptation**, we convened expert briefings and created a space for dialogue with scientific experts from academia, Tribes, government agencies, and the private sector.
- Our teams hosted a legislative briefing in partnership with CSU COAST, which convened a panel of experts to discuss the latest science on how the state could address the issue of microplastics impacting ocean health.

# Supporting Diverse, Equitable, and Inclusive Graduate Education

In partnership with the Coastal and Marine Sciences Institute at the University of California, Davis and the Estuary and the Ocean Science Center at San Francisco State University, OST completed a multi-year collaborative initiative for advancing diversity, equity, and inclusion (DEI) in California's ocean sciences community.

We brought together more than 60 participants for a series of roundtable discussions, connecting over 25 California higher education institutions, 18 major scientific organizations, federal and state agencies, and ocean-focused philanthropists. Through this series of interactive discussions, our statewide coalition co-produced a set of strategies and recommendations for creating a more inclusive, welcoming, culturally relevant, and equitable community in the ocean sciences.

Following the discussions, we produced a final proceedings report titled "[Pathways to Advance DEI in California's Coastal and Ocean Sciences](#)," which reflects the collaborative exchanges that took place and outlines shared goals, braided strategies, and actionable recommendations. The report aims to serve as a catalyst for accelerating DEI in the coastal and ocean sciences and, most importantly, to grow the community of leaders engaged in these efforts.

As a result, OST reimagined its own internship and fellowship processes, and in late 2022 dedicated to intentionally incorporating DEI principles and the lessons learned from our roundtable discussions into our organization's [efforts to support graduate-level education](#) and train the next generation of diverse marine science experts.





# Delivering Science Advice to Policymakers

We bring science to bear to accelerate progress towards the state government's vision for a healthy, equitable, and productive ocean and coast. We continued our long-standing role of supporting evidence-informed decisions by the California Ocean Protection Council (OPC) as science advisor and convenor of the OPC Science Advisory Team.

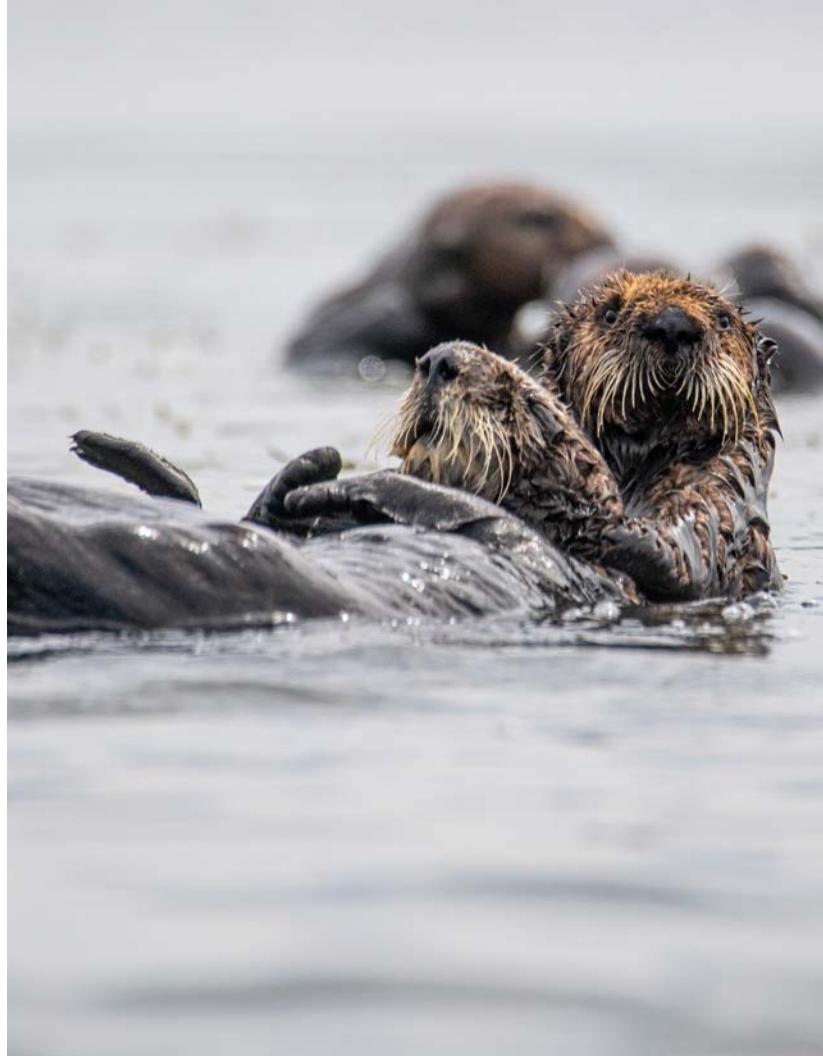
## Providing Scientific Guidance on Sea Level Rise



To keep pace with advancements in sea-level rise science, OPC and OST jointly launched an interdisciplinary and multi-institutional Task Force of scientific experts and policymakers to update California's sea-level rise guidance. In 2022, the Task Force convened with state leaders to better understand the state's needs and priorities, and to create guidance offering options to address sea-level rise.

## **Exploring Sea Otter Reintroduction Data Needs for the U.S. Fish & Wildlife Service**

Our team provided guidance on incorporating social science and human dimensions into the exploration of the potential for sea otter reintroduction on the West Coast. Through the formation of an interdisciplinary panel of experts, and augmented by key stakeholder conversations in partnership with the U.S. Fish & Wildlife Service, we produced a report offering recommendations on data needs for sea otter reintroduction to federal resource managers from a combination of social science researchers, diverse stakeholders, and Native American Tribal communities.



## **Reviewing the Science on Shell Mound Impacts for California State Lands Commission**

In late 2022, we initiated a peer review process to ensure that seafloor shell mounds generated from now-decommissioned oil and gas platforms off the Santa Barbara coast are managed responsibly. The California State Lands Commission has examined the impacts of the shell mounds on the marine ecosystem and determined that the shell mounds should remain in place rather than being removed. OST convened a multidisciplinary four-member review committee representing diverse expertise in oceanography, marine toxicology, ecology, and seismic activity, to determine if the Commission's decision is grounded in sound science.



# Partners

California Council on Science and Technology (CCST)  
California Department of Fish and Wildlife  
California Department of Insurance  
California Fish and Game Commission  
California Ocean Protection Council  
California Sea Grant  
California Sea Urchin Commission  
California State Lands Commission  
Center for Coastal Climate Resilience, UC Santa Cruz  
Coastal and Marine Sciences Institute, UC Davis  
Coastal Science & Policy Program, UC Santa Cruz  
CSU Council on Ocean Affairs, Science, and Technology (COAST)  
Estuary and Ocean Science Center, San Francisco State University  
Greater Farallones Association/Greater Farallones National Marine Sanctuary  
NOAA Ocean Acidification Program  
Oregon State University  
Pacific State Marine Fisheries Commission  
Resilient Cities Catalyst  
San Diego State University  
San Francisco Estuary Institute  
Southern California Coastal Water Research Program (SCCWRP)  
U.S. Army Corps of Engineers  
US Fish & Wildlife Service  
USC Sea Grant

# Funders

The Builder's Initiative  
California Ocean Protection Council  
California State Lands Commission  
Change Happens Foundation  
ClimateWorks Foundation  
Honda Marine Science Foundation  
The Lawrence Foundation  
Lenfest Ocean Program  
NOAA Ocean Acidification Program  
Pacific States Marine Fisheries Commission  
Paul M. Angell Family Foundation  
Pew Charitable Trusts  
Sloan Foundation  
United States Fish & Wildlife Service  
University of California, Davis  
University of California, Santa Cruz  
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David Lawlor  
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Dr. Steven Murray  
Dr. Elizabeth Whiteman  
Lori Zook



## You Can Make an Impact: Ways to Give to Ocean Science Trust

You value science and the important role it plays in crafting smart, effective policy for California's ocean and coast.

But to access and understand cutting-edge marine science, our state's decision-makers need an honest, politically neutral knowledge-broker to guide the way. That's where California Ocean Science Trust makes its impact. Our knowledgeable team works with the scientific community to deliver sound, actionable science to California's executive branch, legislators, and state agencies.

We are the only nonprofit organization in California serving as formal science advisor to the state government on ocean and coastal issues. This unique role allows us to work with experts from across the University of California and California State University systems to bring the best available science to the policymaking table.

We know you share our passion for the state's ocean and coast—it's a big part of what makes California such a special place. From San Diego to Santa Barbara, from Morro Bay to Big Sur, from Monterey to the Golden Gate, from Point Reyes to Mendocino, and from Humboldt Bay to Crescent City, our team covers it all. If you think California's ocean and coast deserve policy informed by world-class science, please make a generous donation to support Ocean Science Trust.

California Ocean Science Trust is a 501(c)(3) nonprofit organization. Our tax identification number is 65-1261006. Your entire donation is tax-deductible as a charitable contribution as allowed by law. Ocean Science Trust has not provided any goods or services to you for contributions received. OST will never rent, sell, or trade your contact information.

To donate by check, please mail to:

California Ocean Science Trust  
1017 L Street, #293  
Sacramento, CA 95814

Give online at [oceansciencetrust.org/donate](http://oceansciencetrust.org/donate)

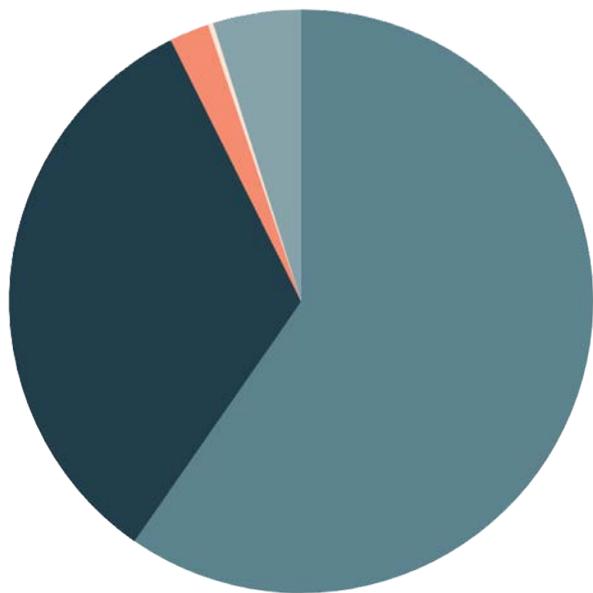
To donate by phone, please contact David Lawlor at 541-207-4784 or [david.lawlor@oceansciencetrust.org](mailto:david.lawlor@oceansciencetrust.org)



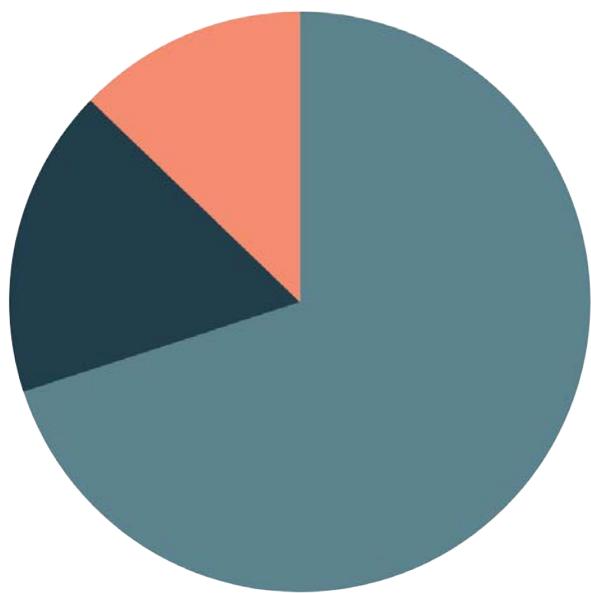
# Financials

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**Revenues**  
**\$711,164**



**Expenses**  
**\$1,168,029**



Program Grants \$434,342

Government Contracts \$234,434

Investment Income \$2,109

Individual Donations \$15,640

Other \$34,639

Fundraising \$149,486

Program Services & Grants \$817,644

General Administration \$200,899

Operating reserve: \$1,210,565

Financials cover the fiscal year October 1, 2021 - September 30, 2022

Financials are audited on a biennial basis; complete audited financial statements will be available upon request.



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