



Sea Grant

CONNECTICUT
ANNUAL REPORT 2024

LETTER FROM THE DIRECTOR

Welcome to another issue of Connecticut Sea Grant's annual report. We offer highlights of Connecticut Sea Grant (CTSG)'s accomplishments over the 2023-24 Sea Grant fiscal year, which includes February 2023 through January 2024. This brief and simplified report documents our efforts at developing partnerships and leveraging resources from within and outside the Sea Grant core budget. It provides a glimpse into the sources and allocation of our funds, and the research, extension and education efforts supported.

Some of our success stories appear as highlights summarizing selected accomplishments and impacts across our areas of investment. These range from continuing to work on developing a strong seafood sector, to helping communities become more resilient to a changing climate, maintaining healthy coastal ecosystems and training tomorrow's scientists, workforce and citizens.

You can find out more about our program via articles in our award-winning *Wrack Lines* magazine or on our website, <https://seagrant.uconn.edu>. We are proud to continue to work with many different groups (including industry, government, non-government and academic partners) towards achieving our mission. Simply stated, we seek to sustain and support **"thriving coastal ecosystems, communities and economies"** by integrating research, outreach and education in partnership with the community as outlined in our Strategic Plan.

I look forward to hearing from anyone who would have feedback to offer on this report specifically, or on the program in general.

Best,
Sylvain De Guise, Director



SUMMARY OF CONNECTICUT SEA GRANT ACHIEVEMENTS:

- CTSG managed **\$1,353,010** in core Sea Grant funding; **\$695,444** in state core match funding; **\$1,802,939** in other competitive Sea Grant competitive funds with \$840,551 in associated competitive funds match, and an additional \$3,966,409 in leveraged funds from federal, state and private sources, for a total of over **\$8.6** million.
 - The Return on Investment ratio for state matching funds is **5.1:1**
 - The Return on Investment ratio for core federal funds is **5.4:1**
- Reached **125** K-12 educators through professional development, which benefited their students
- Leveraged **746** hours of volunteer time towards CTSG-supported activities
- Supported **20** new and continuing undergraduate and graduate students in research, extension, workforce development and education activities.

Leveraged state
\$637,028, 7%

Leveraged federal
\$3,226,112, 37%

**SOURCES
OF CTSG
FUNDS**

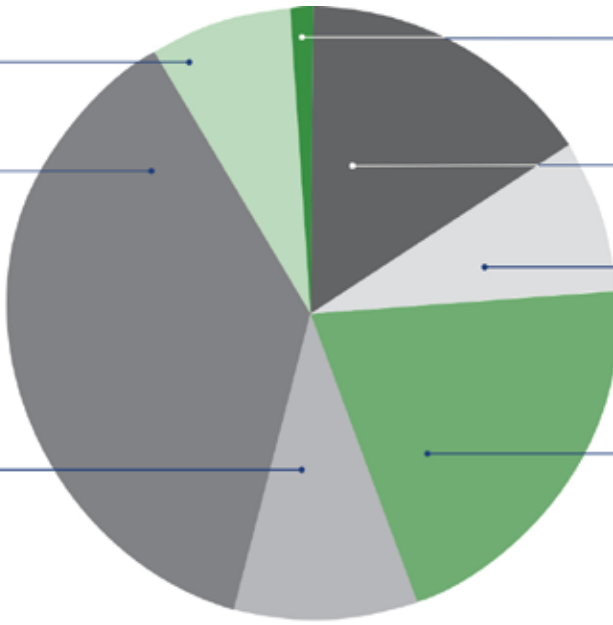
**Competitive
match**
\$840,551, 10%

**Leveraged
private**
\$103,269, 1%

Sea Grant core
\$1,353,010, 16%

Core match
\$695,444, 8%

**Sea Grant
competitive**
\$1,802,939, 21%



**DISTRIBUTION
OF CORE FUNDS**

Research
\$384,763, 29%

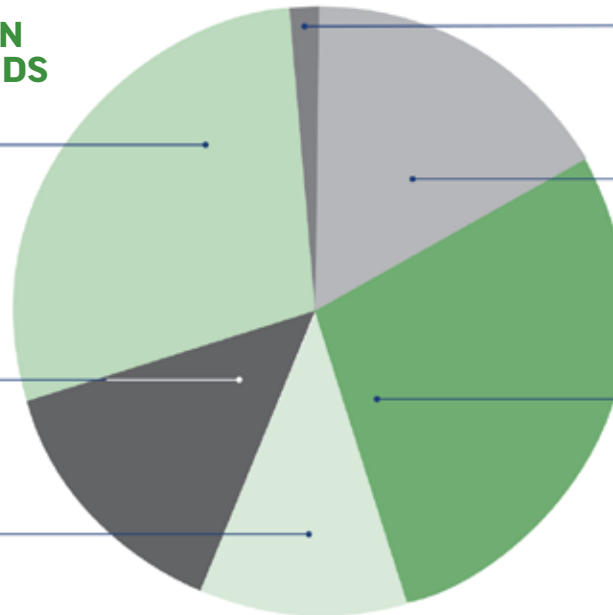
Communications
\$190,133, 14%

Education
\$150,198, 11%

**Program
development**
\$18,082, 1%

Management
\$225,648, 17%

Extension
\$384,186, 28%





2024 HIGHLIGHTS

FISHERIES AND AQUACULTURE

1. Two weeks after taking CPR and First Aid training for fishermen offered for first time by CTSG and partners, fisherman rescues hypothermic boater from overturned vessel, saving his life. He was recognized for his efforts with an award from the U.S. Coast Guard.
2. CTSG partners with state agencies to initiate shell recycling program by hiring shell recycling coordinator, developing GIS-based tools and surveying restaurants to gauge interest.



3. Kelp aquaculture business planning tools created with academic partners to address need for economic, financial and ecosystem services information for seaweed growers. Further support for industry provided by creation of seaweed food safety guide.

4. Shellfish extension educator serves as

liaison between NOAA Fisheries Milford Lab and 10 East Coast Sea Grant programs to build partnerships between researchers and industry.

Mr. Genther's quick actions in an unpredictable and dangerous situation demonstrated courage and a noble commitment to advancing the core Coast Guard mission of safety of life at sea."

— Coast Guard Meritorious Public Service Award to fisherman John Genther

5. Ten portable refrigerators provided through long-term loans enable clam, oyster and kelp farmers to adapt their businesses to include direct marketing at farmers markets.
6. National Seaweed Hub, led by CTSG, brings together industry, regulators and academicians in national conference, webinars, work group meetings, farmers meet-up and resource website.
7. USDA Aquaculture Research Service grant funded purchase and outfitting of a trailer to be used as a mobile lab for solving production-related challenges of emerging kelp aquaculture industry and provide training to farmers and others.





RESILIENT COMMUNITIES

1. Supported by NOAA, CTSG initiated the CT Community Participation & Risk Communication Pilot to build relationships with community organizations and leaders in underserved communities. Pilot tests whether incentives foster engagement on resilience issues.
2. 13 Climate Corps students worked on resilience projects for seven municipalities and two organizations, gaining hands-on experience and enhancing resilience to changing climate.
3. In partnership with EPA, five extension professionals in CT and NY foster sustainability and resilience and assist communities in securing grants for priority projects.
4. City of Norwalk used recommendations from CT Shellfish Restoration Guide, a project led by CTSG, to put together a \$404,000 restoration plan to improve resilience, habitat and public access to a 36-acre park using nature-based approaches.
5. CTSG broadens involvement in emerging offshore wind industry through director's role on state advisory panel, staff participation in national community of practice, creation of seafood harvesters advisory panel, commissioning of research about legal ramifications of vessels operating near wind turbines and contributing to regional social science research projects.



COASTAL ECOSYSTEMS AND WATERSHED

1. CTSG and UConn CLEAR initiated program to help municipalities establish Stormwater Authorities to fund stormwater management. Thus far, one authority has been created and seven municipalities and two regional agencies are considering establishing them.
2. Led by Long Island Sound Marine Debris Action Plan, CTSG organizes cleanup of heavily littered visible waterfront area in New Haven, runs social media campaign to promote alternatives to single-use plastics and supports action plan partners.
3. Four research projects involving analysis of shellfish, insect, water and sediment samples from urban coastal areas are commissioned by the Contaminants of Emerging Concern Project, a partnership of the CT, NH and NC Sea Grant programs.



WORKFORCE DEVELOPMENT

1. Two undergraduates received fellowships of \$5,000 each to conduct research that enhances marine and coastal science career opportunities for students from underrepresented and underserved groups. One studied sea scallops and the other surveyed restaurants about single-use plastics.



“ The CTSG fellowship has been pivotal in advancing my research on climate change and community adaptation. Leveraging the support from this fellowship, we secured additional funding from the Eversource Energy Center to expand our research and launch a pilot project. ”

— **Samjhana Koirala**, marine economics fellow

“ When I was able to enroll in Foundations of Shellfish Farming, it was incredible to have such a wealth of information on such a wide variety of topics at my fingertips. Mike and Tessa walked us through everything from the basics on shellfish anatomy and biology to business planning and motor maintenance. The class is incredibly important to ensuring growth and support for the future of aquaculture in Connecticut.”

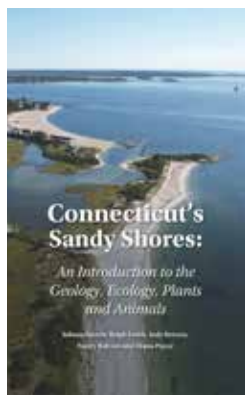
— **Sam Tucker**, Tucker Oyster Co.

2. Marine economics fellowship supported graduate student in research of economic and social factors influencing decisions made in response to extreme weather events and potential loss of assets from relocation.

3. 12-week Foundations of Shellfish Farming course developed, attracting 19 trainees in first year. CT aquaculture education and training network established with partners.



4. CTSG and three other Sea Grant programs partnered to co-teach three virtual seafood HACCP courses; the 51 jobs supported by this training are valued at \$1.89 million.



ENVIRONMENTAL LITERACY

1. A 130-page field guide to the geology, ecology, plants and animals of the sandy beaches and dunes of the CT shoreline was created in partnership with the retired state geologist and Connecticut College Arboretum. All of state's public libraries offered free copies.

2. CTSG seaweed extension educator, recognized internationally for her expertise, receives World Aquaculture Society award, chairs international seaweed industry group and speaks on panels at international meetings.

3. Recipients of the Arts Support Awards Program, in its 13th year, help bridge science and art while highlighting coastal issues with creation and performance of classical music inspired by climate data, and a children's book about kelp farming.



4. CTSG partnered with Mercy University to create the Long Island Schools Network, which provided 10 schools with \$5,000 each to support projects plus stipends for two educators per school to implement school or community-based projects to increase ocean literacy.
5. Spring/Summer 2022 issue of *Wrack Lines* magazine, published biannually by CTSG, received the 2023 APEX/Communications Concepts Inc. national Award of Excellence.

“ Not only did our high school students learn more about their environmental impact and responsibility to keep our oceans clean, they learned the importance of modeling this to our younger students. It was amazing watching them teach and interact with the fifth graders in this capacity! All students were exposed to English and Spanish during the lesson, reinforcing the importance of honoring language differences and increasing their intercultural competence.”

— **Catherine Hasse**, Torrington High School, Long Island Sound Schools Network





CTSG-MANAGED RESEARCH

1. Assessment made of how temperatures impact PFAS exposure of fish near sewage treatment plants. Results will quantify how fish can be expected to respond to PFAS exposure as the Sound warms. **Maria Rodgers, NC State; Jessica Brandt, UConn**



2. Experimental sediment additions of various depths are planted with different species and densities of plants at Great Meadows Marsh in Stratford to better understand how restoration projects impact ecosystem functions and wildlife use. **Christopher Elphick, Beth Lawrence, Ashley Helton, UConn**

3. Fecal bacteria patterns in water sampled at two CT beaches frequently subject to swimming advisories and closures are analyzed to identify contamination pathways. Water quality public outreach undertaken. **Michael Whitney, UConn; Peter Linderoth, Save the Sound**

4. Impacts of warming and role of marsh grass genetics on the resilience of restored salt marshes assessed. Analysis done of Southern-sourced marsh grass strains' utility in enhancing the success of restoration projects. **Sarah Crosby, The Maritime Aquarium of Norwalk**

6. CTSG education coordinator serves as panelist at international ocean literacy event and UN Water Conference, is named to the UNESCO Group of Experts on Ocean Literacy and participates in UN Ocean Decade's Ocean Literacy Dialogues.

7. Through dozens of web articles, social media posts, press releases, op-ed articles published in CT newspapers and biannual magazine, CTSG reaches diverse audiences to enhance knowledge, appreciation and stewardship of Long Island Sound and its watershed, as well as people's relationship to the environment.

8. CTSG staff work with the newly formed CT National Estuarine Research Reserve on outreach and other activities for the public, including a boating-themed event for UConn students and staff and guided explorations of NERR properties.

It has been a pleasure working with the team to take the Beach Grades and data that fuel them from Sound Health Explorer to another level to further the community's understanding of pathogen indicator bacteria, where it originates, and the risks of exposure based on physical conditions such as wind and tide."

—**Peter Linderoth, Save the Sound**



CONNECTICUT SEA GRANT STAFF

Sylvain De Guise

Director and Professor
sylvain.deguise@uconn.edu
(860) 405-9138

Nancy Balcom

Associate Director and
UConn Extension Leader
nancy.balcom@uconn.edu
(860) 405-9107

Deborah Abibou

UConn Asst. Extension
Educator-Sustainable &
Resilient Communities

Juliana Barrett

UConn Extension Edu-
cator Emerita-Coastal
Habitats

Judy Benson

Communications
Coordinator

Anoushka Concepcion

UConn Associate
Extension Educator-
Aquaculture

Margaret Cozens

UConn Asst. Extension
Educator-Long Island
Sound Outreach

David Dickson

UConn Extension
Educator and Director,
UConn CLEAR

Syma Ebbin

Research Coordinator
Professor in Residence

Tessa Getchis

UConn Senior Extension
Educator-Aquaculture

Michael Gilman

UConn Asst. Extension
Educator-Aquaculture

Zachary Gordon

UConn Asst. Extension
Educator-Regional
Aquaculture Liaison

Michelle MarcAurele

Fiscal Officer

Clayton McGoldrick

Lab Technician

Diana Payne

Education Coordinator
Associate Professor in
Residence

Owen Placido

UConn Asst. Extension
Educator-Nature-Based
Resiliency

Robert S. Pomeroy

UConn Extension
Specialist Emeritus
Research Professor,
Aquaculture and
Fisheries

Sarah Schechter

UConn Asst. Extension
Educator-Sustainable &
Resilient Communities

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Jeanette T Fisheries

Brian Thompson

Director of the Land
and Water Resources
Division, CT DEEP

Gerald Torres

Professor of
Environmental Justice,
Yale School of the
Environment,
Professor, Yale Law
School

Education and the dynamic environment took center stage in the two issues of Wrack Lines magazine produced in the 2023-2024 fiscal year. In the "Learning from the Sea" issue, readers are treated to the delightful and serendipitous tale of the mini-sailboat Lancer, one of two recent Wrack Lines articles to receive awards in the 2023 Connecticut Society of Professional Journalists contest. Other pieces explore ocean literacy and ocean identity, the geology of the CT coastline and marine science in public school classrooms. In the "Natural Effects" issue, readers learn about research on the ways our environment is changing: shifts in predominant fish species in Long Island Sound, salt marshes facing climate change, and oyster cages that act as reef structures. Wrack Lines reaches a growing cross-section of the Connecticut population through its print and electronic editions, distributed to libraries, high schools, colleges, nature centers, businesses and dozens of other venues statewide. Find current and past issues here: <https://seagrant.uconn.edu/publications/wrack-lines/>



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Connecticut Sea Grant
University of Connecticut
1080 Shennecossett Road • Groton, CT 06340
seagrant.uconn.edu