

Connecticut Sea Grant Staff

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Research Portfolio 2014

- ❖ Seaweed aquaculture for bioextraction of nutrients from Long Island Sound. Charles Yarish, UConn.
- ❖ Response of zooplankton to projected changes in temperature in Long Island Sound. Hans Dam, UConn.
- ❖ Emerging contaminants in LIS: effects of nanoparticles on suspension-feeding bivalves. Evan Ward, UConn.
- ❖ Measuring and predicting the fate and transport of PFCs entering Long Island Sound from municipal wastewater treatment facilities. Michael Whitney, UConn.
- ❖ Restocking Connecticut's natural beds by remote-set disease resistant oysters in biodegradable netting. Inke Sunila, State of Conn. DA/BA.

In addition to these major projects, a number of small-scale pilot projects were sponsored with development funds.



Inke Sunila and Hilary Kenyon collect shellfish data for research.

Coastal Storm Awareness Program

(Connecticut, New Jersey and New York Sea Grant programs)

Ten social science projects related to storm Sandy are improving understanding of coastal storm hazard risk communication and response.

- ❖ Behaviorally realistic communications to improve the public's response to and preparedness for high impact storm events. Gabrielle Wong-Parodi, Carnegie Mellon University
- ❖ Assessment of social media usage during severe weather events and the development of a Twitter-based model for improved communication of storm-related information. John F. Edwards, Mississippi State University
- ❖ An audience segmentation analysis of Connecticut coastal residents to support storm preparedness. Jennifer R. Marlon, Yale University.
- ❖ Adolescent and family decision making in time of disaster. Cristina Hoven, Columbia University
- ❖ Best practices in coastal storm risk communication. Cara Cuite, Rutgers University
- ❖ They had the facts, why didn't they act?: understanding and improving public response to NWS coastal flooding forecasts. Rachel Hogan Carr, Nurture Nature Center
- ❖ Measuring public responses to a surge of information: how individuals understand, react, and respond to storm surge media messages. Clifford W. Scherer, Cornell University
- ❖ Forecasting evacuation behaviors of coastal communities in response to storm hazard information. Ricardo A. Daziano, Cornell University
- ❖ Understanding responses to storm warnings: learning from those who "rode out" Hurricane Sandy. Sharon D. Moran, SUNY Environmental Science and Forestry
- ❖ Evaluating evacuation decision-making processes among residents of Long Beach, NY before Superstorm Sandy: lessons for the role of authority and language in storm warnings. E. Christa Farmer, Hofstra University

CONNECTICUT SEA GRANT



Annual Report
FY 2014

Message From the Director

Welcome to Connecticut Sea Grant's annual report for FY '14. We offer here highlights of Connecticut Sea Grant (CTSG)'s accomplishments over the 2013-14 (FY14) Sea Grant fiscal year, which runs from February 2013 through January 2014. This brief and simplified report documents our efforts at developing partnerships and leveraging resources from outside the Sea Grant core budget. It also provides a glimpse into the sources and allocation of our funds and the research efforts supported.



Summary of our achievements for FY14:

- \$945,644 in core Sea Grant funding; \$592,701 in state match funding; \$927,391 in other federal and pass-through funds, and an additional \$1,958,488 in leveraged funds, for a total over \$4.4 million.
- The Return on Investment ratio for state matching funds is 6.5:1
- The Return on Investment ratio for core federal funds is 3.7:1
- Helped in the creation of 1 new business.
- Recognized center of excellence for education, outreach and research in Long Island Sound and the Northeast.
- More than 2,700 students from K-12 to Ph.D supported/reached by Connecticut Sea Grant.
- 127 public events/meetings that reached over 4,542 stakeholders in Connecticut coastal communities.
- 1353 hours were contributed by volunteers to Sea Grant-supported efforts.
- 66 people were certified in HACCP seafood safety training, helping 75 businesses stay in operation.

A few of our success stories appear as highlights summarizing selected accomplishments and impacts from our efforts. You can find out more via articles in our award-winning *Wrack Lines* magazine or on our web site, <http://seagrant.uconn.edu>. Despite challenging economic times, we are proud to continue to work with many different stakeholder groups (including industry, government, non-government and academic partners) towards achieving our mission. Simply stated, we will "provide science-based information to achieve healthy coastal and marine ecosystems and consequent public benefits" by integrating research, outreach and education in partnership with stakeholders, 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.

Yours,

Sylvain De Guise, Director

Program Priorities

Four themes identified in our Strategic Plan 2014-2017 guide our program. These themes respond to local, regional, and national priorities.

Healthy Coastal Ecosystems and Economy

Seafood Production and Consumption

Hazard-Resilient Coastal Communities

Ocean and Coastal Literacy and Workforce Development

Senior Advisory Board

Jeff Seemann, UConn Vice President for Research (Chair)

Bonnie Burr, University of Connecticut Department Head, Extension

Thomas Halavik, Senior Biologist with the U. S. Fish and Wildlife Service

Robert J. Johnston, Director, George Perkins Marsh Institute, Clark University

Don Murphy, Stonington Shellfish Commissions

Tracy Romano, Executive Vice President of Research, Mystic Aquarium

Mark Tedesco, Director, EPA Long Island Sound Study

Thaxter Tewksbury, Director, Project Oceanology

Adam Whelchel, Director of Science, The Nature Conservancy - Connecticut

Betsy Wingfield, Chief, Conn. DEEP Bureau of Water Protection & Land Reuse

Richard West, Rear Admiral, US Navy (ret.), past president, CORE

Investing in Connecticut's Coast

Connecticut Institute for Resilience and Climate Adaptation ❖ UConn, Connecticut DEEP and Connecticut Sea Grant partnered to establish the new Connecticut Institute for Resilience and Climate Adaptation (CIRCA). CIRCA's mission is to increase the resilience and sustainability of vulnerable coastal and riverine communities to the impacts of climate change on natural, built and human environments.

Rain gardens diverted 660,000 gallons of water annually. ❖ Partnering with CT NEMO, 60 homeowners and landscapers were trained to install rain gardens. Collectively, these gardens divert an average of 660,000 gallons of polluted runoff water annually into the ground, improving water quality downstream.

Coastal hazards and emergency response ❖ 100+ emergency responders and State and municipal officials collaborated at two NOAA Sea Grant-sponsored workshops on coastal hazards. Attendees shared initiatives, resources, needs, and opportunities.

Sources of perfluorinated compounds (PFCs) ❖ PFCs are found in many household products such as cookware and food containers. Research identified sources of these harmful compounds in the Housatonic River estuary and modeled their flow pattern into Long Island Sound during wastewater discharge periods.

Nutrient bioextraction ❖ Research on extracting nutrients such as nitrogen from Long Island Sound using seaweed aquaculture spawned two new seaweed fertilizer-based interests and created a potential new market source for nitrogen trading credits while improving water quality.

Long Island Sound circulation modeling ❖ A circulation modeling tool was developed and calibrated for Long Island Sound, including tides, river flows, and winds. The modeling tool is used to simulate sea level rise, select dredge sites, and manage hypoxia. The results catalyzed change to laws on Connecticut's shoreline jurisdictional boundaries.



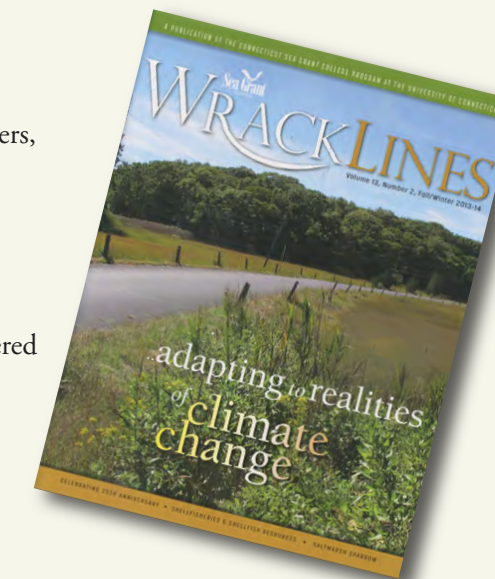
CIRCA Ribbon cutting ceremony with Governor Dannel Malloy, UConn President Susan Herbst and other dignitaries.

Communicating Science

Wrack Lines Magazine reached more than 3,000 readers, exposing them to topics such as changing shorelines, climate change, shellfish, and marine education.

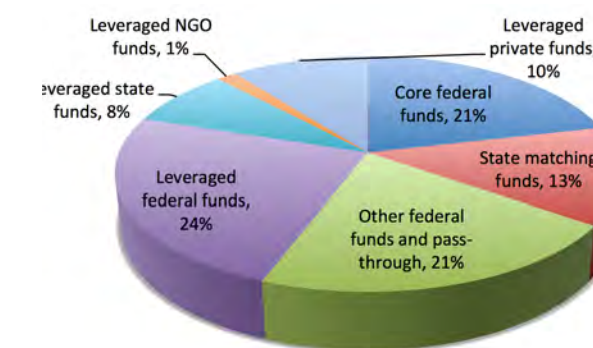
Our website, <http://seagrant.uconn.edu> reaches thousands of Internet users who find a wealth of information. *Connecticut Currents* podcast series, offered on iTunes, reached 7,000 listeners with timely news.

The Connecticut Sea Grant Arts Grant helped two Connecticut artists communicate the beauty and fragility of our coastal and marine resources by reaching the public with their works.



Budget Summary

Funding Sources Total: \$4,424,224



Allocation of Core Federal Funds Total: \$946,146

