

# Connecticut Sea Grant

Annual Report  
FY 2015



## Letter From the Director

Welcome to Connecticut Sea Grant's annual report for FY '15. We offer here highlights of Connecticut Sea Grant (CTSG)'s accomplishments over the 2014-15 (FY15) Sea Grant fiscal year, which runs from February 2014 through January 2015. 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 Connecticut Sea Grant achievements for FY15:*

- CTSG manages \$1,220,200 in core Sea Grant funding; \$625,744 in state match funding; \$509,446 in other federal and pass-through funds, and an additional \$1,753,981 in leveraged funds, for a total over \$4.1 million.
  - The Return on Investment ratio for state matching funds is 5.6:1
  - The Return on Investment ratio for core federal funds is 2.4:1
- CTSG helped in the creation of 5 new businesses.
- CTSG is a recognized center of excellence for education, outreach and research in Long Island Sound and the Northeast.
- CTSG education programs reached 385 K-12 educators.
- CTSG held 88 public events/meetings that reached over 3,332 stakeholders in Connecticut coastal communities.
- CTSG leveraged 1795 hours of volunteer time towards Sea Grant-supported efforts.
- CTSG trained 102 people who became certified in HACCP seafood safety training, helping 60 businesses stay in operation.

A few of our success stories appear as highlights summarizing selected accomplishments and impacts from our efforts. These range from protecting important species, to understanding and preventing pollution, and learning lessons from Superstorm Sandy in communicating risk and protecting lives. 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,

A handwritten signature in dark ink, appearing to read 'Sylvain De Guise'. The signature is fluid and cursive.

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, Department Head, UConn Extension

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

Marian Galbraith, Mayor of City of Groton

Don Murphy, Stonington Shellfish Commission

Sandy Prisløe, Town Planner, Old Saybrook

Tracy Romano, Vice President of Research, Mystic Aquarium

Leah Schmalz, director of Legislative and Legal Affairs for Save the Sound at CT Fund for the Environment

Henry Talmage, Exec. Director, CT Farm Bureau

Mark Tedesco, Director, EPA Long Island Sound Study

Thaxter Tewksbury, Director, Project Oceanology

Richard West, Rear Admiral, US Navy (ret.), Past President, CORE

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

## Research Portfolio - New Projects

The future of Long Island Sound tidal marshes: understanding marsh migration into different upland types. *S. Anisfeld, Yale University*

The effects of timing and duration of climatic heat waves in Long Island Sound on a zooplankton population. *H. Dam, University of Connecticut*

Assessment of juvenile horseshoe crab age class structure and nursery habitat requirements in Long Island Sound. *M. Beekey, Sacred Heart U.*

Human dimensions of LIS ecosystems: socio-economic model for education and management. *C. Elphick, University of Connecticut*

Wetlands at the edge of sea level rise: effects of salt water intrusion on wetland ecosystem functions in urban landscapes. *A. Helton, University of Connecticut*

Modeling alternative management for sustainable stocks of tautog. *E. Schultz, University of Connecticut*

Modeling *Vibrio parahaemolyticus* outbreaks in commercial shellfish areas of western Long Island Sound. *M. Whitney, University of Connecticut*



## Continued Projects

Seaweed aquaculture for bioextraction of nutrients from Long Island Sound. *C. Yarish, University of Connecticut*

Response of zooplankton to projected changes in temperature in Long Island Sound. *H. Dam, University of Connecticut*

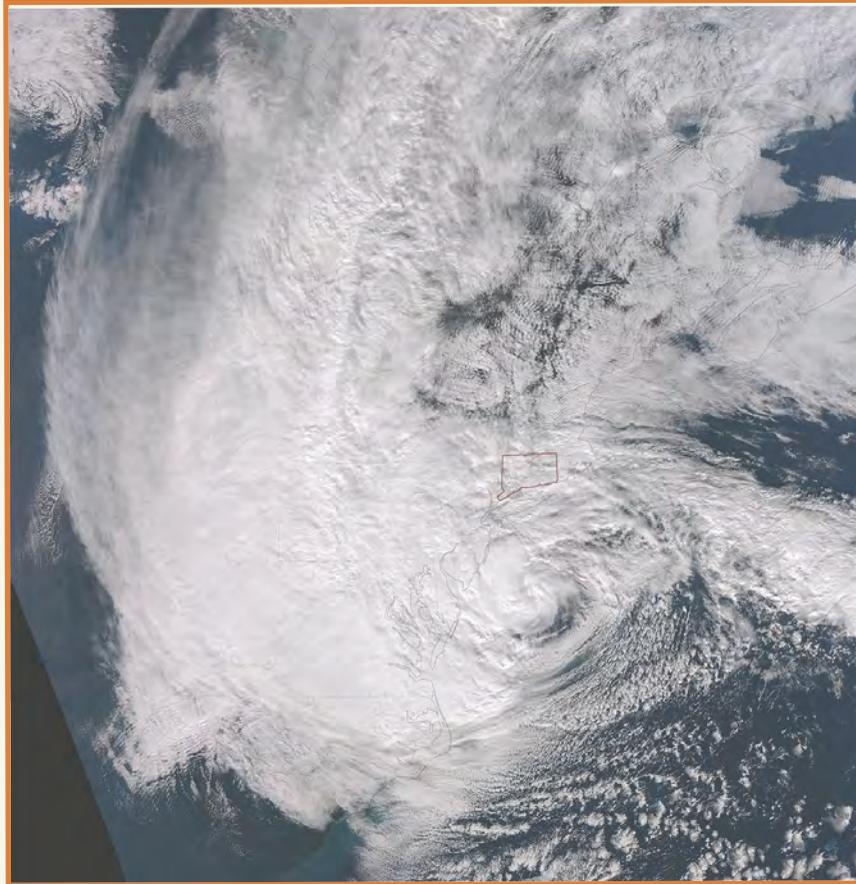


Emerging contaminants in LIS: effects of nanoparticles on suspension-feeding bivalves. *E. Ward, University of Connecticut*

Measuring and predicting the fate and transport of PFCs entering LIS from municipal wastewater treatment facilities. *M. Whitney, University of Connecticut*

## *Coastal Storm Awareness Program*

An initiative of the Connecticut, New Jersey and New York Sea Grant programs



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

### ***Some lessons learned:***

- Access to storm information is maximized through the use of many media platforms
- Evacuation decisions are influenced by many complex factors
- Effective storm warnings use simple terms, are easily read, and include community-specific instructions
  - More people pay attention to “mandatory” evacuation orders but may disregard voluntary ones.
- Coastal residents need to know local evacuation / flood zones and evacuation routes
- Safer, flood-compliant homes may affect future evacuation decisions
- Rights of disabled people and needs of pets need to be included

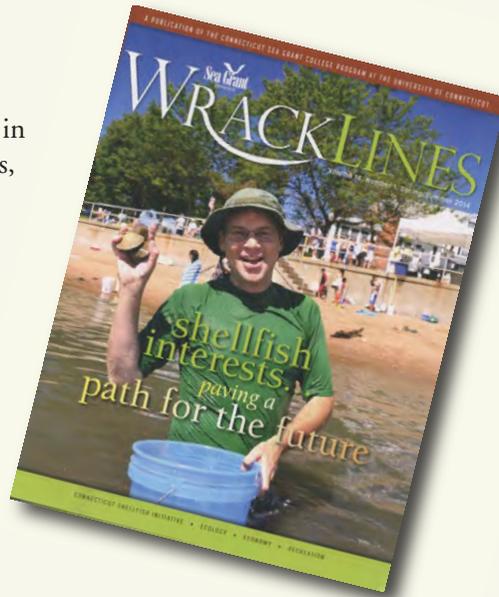
## *CTSG Investing in Connecticut's Coast*

- The rain garden app developed by UConn CLEAR has now expanded to 14 states and continues to grow. Rain garden trainings and installations by Connecticut Sea Grant and CT NEMO result in diversion of 615,700 gallons of stormwater annually. The app helps individuals and companies with every detail in planning and installing an attractive rain garden, improving water quality in the process.
- Research on nanoparticles and bivalves provided important information on cellular stress and generic damage to molluscs from nanoparticles found in products such as sunscreen which occurred in only two hours.
- Horseshoe crab populations were found to be less susceptible to predation in Long Island Sound than in the Chesapeake due to low population densities, providing important guidance for managing existing and future populations. More than 1,000 Connecticut K-12 students participated in horseshoe crab tagging and monitoring.
- Research showed that Eastern oysters have inducible defense reactions to predatory snail species. This could play a role for enhanced shell growth in conditions of coastal seawater acidification.
- Connecticut Sea Grant researchers collaborated with industry partners to condition and spawn MSX-resistant oyster broodstock, then areas were restocked with disease-resistant seed.
- Connecticut's Shellfish Initiative task force is working with stakeholders to develop a new vision to conserve the State's shellfish resources. Representatives from the recreational, commercial, and natural resource sectors are working together to make the right choices for the future.
- Key nesting habitat for endangered shorebirds was improved and conserved at Great Gull Island NY, a critical location for roseate and common terns. U.S. Fish and Wildlife Service and the American Museum of Natural History were partners in this effort to eliminate invasive plants, construct nesting platforms and monitor progress.

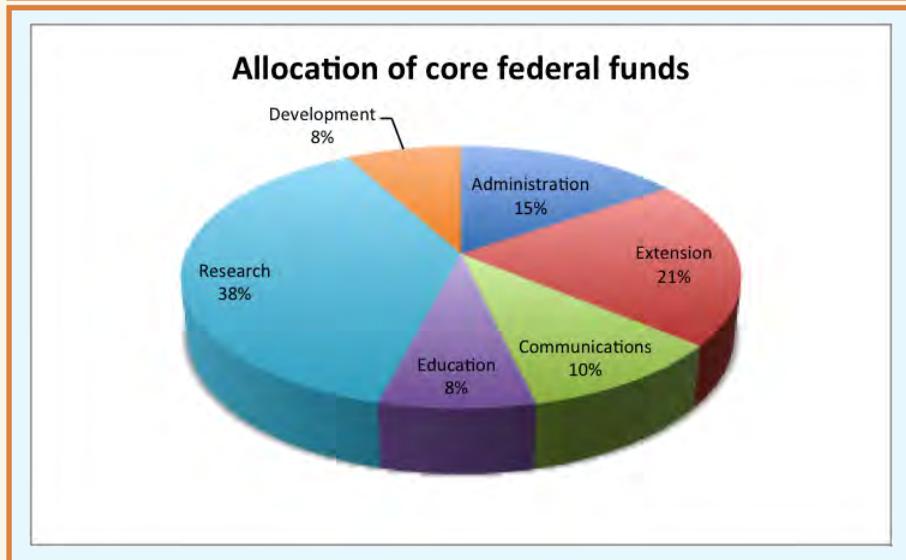
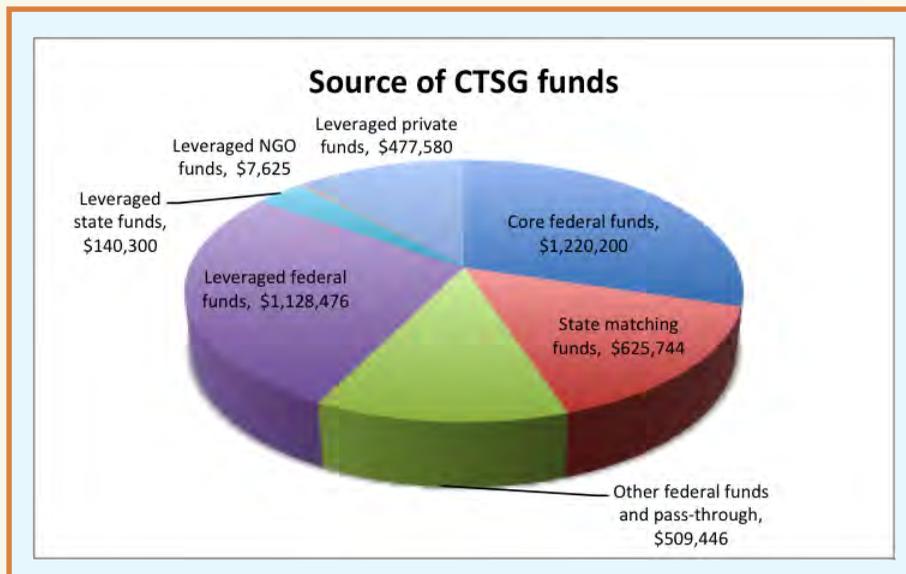


## Communicating Science

*Wrack Lines* Magazine reached 2,000 readers in print and had more than 10,500 online views, exposing people to topics such as changing shorelines, marine education, climate change, shellfish, and resiliency. In addition, more than 6,065 people listened to *Connecticut Currents* podcasts. Our social media reached 2,101 people, and our website had more than 53,000 visitors.



## Budget Overview



# Connecticut Sea Grant Staff

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