

DE Sea Grant Program

Site Review PIER Information

(Information gathered from the Program's Annual Report Submissions in PIER)

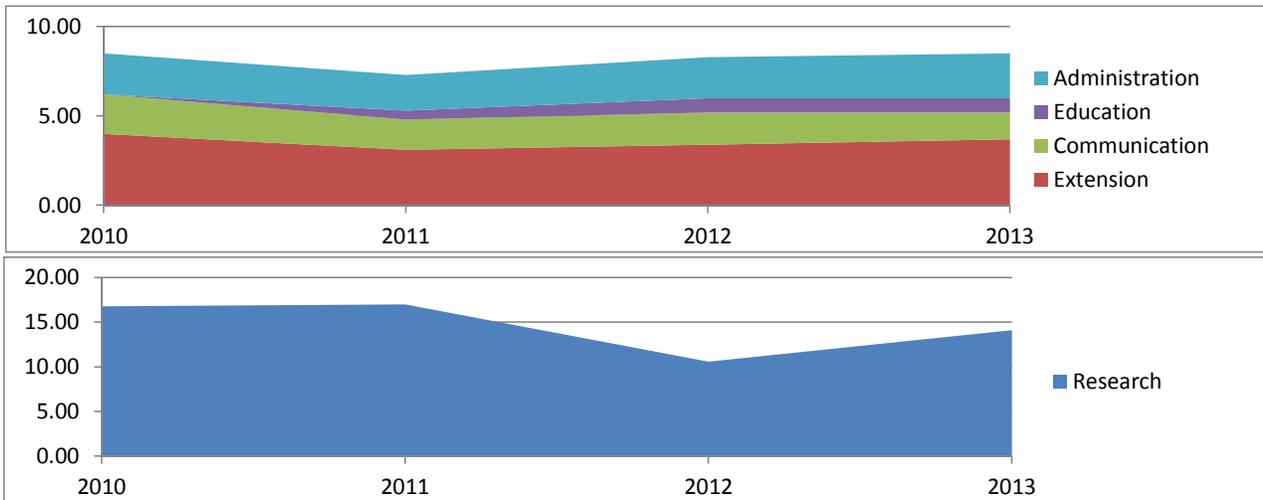
I. Program Management and Organization (organization, program team approach, support).

A. Sea Grant Staffing (2010-2013)

	Range of Annual Number of Individuals	Average Annual Full-Time Equivalents*
Administration	5-6	2.3
Extension	6-7	3.6
Communication	4-5	1.8
Education	0-1	0.5
Research	40-54	14.7

*One FTE is equivalent to 12 months of full time effort, and can be funded with Sea Grant Federal or non-Federal dollars.

Full Time Equivalents by Year (2010-2013)

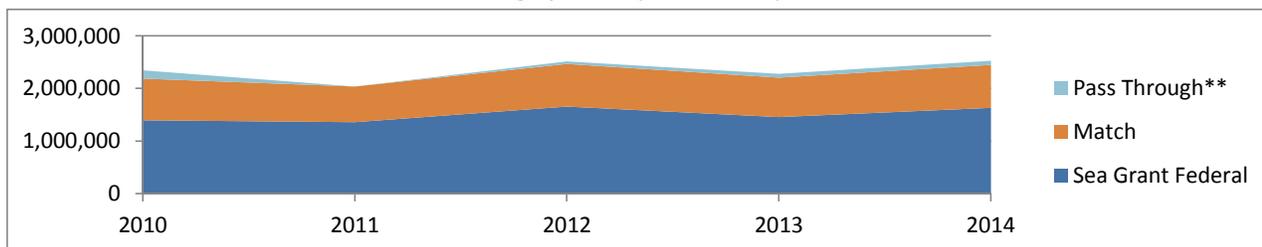


B. Total Funding by Source (2010-2014)

	Sea Grant Federal	Match	Pass Through**	Total Funding
2010	1,398,000	791,697	158,650	2,348,347
2011	1,358,000	679,000	0	2,037,000
2012	1,657,815	810,414	50,000	2,518,229
2013	1,458,571	747,819	71,750	2,278,140
2014	1,635,096	816,480	75,750	2,527,326

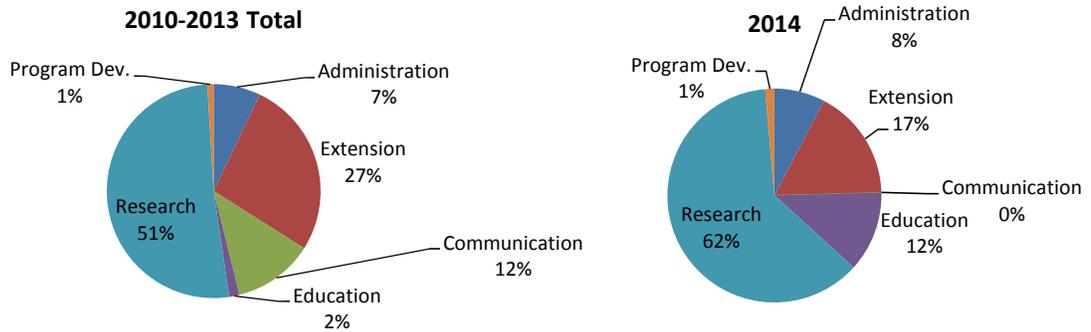
** Pass Through funding refers to federal funds not appropriated to Sea Grant, but administered through the National Sea Grant Office

Funding by Year (2010-2013)

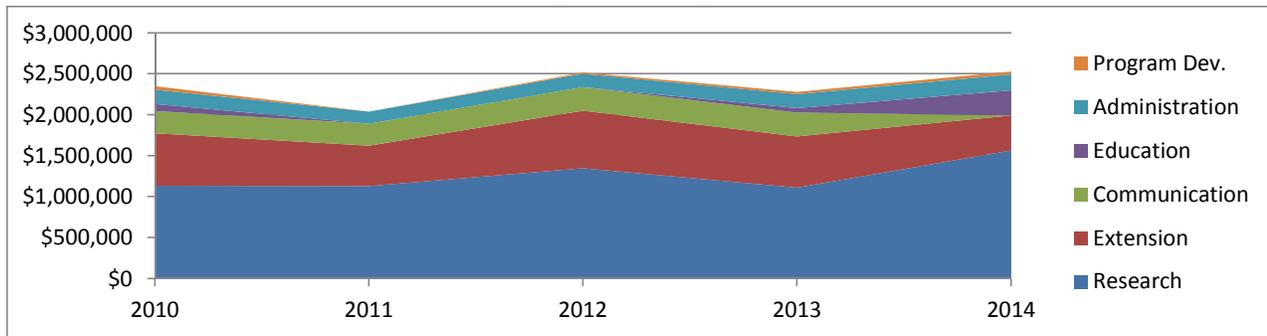


C. Distribution of Funding by Functional Area (Federal + Match + Pass Through)

	2010	2011	2012	2013	2014
Administration	171,577	145,792	162,309	171,725	193,625
Extension	640,917	494,739	702,919	628,220	426,787
Communication	270,687	268,519	287,867	290,609	0
Education	88,000	0	0	52,500	307,780
Research	1,134,166	1,127,950	1,346,872	1,109,052	1,564,848
Program Dev.	43,000	0	18,262	26,034	34,286



Trend (2010-2014)



D. Total Number of Core Funded Proposals (Not NSIs)

	2011	2013
Pre-Proposals Submitted	31	31
Full Proposals Submitted	24	24
Proposals Funded	11	11
Institutions with Proposals Funded	1	1
Proposals Funded from Home Institution	11	11

E. Core-Funded Research Projects
2014
A bioeconomic analysis of ecosystem-based horseshoe crab fishery management (Sunny Jardine)
A semi-automated zooplankton analysis system for Delaware Bay and coastal waters: method development and implementation (Jonathan Cohen)
Assessing ecosystem health and processes with a combined package of biological, chemical and physical sensors (George Luther)
Bioremediation of Wastewater and Industrial Emissions by <i>Heterosigma akashiwo</i> for the Production of Biofuels at Commercially Relevant Scales (Jennifer Stewart)
Delaware Sea Grant Graduate Education (Nancy Targett)
Development of a High Water Mark Database and Display System for Coastal Flooding Events in Delaware (John Callahan)
Extending models of surface hydrodynamics in complex natural and modified tidal marsh environments (James Kirby)
Investigating the role of groundwater-borne nutrients in structuring the phytoplankton community of the Inland Bays, DE (Joanna York)
Optical Observing Systems for Delaware's Coastal Research and Management (Xiao-Hai Yan)
Quantifying Carbon Accumulation and Storage in Delaware Estuarine Wetlands (Christopher Sommerfield)
Quantifying inundation and hydrodynamics in an anthropogenically-altered tidal wetland (Thomas McKenna)
Social Dimensions of Offshore Wind Power Development off the Delmarva Peninsula (Jeremy Firestone)
Monitoring natural and man-made sounds in and around the Delaware Bay (Aijun Song)
2012
Advancing Radionuclide Tracer Techniques for Estuarine Sedimentary Research (Christopher K. Sommerfield)
Controls of Delaware Bay Primary Production: Expanded Ferry Monitoring with Modeling (Jonathan H. Sharp)
Molecular Tracking of Fecal Contamination in Delaware Coastal Waters (Edward Whereat)
The Economic Impact of Offshore Wind Farms on Coastal Tourism and Beach Use in Mid-Atlantic Region (George Parsons)
A Process-Based Model of Long Term Marsh Platform and Shoreline Evolution in Response to Rising Sea Level and Changing Sediment Supplies (James T. Kirby)
Development of microalgae for bioremediation of flue gas coupled to production of renewable energy (Kathryn J. Coyne)
Invasion of the Mitten Crab in the Mid-Atlantic: Characterizing Larval Behavior to Predict Population Responses to Environmental Change (Douglas C. Miller)
Public Perceptions of Coastal and Near-shore Wind Power Turbines and Transmission (Jeremy Firestone)
Quantifying Spatio-Temporal Variability in Hydrodynamics and Inundation of a Tidal Saltmarsh (Brockonbridge Marsh, Ken County, Delaware) (Jack A. Puleo)
REGIONAL: Forecasting Watershed Loading and Lagoon Response Along the Delmarva Peninsula due to Changing Landuse and Climate (Joanna K. York)
2011
A Process-Based Model of Long Term Marsh Platform and Shoreline Evolution in Response to Rising Sea Level and Subsurface Flow (JAMES KIRBY)
Delaware Bay Primary Production Controls by Coastal Upwelling and River Discharge (JONATHAN H. SHARP)

Invasion of the mitten crab in the Mid-Atlantic: Characterizing larval behavior to predict responses to climate change (DOUGLAS C. MILLER)
Offshore Wind Power for Delaware in a Marine Spatial Planning Context (Jeremy Firestone)
The Vibrio-HAB connection: Investigating interactions between harmful algal bloom species and pathogenic Vibrio species (Kathy Coyne)
2010
An economic analysis of shorebirds and shorebirding on the Delaware Bay (GEORGE PARSONS)
Assessing the equilibrium sediment flux of Delaware tidal wetland rivers (C.K. SOMMERFIELD)
AUV-based Geoacoustical Mapping of Benthic Habitats in Delaware Bay (DOUGLAS C. MILLER)
Chemical and biological sensors for the in situ determination of biogeochemical processes (GEORGE LUTHER, III)
Development of diatoms as indicators of water quality in Delaware's Inland Bays (Kathy Coyne)
Forecasting the Response of Delmarva Lagoons to Changing Landuse and Climate: Alternative Stable States and Recovery Trajectories (Art Trembanis)
Local urban growth and climate change impacts on the Delaware Bay sea breeze (Dana Veron)
Mapping Public Perceptions and Preferences toward Wind Power Development through Time (Jeremy Firestone)
Quantifying short-term morphologic evolution and alongshore sediment transport rates at Cape Henlopen, DE using remote sensing and rapid response GPS-equipped vehicles (Jack Puleo)
Sustaining ecological and economic services of coastal land resources during sea level rise (DENISE M. SELISKAR)
The remote sensing component for the DE Coastal Ocean Observing System: a gap to be filled (Young-Heon Jo)
Validation of a Coupled Model System for Delaware Bay and Adjacent Coastal Region (JAMES KIRBY)
Delaware Sea Grant Graduate Education (Unreported PI)
Delaware Sea Grant Program Development (NANCY TARGETT)

F. NSI, Pass-through, and enhancement funds
2014
Climate Extension (Wendy Carey) (SG-Climate)
2014 Knauss Fellow (Bari Greenfeld) (Nancy Targett) (ARMY)
Delaware Sea Grant Graduate Education (Nancy Targett) (SG-Social Science)
Economics of Ecosystem Services from Oyster Aquaculture (Sunny L. Jardine) (SG-Aquaculture)
2013
Assessing the Benefits and Costs of Modifications to Rights-Based Management Programs (Targett, Nancy) (NMFS-SG-Fellowship)
Katya Samoteskul DE Sea Grant Knauss Fellowship 2013 (Targett, Nancy) (OAR)
Sea Grant Aquaculture Extension 2013: Aquaculture and Fisheries Technologies for Food and Health Educators, Seafood Professionals and Communicators (Hick, Doris) (SG-Aquaculture)
2012
Delaware Sea Grant 2012 Ship Time (Nancy Targett) (OAR-SHIPTIME)
Enhancing community awareness of future flood risk and vulnerability through use of mapping visualization tools (Wendy Carey) (SG-Climate)
Nitrogen Cycling in the Marsh-Dominated Murderkill Estuary (William Ullman) (SG-Social Science)
Ocean State Monitoring Near Wind Farm Locations Offshore of the Delaware Bay Mouth (Bruce Lipphardt) (SG-Social Science)
Population structure of White Perch in the Delaware Bay Estuary: biological and management boundaries for contaminants monitoring and consumption advisories (Patrick Gaffney) (SG-Social Science)
Synoptic descriptions of low-level winds and surface currents outside the Delaware Bay mouth for use in ecosystem studies and hazard response planning (Dana Veron) (SG-Social Science)
Delaware Sea Grant Marine Advisory Service (JAMES FALK) (SG-Social Science)
Weathering Change - Integrated Hazard and Adaptation Training to Create Resilient Local Governments (Wendy Carey) (SG-Climate)
2010
Pilot Project for The City of Lewes, Delaware: Mitigation and Adaptation to Natural Hazards and Climate Change - Planning and Building Resilient Coastal Communities (JAMES FALK) (SG-Climate)
SG Coastal and Marine Tourism Roundtable (JAMES FALK) (SG-PD)
Amardeep Dhanju DESG Knauss Fellowship 2010 (Unreported PI) (DEPT. OF INTERIOR)
Caitlin Snyder DESG Knauss Fellowship 2010 (Unreported PI) (DEPT. OF INTERIOR)
Delaware Sea Grant Shiptime 2010 (NANCY TARGETT) (OAR-SHIPTIME)

II. **Stakeholder Engagement** (relevance, advisory services, and education and training).

A. **Total Number of SG-Sponsored Meetings, Workshops, Conferences, Presentations and Attendees (2010-2013)**

Events	Attendees
527	27,356

B. **Total Number of Volunteer Hours (2010-2013)**

51,515

C. **Students Supported (2010-2013)**

	Students		Degrees Awarded
	New	Continuing	
Undergraduate	18	0	0
MS/MA	17	14	12
PhD	20	19	4
Professional Degree	0	0	0

D. **K-12 Students Reached (2010-2013)**

17,080

III. Collaborative Network Activities (relationships and coordination).

A. Program Partners by Scale

FEDERAL or NATIONAL

Agriculture Research Service (USDA, ARS)
Algaverde, Inc. dba Bioalgene
AWEA Offshore Wind Working Group
Boy Scouts of America (BSA)
Center for Disease Control and Prevention (CDC)
Chesapeake Bay Field Office (US DOI, FWS)
Coastal Services Center (US DOC, NOAA, NOS, CSC)
Cooperative State Research, Education and Extension Service (USDA, CSREES)
Federal Emergency Management Agency (US DHS, FEMA)
Interstate Shellfish Sanitation Conference (ISSC)
National Aeronautics and Space Administration (NASA)
National Fisheries Institute (NFI)
National Institute of Food and Agriculture (USDA, NIFA)
National Marine Fisheries Service (US DOC, NOAA, NMFS)
National Non-Point Education for Municipal Officials (NEMO) Network
National Ocean Service (US DOC, NOAA, NOS)
National Oceanic and Atmospheric Administration (US DOC, NOAA)
National Renewable Energy Laboratory (NREL)
National Science Foundation (NSF)
National Sea Grant College Program (US DOC, NOAA, OAR, NSGCP)
National Sea Grant Office (US DOC, NOAA, OAR, NSGO)
National Seafood HACCP Alliance
National Shellfisheries Association
National Weather Service (US DOC, NOAA, NWS)
Naval Research Laboratory
NOAA Environmental Cooperative Science Center
North Atlantic Regional Team (US DOC, NOAA, NART)
Northeast Regional Agricultural Center (USDA)
Office of Naval Research (US DOD, NAVY, ONR)
Office of Response and Restoration (US DOC, NOAA, NOS, ORR)
Prime Hook National Wildlife Refuge (US DOI, FWS, NWRS)
Seafood Inspection Program (US DOC, NOAA, NMFS)
Smithsonian Environmental Research Center
US Bureau of Ocean Energy Management (US DOI, BOEM)
US Department of Agriculture (USDA)
US Environmental Protection Agency (US EPA)
US Fish and Wildlife Service (US DOI, FWS)
US Food and Drug Administration (US HHS, FDA)
US Geological Survey (US DOI, USGS)
US Lifesaving Association
Institute for Water Resources (DoD, Army, USACE)

INTERNATIONAL

EcoVentures International
ERM Group
Hafmynd ehf, Reykjavik, Iceland

International Food Protection Training Institute
Ocean Equities
Overseas Shipholding Group, Inc.
Satlantic, Inc.
Sea Watch International
Signal International
SPT Offshore
The Nature Conservancy (TNC)
UNESCO IOC, Yeosu Korea
UTECH Survey Inc.
World Aquaculture Society (WAS)
Xiamen University

LOCAL

29 Radio Stations that carry Sea Talk
Beebe Hospital Department of Emergency Medicine
Boy Scout Troop 95
Broadkill Tributary Action Team
Cape Gazette newspaper
Cape Henlopen Band Boosters
Cape Henlopen High School
CHPT Manufacturing, Inc.
City of Lewes, DE
City of Lewes, DE Board of Public Works
City of Lewes, DE Mitigation Planning Team
City of Rehoboth Beach
Delaware City, DE
Delaware Marine Trades Association
Delaware River Basin Commission
Freeman Farm, Lewes, DE
Greater Lewes Foundation
Hudson Management Company
Jack Lingo Real Estate
JB Landscaping
Laurel Redevelopment Corporation
Lewes Chamber of Commerce
Lewes Education Coalition
Lewes Historical Society
Lewes-Rehoboth Canal Improvement Association
Local Governments for Sustainability (ICLEI)
Matt Slap Subaru
Millersville University Ocean Science Club
Milton Community Foundation
Murderkill River Modeling Workgroup
Old Landing Gold Course
Sussex County Association of Towns
Sussex County Council
Sussex County Emergency Operations Center
Sussex County Government
Sussex County Master Gardeners

Sussex County, DE
Sussex Economic Development Action Committee
Town of Bethany Beach, DE
Town of Bowers Beach, DE
Town of Dewey Beach Patrol, DE
Town of Dewey Beach, DE
Town of Fenwick Island, DE
Town of Laurel, DE
Town of Millville, DE
Town of Milton, de
Town of South Bethany, DE
University of Delaware Institute of Public Administration, Water Resources Agency (UDEL)
University of Delaware Office of Communications and Marketing

REGIONAL

Analytical Instrument Systems, Inc.
Aquaculture Network Information Center
Atlantic States Marine Fisheries Commission (ASMFC)
Atlantic Wind Connection
Bluewater Wind
Cape May-Lewes Ferry
Cheyney University Aquaculture Research & Education Center (PA)
Delaware Bay and River Cooperative Inc.
Delaware River and Bay Authority (DRBA)
Delmarva Chefs and Cooks Association
Delmarva Emergency Task Force
Delmarva Low Impact Tourism Experiences (DLITE)
Delmarva Power
East Coast Shellfish Growers Association
East Coast Shellfish Research Institute
Gamesa Technology
Green Power
Lower Delaware/Maryland Building Officials Association
Lower Delaware/Maryland Building Officials Association (LDMBOA)
Mid-Atlantic Coastal Ocean Observing Regional Association (MACOORA)
Mid-Atlantic Marine Education Association
Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS)
Northeast Recycling Council Inc.
Northeastern Massachusetts Aquaculture Center
Northeastern Regional Aquaculture Center
NRG Company
Partnership for the Delaware Estuary
PJM
Seaboard Fisheries Institute
The Western Massachusetts Sustainable Aquaculture Center
Toby Island Bay Oysters
University of Maryland, Center for Food Science and Technology (UMD)
University of Massachusetts Extension Aquaculture Program (Umass)
Weeks Marine, Inc.
West Virginia University, Cooperative Extension Service (WVU)

STATE

ACF First State Chefs Association
Barnstable County Cape Cod Cooperative Extension
Black Laser Learning
Center for the Inland Bays
Clemson University
Colby College
Cornell Cooperative Extension
Del Tech Community College
Delaware Aquatic Resources Education Center
Delaware Association for Environmental Education
Delaware Bay Benthic Mapping Project (DE DNREC)
Delaware Department of Agriculture
Delaware Department of Education
Delaware Department of Natural Resources and Environmental control (DE DNREC)
Delaware Department of Transportation
Delaware Division of Health
Delaware Emergency Management Agency
Delaware Environmental Monitoring
Delaware Environmental Observing System
Delaware Forest Service
Delaware Geological Survey
Delaware Invasive Species Council
Delaware National Estuarine Research Reserve
Delaware Nature Society
Delaware NEMO program
Delaware Office of State Planning Coordination
Delaware River and Bay Authority
Delaware Science Coalition
Delaware State Parks (DNREC)
Delaware State University
Delaware Technical and Community College, Road Scholars
Delaware Technical Community College
Division of Fish and Wildlife (DE DNREC DFW)
Division of Parks and Recreation (DE DNREC)
Division of Soil and Water, Delaware Coastal Program (DE DNREC)
Division of Soil and Water, NPS Program (DE DNREC)
Division of Soil and Water, Sediment and Stormwater Program (DE DNREC)
Division of Soil and Water, Shoreline and Waterway Management Section (DE DNREC)
Division of Water Resources, Environmental Lab Section (DE DNREC)
Division of Water Resources, Office of Shellfish and Recreational Waters (DE DNREC)
Division of Water Resources, Watershed Assessment Branch (DE DNREC)
DuPont Clear into the Future
First State Chefs Association
George Mason University (GMU)
Louisiana State University (LSU)
Louisiana State University, AgCenter (LSU)
Marine Education Research and Rehabilitation Institute

Maryland Public Television
Maryland Sea Grant
Michigan Department of Energy (MI DOE)
Mid-Atlantic Fisheries Management Council (MAFMC)
New Castle Conservation District
New Jersey Department of Environmental Protection (NJ DEP)
New Jersey Sea Grant
New York Sea Grant
North Carolina Sea Grant
North Carolina State University (NCSU)
Old Dominion University (ODU)
Oregon State University (OSU)
Oregon State University, Food Innovation Center
Pennsylvania Sea Grant
Port of Wilmington
Princeton University
Purdue University
Rhode Island Cooperative Extension
Rhode Island Sea Grant
Roger Williams University (RWU)
Rutgers Cooperative Extension
Rutgers University
Salem State College
Southern Delaware Tourism
State of Delaware
State of Delaware office of Governor
State University of New York, Stony Brook (SUNY)
Texas Sea Grant
University of California, San Diego (UCSD)
University of Connecticut, Cooperative Extension (UCONN)
University of Delaware (UDEL)
University of Delaware Citizen Monitoring Program
University of Florida (UF)
University of Hawaii (UH)
University of Maine Cooperative Extension (UMaine)
University of Maryland (UMD)
University of Maryland Extension (UMD)
University of New Hampshire (UNH)
University of Rhode Island, Cooperative Extension Food Science and Nutrition (URI)
University of Rhode Island, Fisheries Center (URI)
Villanova University
Virginia Aquarium and Marine Science Center
Virginia Institute of Marine Science (VIMS)
Virginia Sea Grant
Woods Hole Oceanographic Institution Sea Grant (WHOI)

Unknown

American Wind Energy Association Offshore Wind Working Group;
Clear into the Future: A duPont
DE Division of Air Quality (DNREC);

Delaware Greenways, Inc.
Delaware Wildlands, LLC;
Global Forum on Ocean Coasts and Islands
Moffatt and Nichol Engineering
PNC Bank
Sea Grant Communicators Network
Teledyne
YSI Instrument Company

B. Source and Amount of Leveraged Funds (2010-2013)	
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Amounts	Year			
Source	2010	2011	2012	2013
Managed	\$6,485,254	\$725,758	\$2,919,886	\$772,230
Black Laser Learning	\$50,000			
Consortium for Ocean Leadership				\$5,532
Delaware State	\$338,600			
Delaware State Parks (DNREC)	\$3,500			
Division of Fish and Wildlife (DE DNREC DFW)	\$1,910			
Lewes Chamber of Commerce	\$1,068	\$1,382	\$1,000	\$1,129
National Biodiesel Board	\$32,333			
National Ocean Service (US DOC, NOAA, NOS)				\$75,000
National Oceanic and Atmospheric Administration (US DOC, NOAA)	\$1,373,717		\$14,810	
National Science Foundation (NSF)	\$644,052		\$2,016,813	
National Sea Grant Office (US DOC, NOAA, OAR, NSGO)		\$100,000		\$179,000
Northeastern Regional Aquaculture Center	\$18,907	\$22,700		
Oregon State University (OSU)		\$74,405		
Partnership for the Delaware Estuary	\$3,000			
Teledyne	\$15,000			
University of Delaware (UDEL)			\$300,000	
University of Florida (UF)		\$56,030		
University of Maryland (UMD)	\$14,812			\$23,272
University of New Hampshire (UNH)	\$20,000			
University of Southern California (USC)	\$337,535			
US Department of Agriculture (USDA)	\$93,631	\$100,000		\$11,530
US Department of Energy (US DOE)	\$3,147,540			
US Environmental Protection Agency (US EPA)	\$129,649			
Unreported Source	\$260,000			
Delaware Department of Natural Resources and Environmental control (DE		\$154,141	\$383,053	\$226,447
Delaware Emergency Management Agency		\$43,500		
State of Delaware		\$173,600	\$182,710	
Greater Lewes Foundation			\$500	
NOAA Communications and External Affairs (US DOC, NOAA, COMM)			\$20,000	
Sussex County Government			\$1,000	
DuPont Clear into the Future				\$28,500
Laurel Redevelopment Corporation				\$11,820
Rockefeller Brothers				\$200,000
Sussex County Council				\$10,000
Influenced		\$232,772	\$708,509	\$3,574,522
National Aeronautics and Space Administration (NASA)		\$49,459		\$25,000
National Oceanic and Atmospheric Administration (US DOC, NOAA)			\$56,675	
National Science Foundation (NSF)			\$82,650	\$1,017,888
Office of Naval Research (US DOD, NAVY, ONR)			\$300,486	
University of Delaware (UDEL)			\$36,923	\$58,500
US Bureau of Ocean Energy Management (US DOI, BOEM)			\$200,000	

US Department of Agriculture (USDA)				\$130,000
US Department of Energy (US DOE)		\$12,000		\$1,040,000
Unreported Source			\$8,800	
Delaware Department of Natural Resources and Environmental control (DE		\$78,918		\$40,000
Center for the Inland Bays		\$17,395		
Delaware River and Bay Authority		\$50,000		
YSI Instrument Company		\$25,000		
Delaware River and Bay Authority (DRBA)			\$5,800	
DuPont Clear into the Future			\$17,175	
Calvert Giving Fund				\$54,453
First State Marine Wind				\$123,754
Jet Propulsion Laboratory (NASA)				\$55,000
Kent County				\$369,927
Patricia and Charles Roberston Fund				\$660,000