

HCE Research Portfolio

The Sea Grant HCE national research portfolio is based primarily on the titles of HCE-related **research** projects funded through omnibus, minibus, or NSIs from FY10-FY13. Education and extension projects are not included. A total of 389 projects were compiled.

The projects are assigned to one of sixteen broad categories. Because of the crosscutting nature of HCE projects, projects can be assigned to more than one category. The table and the graphs below show the categories and number of projects in decreasing order.

The Appendix lists the projects that were compiled within each category. The appendix is also attached in Excel format with this email.

Table 1. Number and categories of HCE-related research projects funded through omnibus, minibus, or NSIs from FY10-FY13. In descending order by number of projects.

Project Type	Number of Projects
Water quality, wetlands and watersheds	164
Habitats and living resources	137
Ecology/ Ecosystem structure and function/ Ecological processes	121
Anthropogenic impacts and stressors	112
Biogeochemical and physical processes	67
Tool development	67
Invasive species	32
Climate	28
Policy and management	23
Monitoring	22
Conservation & Stewardship	15
Social science	11
Restoration	15
Indicators	13
Capacity building	3
Valuation	2

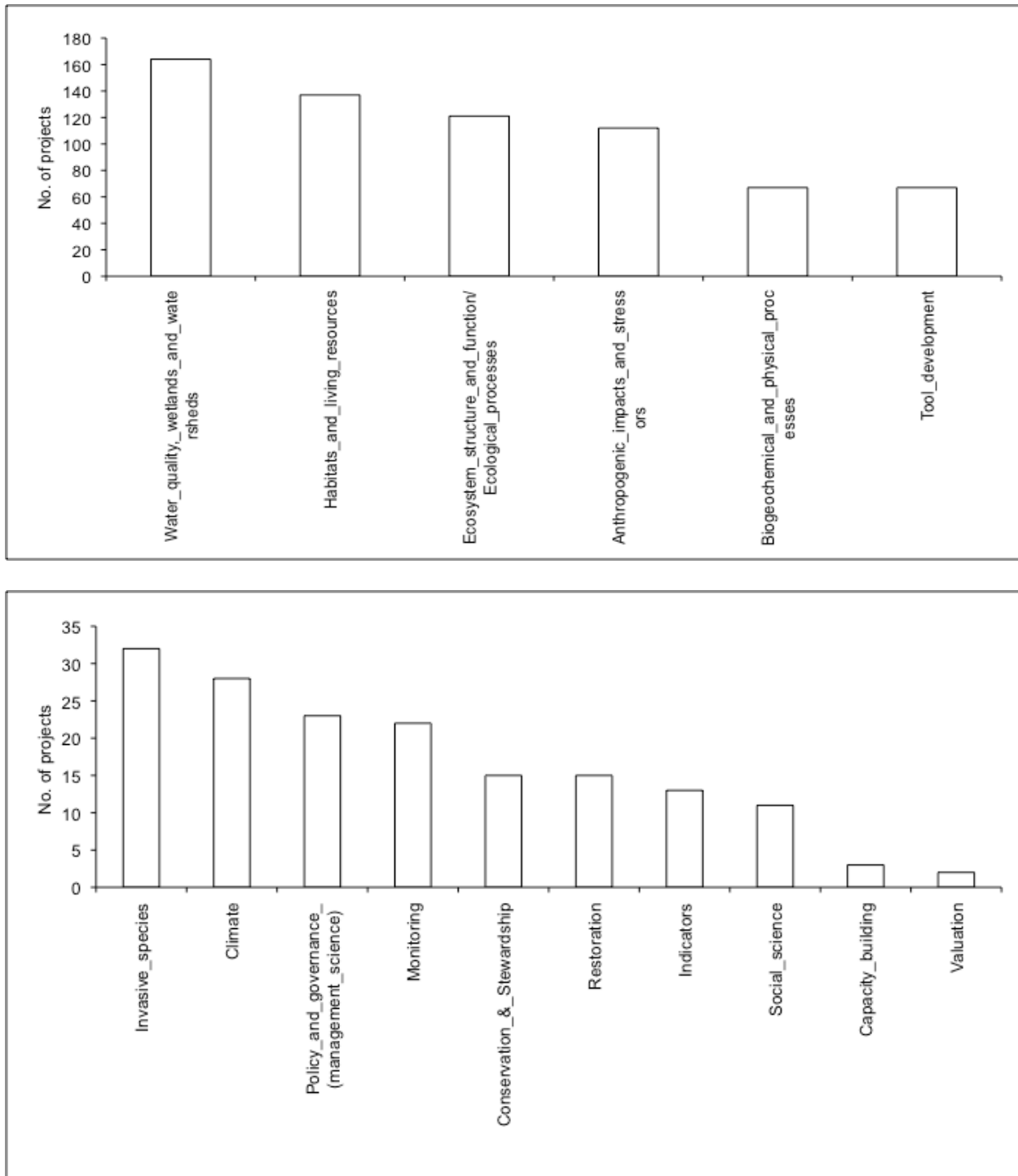


Figure 1. Number and categories of HCE-related research projects funded through omnibus, minibus, or NSIs from FY10-FY13.

Appendix: HCE-related research projects funded through omnibus, minibus, or NSIs from FY10-FY13

Water quality, wetlands and watersheds – 165 projects

- CA Extending the Use of Solid Phase Adsorption Toxin Tracking to the Land-Sea Interface
- CA The Role of Symbiotic Bacterial Metabolites in the Development of Toxic Phytoplankton Blooms
- CA Patch dynamics of nutrients, fecal indicator bacteria and chlorophyll near the Tijuana River
- CA Is C/N decoupling caused by harmful algal blooms in Santa Monica Bay, CA?
- CA Investigating Sources, Transformations and Fates of Brominated Compounds in the Coastal Environment
- CA Diversity and Potential Pathogenicity of *Enterococcus faecium* in Beach Sands Determined by Multilocus Sequence Typing
- CA Gonadal gene expression to characterize responses of Longjaw mudsucker to contaminated environments
- CA Cellular Mechanism of Toxin Release in Harmful Algae
- CA Molecular Identity of gonyaulacoid dinoflagelates associated with mortalities of abalone, urchins, and other marine invertebrates in Sonoma County, CA
- CA Beaches as Threatened Ecosystems: An Evaluation of Status and Trends in the Ecology of California's Sandy Beaches
- CA Development of Novel Stable Isotope Approaches to Evaluate Carbon Flow in a Restored Coastal Wetland in Southern California
- CA Transferrable antibiotic resistance plasmids in urban coastal wetlands
- CA Effects of Freshwater Flow and Population Connectivity on Benthic Community Dynamics in the San Francisco Estuary
- CT End Member Mixing Analysis to Quantify Nonpoint Sources in Long Island Sound
- CT Effects of Acidification on Coastal Habitats in Long Island Sound
- CT Bloom Control and Toxin Transfer of the Toxic Dinoflagellate *Alexandrium* sp. via Zooplankton in Long Island Sound
- CT Emerging Contaminants in Long Island Sound: Effects of Nanoparticles on Suspension-Feeding Bivalve Molluscs
- CT Measuring and Predicting the Fate and Transport of PerFluorinated Contaminants Entering the Long Island Sound from Municipal Wastewater in the Housatonic Watershed
- DE Assessing the equilibrium sediment flux of Delaware tidal wetland rivers
- DE Developmnet of diatoms as indicators of water quality in Delaware's Inland Bays
- DE A Process-Based Model of Long Term Marsh Platform and Shoreline Evolution in Response to Rising Sea Level and Subsurface Flow

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- DE Delaware Bay Primary Production Controls by Coastal Upwelling and River Discharge
- DE The Vibrio-HAB connection: Investigating interactions between harmful algal bloom species and pathogenic Vibrio species
- DE Controls of Delaware Bay Primary Production: Expanded Ferry Monitoring with Modeling
- DE Molecular Tracking of Fecal Contamination in Delaware Coastal Waters
- DE REGIONAL: Forecasting Watershed Loading and Lagoon Response Along the Delmarva Peninsula due to Changing Landuse and Climate
- FL Developing Indicators to Quantify Oyster Reef Water Filtration Services Along Florida's Gulf and Atlantic Coasts
- GA Accumulation of Common Ingredients of Personal Care Products in Estuarine Food Webs
- GA Development of high-resolution optic methods for the study of water quality in a tidal marsh setting
- GA Experimental Oyster Reefs to Improve Coastal Water Quality
- HI Quantifying Fluxes and Dissolved Loads of Submarine Groundwaters to Oahu's Coastal Zone
- HI Copepod recruitment in Kaneohe Bay following storm events
- HI Skeletal Growth Anomalies in Corals of genus Montipora: Physiological and Ecological Consequences and Correlations with Water Quality
- HI Connecting Land-Use to Submarine Groundwater Discharge Loads and Coral Reef Health within the Coastal Zones of Maui
- HI Plankton Food Web Dynamics and Storm Events in Kaneohe Bay
- HI Collaborative Research to Develop Sustainable Ecosystem Management: Analysis of Water Resources and Quality in the Contemporary Ahupua'a
- ILIN Alteration of Nutrient Cycling and Food Web Structure by Profundal Quagga Mussels in Lake Michigan
- LA The Toxicity of Dispersant Corexit 9500 on Blue Crab Juveniles under Gulf of Mexico Conditions
- LA Development of Conceptually Simple Models for Salinity Intrusion on Bayou Lafourche
- LA Prediction of Wetland Sedimentation and Erosion Caused by Hurricanes
- LA Effects of Nutrient Enrichment, Sea Level and Herbivory on the Recovery of Coastal Marshes from Hurricane-Induced Salt Water Intrusion
- LA Nitrogen mass balance in wetlands receiving diverted Mississippi River water: Utility to development of Conceptual Ecological Models
- LA Sediment Dynamics and Biogeochemical Cycling in a Developing Deltaic System: Understanding Land Building and Habitat Quality in a River Diversion
- LA Isotopic Tracing of Riverine Nitrogen Transformation and Transport from the Atchafalaya to the Gulf of Mexico
- LA Evaluation of Potential Impacts of Oil Spill from the Accident of the BP Deepwater Horizon Rig on the Vegetation of Louisiana Coastal Wetlands
- LA Private market alternatives for maintaining wetland viability in coastal Louisiana: A double-hurdle approach

LAW	Legal Tools and Best Practices for Reducing Harmful Algae Blooms in Lake Erie
LC	STRATEGIES TO INCREASE COVER CROPPING AND IMPROVE WATER QUALITY
MD	METHOD ASSESSMENT FOR DNRA MEASUREMENTS AND APPLICATION TO THE COASTAL BAYS
MD	AN INTEGRATED ECOSYSTEM ASSESSMENT OF THE POTOMAC RIVER ESTUARY
MD	EFFECTS OF DIEL CYCLING HYPOXIA ON ACQUISITION AND PROGRESSION OF PERKINSUS MARINUS
MD	CONNECTIVITY OF FISH NURSERY HABITATS BETWEEN MARYLAND'S COASTAL BAYS AND NEAR SHORE OCEAN ENVIRONMENT
MD	UNEXPECTED RESURGENCE OF SUBMERSED PLANT BEDS IN CHESAPEAKE BAY: HISTORICAL DATA ANALYSIS AND MODELING
MD	Unexpected Resurgence of Submersed Plant Beds in Chesapeake Bay: Role of Nutrient Inputs and Biogeochemical Cycling
MD	A biologically-optimized environmental classification of Maryland streams: assessing impacts of stream burial and responses to climate change
MD	ASSESSING THE HABITAT VALUE, LOCAL WATER QUALITY IMPACTS AN NUTRIENT UPTAKE POTETIAL OF FLOATING ISLAND WETLANDS IN THE INNER HARBOR, BATIMORE, MD
MD	VIOLACEIN PRODUCING BACTERIA AND DEATH OF OYSTER LARVAE
MD	THE EVOLUTIONARY AND ECOLOGICAL POTENTIAL OF VALLISNERIA AMERICANA IN CHESAPEAKE BAY
MD	EXPLORATORY STUDY OF TRACE METALS IN THE CHESTER RIVER
MD	PRESCRIBED BURNS IN THE SUSTAINABLE CONSERVATION AND RESTORATION OF TIDAL MARSHES
ME	The Critical Leading Edge of Gulf of Maine Salt Marshes – Interface with Freshwater Wetlands, Uplands, and Constraints by Human Development
ME	Restoration of anadromous fishes: the effects of dam removal and habitat conditioning in spawning streams
MI	Using an Integrated Assessment Approach to Restore a Natural Flow Regime in the Clinton River Watershed
MIT	Assessment of Salt Marsh Buffering Capacity and Vulnerability to Climate-Related Impacts
MIT	Development and Validation of the Water Quality Model System for Massachusetts
MIT	Innovative uses of a power plant's thermal discharge: destratifying the Charles River Basin
MIT	A Coupled Biogeochemical-Genomic Approach to Answer – Have We Underestimated Sediment N Fixation?
MIT	Enabling high- and low-molecular weight AUV-based chemical analysis:
MIT	Active samplers: development of biomarkers for coastal pollution in the blue
MIT	Combating nitrogen-driven coastal eutrophication: a selective ion array approach to rapid in-situ measurement of nitrate and ammonium

- MIT Development of an Automated Seepage Meter for Quantifying Submarine Groundwater Discharge in the Coastal Zone
- MIT Assessing the Bioactivity of Estrogens, Including Halogenated Derivatives, in Chlorinated Sewage Effluents and Coastal Seawater
- MIT Microbial community composition of permeable reactive barriers: who is really doing the work?
- MIT CCD: Water Quality Monitoring and Improvement
- MN Testing of an Innovative RBP for Detecting Early-Warning Changes in Quality of Urban Trout Streams
- MN Changing Nutrient and Productivity Regimes in Lake Superior: Causes and Time Course
- MN Temporal Pathogenicity Potential of Bacteria on Lake Superior Beaches and in Waterways
- MN Landscape Regulators of Biogeochemical Pattern and Process in the St. Louis River Estuary
- MS-AL Characterizing Stormwater Nitrogen Inputs To Mississippi's Coastal Waters: A Landscape Approach
- MS-AL Habitat Suitability Index for Submerged Aquatic Vegetation of the Mississippi Coast
- MS-AL Residence Time as a Factor Controlling HABs and Fecal Coliform Bacteria in Little Lagoon, AL
- NC Impacts of Sea-level Rise and Land-use Modifications on Fringing Marsh Sustainability
- NC Assessing the potential for estuarine nitrogen removal using ecosystem engineers
- NC A Metatranscriptomic Survey of the Eukaryotic Plankton Community Along the Freshwater-Marine Continuum in the Neuse River Estuary
- NC Examining the Source and Transport of Land-derived Material Impacting North Carolina Coastal Waters: An Integrated Approach using Remote Sensing, Fluorescence Spectroscopy and Geochemical Analysis
- NC Linking Changes in Hypoxia to Effects on Fish Growth Using Three Short-Term Growth Indicators
- NC Key Parameters for Assessing Beach Functionality
- NC Nitrogen Removal Capacity of NC Estuaries: Assessing Distribution and Controls
- NC Hydrocarbon Signatures in Coastal NC Water and Mesozooplankton Tissue
- NH Nutrient, trace metal and particle release from sediments in the Great Bay Estuary and riverine system
- NH Microbial pathogen removal guidance for stormwater management
- NH Interactions between Salinity and the Resident Microbial Community in Excluding Pathogenic Vibrio from Oysters
- NJ Comparative Analysis of Bivalve Clearance Rates for Restoration Management
- NJ Developing the Sampling Protocols and Competencies Needed to Monitor Effectiveness of a Rain Garden Designed for Nitrogen Removal

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- NJ Evaluating ecological and social impacts of New Jersey legislation regulating fertilizer nitrogen loads to Barnegat Bay – Little Egg Harbor Estuary by using isotopic signatures, seagrass demographics, social response, and communications
- NY Natural tracers of submarine groundwater discharge into Long Island Sound
- NY Winter assessment of microbial biomass and metabolism: Testing the importance of winter productivity to summer hypoxia in Lake Erie
- NY The Influence of Gelatinous Zooplankton on Nutrient Cycles, Hypoxia, and Food Webs across Long Island Sound
- NY Comparative Analysis of Eutrophic Condition and Habitat Status in Connecticut and New York Embayments of Long Island Sound
- NY Managing brown tide: nitrogen physiology of *Aureococcus anophagefferens* within the plankton community context
- NY Cumulative impacts of multiple stressors on eelgrass populations in New York estuaries
- NY Phase Shifts Among Primary Producers Within Long Island Sound: Will Anthropogenic Stressors Continue to Expand the Niche of PSP- and DSP-producing Dinoflagellate Blooms?
- NY Using Plant Traits to Predict How Plant Community Changes will Affect Denitrification in Wetlands
- NY Effect of Salinity Intrusion on Hudson River Wetland Nitrogen Cycling
- NY The role of sediments in nitrogen cycling and eutrophication in the Peconic estuary
- NY Systematic Evaluation of Nitrogen Removal by BMPs in the Long Island Sound Watershed
- NY Nitrogen Removal Capacity of Connecticut Estuaries: Assessing Distribution and Controls
- NY Effects of Low Toxicity, High Concentration *Alexandrium fundyense* Blooms on Growth and Condition of *Mercenaria mercenaria* and *Mya arenaria*
- OH Winter assessment of microbial biomass and metabolism in Lake Erie
- OH Hypoxia in the Western Basin of Lake Erie
- OH The role of sediment in controlling the fate and toxicity of microcystin
- OH Environmental tolerance of type A influenza virus isolated from wild waterfowl in Ohio
- OH Fate of Inorganic Nanoparticles in Surface Water Environments
- OH Bench-scale evaluation of in-situ ultrasonic remediation of contaminated sediments
- OH Uptake of Agricultural Hormones and Analogs by Plants in the Lake Erie Watershed
- OH Should nitrogen be managed in Lake Erie? The potential role of nitrogen fixation by cyanobacteria
- OH Impacts of climate change on public health in the Great Lakes due to harmful algae blooms
- OR Effects of hypoxia on ichthyoplankton and micronekton communities off the Oregon coast

- OR Drivers of ecosystem resilience: toward a predictive understanding of hypoxia's impacts on nearshore fisheries and ecological communities
- PR APPLICATION OF THE SOIL AND WATER ASSESSMENT TOOL MODEL (SWAT) TO ESTIMATE DISCHARGE AND SEDIMENT YIELDS FROM THE RIO GRANDE DE AÑASCO WATERSHED, PUERTO RICO
- RI Climate change implications for the treatment and function of onsite wastewater treatment systems.
- RI Impacts of anaerobic ammonium oxidation (anammox) on benthic nitrogen cycling in Rhode Island coastal waters
- RI Evaluating climate change impacts on nitrogen cycling along a gradient of anthropogenic impact - from Narragansett Bay to Rhode Island Sound and Block Island Sound
- RI Assessing nitrogen sources supporting phytoplankton along the eutrophication gradient in Narragansett Bay.
- RI Modeling connections between circulation, nitrogen transport and water quality in Narragansett Bay: Implications for management strategies.
- RI Response of nitrogen cycling consortia to changes in nutrients and dissolved oxygen in Narragansett Bay.
- SC Geochemical Characteristics of Submarine Groundwater Seeps on the South Carolina Continental Shelf
- SC Physical Controls on Benthic Fluxes of Microalgae and Particulate Organic Matter in Estuarine Environments
- SC Submarine Groundwater Discharge to Long Bay, SC: Preliminary Assessment of Land Use Impact, Geological Controls and Nutrient Loads
- TX Geological Controls on Submarine Groundwater Discharge Into an Upper Bay Estuary-Copano Bay
- TX Evaluation of LISST instruments to monitor for harmful algal blooms (HABs) in Texas coastal waters
- TX Role of Microzooplankton in Coastal Ecosystems: Viewing Windows of Opportunity
- TX Investigating Processes that Affect Texas Coastal Hypoxia
- TX Population Status and Demographics of the Texas Diamondback Terrapin (*Malaclemys terrapin littoralis*)
- TX Evaluation of Brevetoxin in Moribund Fish
- TX Determining Pharmaceutical Loadings to Select Texas Coastal Systems and Associated Risks to Aquatic Life
- TX Mangroves Invading Texas Salt Marshes: Does it Matter?
- TX Movement and Population Connectivity of Fishes Across Estuarine Seascapes
- USC POPULATION DIFFERENCES IN TOXICANT SENSITIVITY IN THE TIDEPOL COPEPOD *TIGRIOPIUS CALIFORNICUS*: GENETIC VS. ENVIRONMENTAL FACTORS
- USC HIGH RESOLUTION REMOTE SENSING OF COASTAL DISCHARGE PLUMES AND ALGAL BLOOMS IN THE SOUTHERN CALIFORNIA BIGHT
- USC IMPACTS OF ALGAL TOXIN ON SPECIES COMPOSITION OF COASTAL PLANKTON COMMUNITIES
- USC Resolving the annual pattern of algal toxins in coastal waters of Los Angeles

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- USC Contaminant-Related Thyroid Disruption in Wild Fish in Southern and Northern California: Cause and Effect Evaluations
- USC The Role of small upstream reservoirs in trapping organic carbon, nutrients, and metals in the San Francisco Bay Area
- USC Will a warmer, more acidic ocean lead to increased pseudo-nitzschia bloom toxicity in the southern California bight?
- VA Bioavailability of effluent organic nitrogen in Virginia coastal waters
- VA Assessing Ecosystem-level Effects of Hard Clam Aquaculture in Water Quality and Nutrient Dynamics
- VA Integrated modeling of SAV habitat requirements: Improving predictions of water quality on a critical marine resource
- VA Opening the bottleneck in bay scallop restoration: Impacts of micropredators on recently settled bay scallops
- WA SCALES OF RESIDENCE-TIME VARIATION IN NORTHWEST ESTUARIES
- WA How does hypoxia impact marine food webs and fisheries? Evaluating distributional shifts in Hood Canal, WA.
- WA Troubled sediments: Heterosigma cyst formation and longevity
- WA Understanding dormancy requirements and germination of Alexandrium cysts and evaluating cyst mapping as a tool for early warning of harmful algal blooms
- WHOI Alternative Nitrogen Cycling Pathways: When Does Nitrate Disappearance Alleviate Eutrophication?
- WHOI Assessing The Impact of Hypoxia/Anoxia on Sediment Denitrification and the Production of Nitrous Oxide in Waquoit Bay
- WHOI Does Epiphytic Nitrogen Fixation Lead to a Spiral of Increasing Eutrophication in Shallow Estuaries?
- WHOI Quantifying the Impact of Low Oxygen Conditions on Sediment Methane Fluxes in Waquoit Bay
- WHOI Shifts in Greenhouse Gas Emissions and Productivity of Coastal Wetlands in Response to Anthropogenic N Loading and Rising Sea Level
- WI An Autonomous Microbial Genosensor for Detection of Gene Expression in Toxic Cyanobacteria
- WI Application of Molecular Based Methods for Investigation Sources of Fecal Pollution at Great Lakes Beaches
- WI Modeling the Interactive Effects of Dreissenid Invasion and Nutrient Loading on Autotrophic and Food Web Structure in Green Bay, Lake Michigan
- WI Understanding Biological Impacts of Metals in Coastal and Urban Waters of the Great Lakes: Ligand-Interactions, Novel Biochemical Endpoints, and Model Development
- WI Living on the Edge: The Role of the Microbial Community at the Sand-Water Interface in Degraded Beach Water Quality and Ecosystem Health
- WI Interactions Between Dreissenid Mussels and River Sediment Plumes After Resuspension in the Coastal Area Around Sheboygan Harbor

Habitat & living resources - 137 projects

- AK Developing High-Resolution Strontium Isotope Maps of Alaska Rivers to Track Pacific Salmon Migrations: The Nushagak River as a Case Study to Evaluate Spatial and Seasonal Variability
- AK The seasonal and interannual patterns of larvaceans and pteropods in the Coastal Gulf of Alaska, and their relationship to Pink Salmon survival
- AK The seasonal and interannual patterns of larvaceans and pteropods in the Coastal Gulf of Alaska, and their relationship to Pink Salmon survival
- AK Ecological, economic and social changes as a result of Sea Otter recolonization in southern Southeast, Alaska
- AK Collaborative Research: Building Capacity for Community-based Marine Mammal Conservation in Bristol Bay
- AK Parsimony in Integrated Age-Structured Assessment Models: Modeling of Time-dependent Parameters and Uncertainty in a Changing Environment
- AK Identifying Red and Blue King Crab Stocks for Sustainable Harvest and Sustainable Coastal Alaskan Communities
- CA Connectivity of West Coast Marine Sanctuaries: Tracking Sooty Shearwaters Throughout Dynamic Upwelling Ecosystems in the California Current System
- CA Reefs that rock and roll: Critical assessment of rhodolith bed habitat at Catalina Island to inform the California South Coast Region MPA process
- CA Trophic Ecology of the gopher rockfish (*Sebastes carnatus*): providing baseline information for monitoring and evaluation of marine protected areas.
- CA Effects of Marine Reserves on Behaviorally-Mediated Changes in Spawning Success of California Sheephead
- CA Biogeographical variation in trophic interactions on temperate reefs of the Southern California Bight
- CA Developing the capability to monitor and predict upwelling along the California coast using an ocean circulation model
- CA Exploring the Impact of Avian Predators on Central California Salmonids
- CA Cross-shelf larval migrations regulating larval supply and connectivity in a network of marine reserves
- CA High throughput molecular identification of fish eggs and larvae
- CA Understanding the roles of competing bacterial endosymbionts in abalone health, management, and restoration
- CA The sustainability and fine-scale management of a sea urchin fishery and the ecology of exploitation in a southern California kelp forest
- CA MPA-Based Collaborative Techniques to Improve Management of Nearshore Fisheries
- CA Modeling Physical Drivers and Age Structure of Cottonwood Forest Habitat: An Integrated Systems Approach
- CA Response of calcified and fleshy macroalgae to warming and ocean acidification: from single species to community interactions
- CT Temperature, Salinity and Sea Level in Long Island Sound: NECOFS for Managing Coastal Resources, Ecosystems and Habitats

- CT Development of a Long Island Sound (LIS) Benthic Index for Assessing Environmental Conditions
- CT Using Technology to Assess the Invasive Sea Squirt, *Didemnum vexillum*, Impacts on Fisheries and Ecosystems (Regional Project - CT portion)
- CT Population Dynamics of Horseshoe Crabs and their Ecological Links to other species in Long Island Sound
- CT Mitigating Risk to Whales from Lobster Fishing (Northeast Sea Grant Consortium regional project)
- CT Response of Zooplankton to Projected Changes in Temperature in Long Island Sound
- CT Ingestion and Bioaccumulation of Nanospheres by Eastern Oysters (*Crassostrea virginica*): cellular effects and implications for shellfish safety
- CT Emerging Contaminants in Long Island Sound: Effects of Nanoparticles on Suspension-Feeding Bivalve Molluscs
- DE AUV-based Geoacoustical Mapping of Benthic Habitats in Delaware Bay
- DE Controls of Delaware Bay Primary Production: Expanded Ferry Monitoring with Modeling
- FL Oil contamination as a driver of archaeal abundance and diversity in the Gulf of Mexico
- FL Tracing the intrusion of the GOM-2010 oil spill on coastal food webs with natural abundance radiocarbon
- FL Southwest Florida Bay Scallop Restoration and Monitoring Initiative
- FL Developing Indicators to Quantify Oyster Reef Water Filtration Services Along Florida's Gulf and Atlantic Coasts
- FL Identifying magnitude and sources of change in oyster reefs in the Big Bend Area of Florida
- FL Effects of oiling on oyster resources in the Big Bend of Florida
- FL A pre-spill assessment of seagrasses along Florida's Gulf coast
- FL Investigating the effects of the DWH oil spill on the trophic ecology of sharks and teleost fishes of the Florida Big Bend using stable isotope analysis
- FL Environmental Controls on the Dynamics of Nursery Habitat Quality for Estuarine-Dependent Fishes
- GA Dynamics of benthic invertebrate communities on temperate offshore reefs of Georgia
- GA Experimental Oyster Reefs to Improve Coastal Water Quality
- GA Using ecosystem services to evaluate future development scenarios in coastal Georgia
- HI Skeletal Growth Anomalies in Corals of genus *Montipora*: Physiological and Ecological Consequences and Correlations with Water Quality
- HI An empirical test of ecosystem-based management: how density and size structure of opihi affect community structure
- HI Ocean Acidification: Impacts on Calcification and Carbonate Mineral Dissolution on the Barrier Reef of Kaneohe Bay, Hawaii
- LA Identification and incorporation of quantitative indicators of ecosystem function into single-species fishery stock assessment models and the associated biological reference points

- LA The Toxicity of Dispersant Corexit 9500 on Blue Crab Juveniles under Gulf of Mexico Conditions
- LA Are Louisiana's Shelf-Edge Banks the Center of Abundance and Historical Natural Refuge for the Gulf of Mexico's Most Valuable Reef Fish: A Pilot Study
- LA Prediction of Wetland Sedimentation and Erosion Caused by Hurricanes
- LA Wetland restoration with sediment conveyance: an experimental approach to reduce uncertainties in attaining successful restoration
- LA Sediment Dynamics and Biogeochemical Cycling in a Developing Deltaic System: Understanding Land Building and Habitat Quality in a River Diversion
- LA Oral history in communities at risk
- LA Changes in coastal food webs caused by the Deepwater Horizon crude oil spill: responses by and effects on oysters and other primary consumers
- LA Effects of the Deepwater Horizon oil spill on growth and mortality of *Farfantepenaeus aztecus* (Ives, 1891) and *Callinectes sapidus* (Rathbun, 1896) in an affected Louisiana estuary.
- LA Deepwater Horizon Oil Spill Effects on Blue Crab Recruitment
- LA Assessing oil spill impacts on juvenile fishes, crabs, and shrimp at the Chandeleur Islands: a comparison to baseline data
- LA Acute responses of oyster populations to the Deepwater Horizon oil spill across coastal Louisiana: examining hydrocarbon bio-accumulation and oyster health
- LA Rapid assessment of the impact of the Deep Horizon oil spill on Louisiana oyster reefs
- LA Evaluation of Potential Impacts of Oil Spill from the Accident of the BP Deepwater Horizon Rig on the Vegetation of Louisiana Coastal Wetlands
- LA Quantifying the effects of crude oil on the base of the food web by analyzing the evolution of phytoplankton population pre and post Deepwater Horizon oil spill event.
- LA Acute toxicity of a major oil dispersant component to eggs, larvae, and juvenile Gulf killifish (*Fundulus heteroclitus*) at varying salinities
- LA The influence of oil dispersants and salinity on the biodegradation crude oil components and the resulting effects on sediment microbial community structure and diversity
- LA Private market alternatives for maintaining wetland viability in coastal Louisiana: A double-hurdle approach
- LAW The Regulatory Governance Network of Ecosystem-based Fisheries Management in Chesapeake Bay: Mapping Institutions and Regulatory Jurisdiction to Assess Integration across Local, State, and Federal Scales
- MD EFFECTS OF DIEL CYCLING HYPOXIA ON ACQUISITION AND PROGRESSION OF *PERKINSUS MARINUS*
- MD ASSESSING THE HABITAT VALUE, LOCAL WATER QUALITY IMPACTS AN NUTRIENT UPTAKE POTETIAL OF FLOATING ISLAND WETLANDS IN THE INNER HARBOR, BATIMORE, MD
- MD VIOLACEIN PRODUCING BACTERIA AND DEATH OF OYSTER LARVAE
- ME The Critical Leading Edge of Gulf of Maine Salt Marshes – Interface with Freshwater Wetlands, Uplands, and Constraints by Human Development

- ME Restoration of anadromous fishes: the effects of dam removal and habitat conditioning in spawning streams
- MN Acoustic remote-sensing of native deep water lake trout spawning grounds in Eastern Lake Superior
- MN Stressor Gradients and Spatial Narratives of the St. Louis River Estuary
- MSAL A Decision Support Toolkit for the Functional Design of Structures in Living Shorelines
- MS-AL Fish and invertebrate community structure and food-web dynamics in tidal creeks in an anthropogenically fragmented, coastal landscape
- NC Effects of Habitat Alteration and Biotic Interactions on Survival of Juvenile Estuarine Fish
- NC Environmental Stress and Microbial Dynamics of Oysters and Marsh Mussels
- NC Are fish productivity metrics related to anthropogenic alterations of habitat?
- NC Metapopulation Dynamics Guides Oyster Restoration and Shell Budgets in NC
- NC Quantifying Oyster-Reef Accretion Rates and Structural Evolution for Improving Restoration Success
- NC Application of genetic markers to inform river herring management
- NC Linking Changes in Hypoxia to Effects on Fish Growth Using Three Short-Term Growth Indicators
- NC Key Parameters for Assessing Beach Functionality
- NH Interactions between Salinity and the Resident Microbial Community in Excluding Pathogenic *Vibrio* from Oysters
- NJ Survey and Mapping of Temperate Reef Habitats
- NJ Habitat Dynamics of Adult Winter Flounder: Connectivity between Estuaries and Inner Continental Shelves influence management of human impacts associated with dredging
- NJ An unwelcome guest? Is the presence of the invasive swim-bladder parasite, *Anguillicola crassus*, influencing American eel (*Anguilla rostrata*) recruitment in New Jersey estuaries?
- NJ The decline of winter flounder: Influences of changes in connectivity between estuaries and the inner continental shelf
- NY The Influence of Gelatinous Zooplankton on Nutrient Cycles, Hypoxia, and Food Webs across Long Island Sound
- NY Comparative Analysis of Eutrophic Condition and Habitat Status in Connecticut and New York Embayments of Long Island Sound
- NY Genomic Analysis of Oyster Dispersal and Recruitment Success
- NY Effects of Low Toxicity, High Concentration Alexandrium fundyense Blooms on Growth and Condition of *Mercenaria mercenaria* and *Mya arenaria*
- OR Modeling Myxozoan Disease in Pacific Salmon: How Will Climate Change Affect Parasite Distribution and Salmon Survival?
- OR Effects of hypoxia on ichthyoplankton and micronekton communities off the Oregon coast
- OR Drivers of ecosystem resilience: toward a predictive understanding of hypoxia's impacts on nearshore fisheries and ecological communities
- OR Response of Marsh Insects and Benthic Invertebrates to Dike Removal in the Salmon River Estuary: Follow-up, Synthesis and Education

- OR Tides, Freshwater and Winds: Modeling the impacts of currents on the Oregon inner continental shelf and within Yaquina Bay estuary
- PR MOLECULAR ECOLOGY OF ANTIMICROBIAL RESISTANCE TRAITS IN BACTERIAL AND FUNGAL POPULATIONS FROM CRITICAL COASTAL HABITATS IMPACTED BY SEWAGE, ANIMAL WASTE, AND WASTEWATER TREATMENT PLANT DISCHARGES
- RI Ecological effects of nutrient enrichment on a coastal fringe mangrove system in Jobos Bay, Puerto Rico.
- RI Development of new methods to examine the ecology of a key primary producer in Narragansett Bay.
- RI Concluding the BayMap habitat mapping project and assessing the impact of nutrient reductions on habitat quality in upper Narragansett Bay and Greenwich Bay.
- RI City to Sound: Benthic-pelagic coupling in the Providence River Estuary, Narragansett Bay, Rhode Island Sound, and Block Island Sound.
- RI A multi-proxy reconstruction of anthropogenic induced productivity and spatial coupling in Narragansett Bay
- RI Evaluating climate change impacts on nitrogen cycling along a gradient of anthropogenic impact - from Narragansett Bay to Rhode Island Sound and Block Island Sound
- RI Nutrient thresholds, gradients and ecofunctional zones in Narragansett Bay: Effects of nitrogen reduction on phytoplankton bloom behavior.
- RI Assessing nitrogen sources supporting phytoplankton along the eutrophication gradient in Narragansett Bay.
- RI The role of interspecies interactions in mitigating diseases of marine animals
- SC Characterization of Southern Flounder Spawning, Spawning Locations and Larval Dispersal off South Carolina
- SC Consequences of Altered Temperature Regimes on the Reproduction, Survival, Growth, and Interactions of Two Key Estuarine Fauna
- TX An experimental test of the effects of beach raking on macroinvertebrate communities of Texas beaches
- TX Post-Ike Recovery of Upper Texas Coast Beaches and their Status as Sea Turtle Nesting Habitat
- TX Evaluation of Brevetoxin in Moribund Fish
- TX Movement and Population Connectivity of Fishes Across Estuarine Seascapes
- USC IMPACTS OF ALGAL TOXIN ON SPECIES COMPOSITION OF COASTAL PLANKTON COMMUNITIES
- USC Contaminant-Related Thyroid Disruption in Wild Fish in Southern and Northern California: Cause and Effect Evaluations
- USC The value of habitat diversity of marine reserves: Spiny lobster and sheephead use of the intertidal zone at Santa Catalina
- VA Bioavailability of effluent organic nitrogen in Virginia coastal waters
- VA Assessing Ecosystem-level Effects of Hard Clam Aquaculture in Water Quality and Nutrient Dynamics
- VA Integrated modeling of SAV habitat requirements: Improving predictions of water quality on a critical marine resource

- VA Opening the bottleneck in bay scallop restoration: Impacts of micropredators on recently settled bay scallops
- WA RE-COLONIZATION OF THE UPPER CEDAR RIVER BY ANADROMOUS SALMONIDS
- WA Non-invasive Physiological Monitoring of Southern Resident Killer Whales
- WA How does hypoxia impact marine food webs and fisheries? Evaluating distributional shifts in Hood Canal, WA.
- WA Partitioning multiple pressures impacting southern resident killer whales
- WA Effects of early exposure of Pacific oysters to ocean acidification on subsequent performance
- WA Recovery of Elwha River salmon and trout after dam removal: Recolonization and the awakening of dormant life history diversity
- WA Effects of ocean acidification on trophically-important crustacean zooplankton of Washington State
- WHOI Mitigating Risk to Whales from Lobster Fishing
- WHOI Reconciling Distributional Patterns with Foraging Processes in an Ecological Hotspot: Aggregation of Humpback Whales, Prey Abundance and Distribution, and the Shoaling of Non-Linear Internal Waves
- WI CERCOPAGIS INVASION OF LAKE MICHIGAN: PREDICTABLE RESPONSES OR INVASIONAL MELTDOWN OF THE PLANKTONIC FOOD WEB?
- WI PARALLEL TOXICOGENOMIC RESOURCES FOR ZEBRAFISH AND RAINBOW TROUT: IDENTIFYING CONSERVED MOLECULAR BIOMARKERS OF TOXICANT EXPOSURE
- WI GENOMIC APPROACH TO UNDERSTANDING TCDD TOXICITY IN ZEBRAFISH
- WI Utilizing Molecular Genetic Markers to Develop Wild Rice Restoration and Management Guidelines for Great Lakes Coastal Habitats
- WI LAKE SUPERIOR FOOD WEB DYNAMICS: MODELING AT MULTIPLE SCALES
- WI Ecological Immunology and Pathogen Resistance of Amphibians in Stressed Great Lakes Ecosystems
- WI Constructing the Nearshore Lake Michigan Food Web Using Multiple Trophic Indicators
- WI Understanding Biological Impacts of Metals in Coastal and Urban Waters of the Great Lakes: Ligand-Interactions, Novel Biochemical Endpoints, and Model Development
- WI Linking Primary Production and Fish Along the Trophic Gradient in Green Bay, Lake Michigan

Ecology, Ecosystem_structure_and_function/ Ecological_processes – 121 Projects

- AK Increased Variance As a Leading Indicator of Reorganization in Alaskan Marine Ecosystems: An Empirical Test
- CA Connectivity of West Coast Marine Sanctuaries: Tracking Sooty Shearwaters Throughout Dynamic Upwelling Ecosystems in the California Current System
- CA Beaches as Threatened Ecosystems: An Evaluation of Status and Trends in the Ecology of California's Sandy Beaches
- CA Reefs that rock and roll: Critical assessment of rhodolith bed habitat at Catalina Island to inform the California South Coast Region MPA process
- CA Trophic Ecology of the gopher rockfish (*Sebastes carnatus*): providing baseline information for monitoring and evaluation of marine protected areas.
- CA Effects of Marine Reserves on Behaviorally-Mediated Changes in Spawning Success of California Sheephead
- CA Biogeographical variation in trophic interactions on temperate reefs of the Southern California Bight
- CA Exploring the Impact of Avian Predators on Central California Salmonids
- CA Cross-shelf larval migrations regulating larval supply and connectivity in a network of marine reserves
- CA Effects of Freshwater Flow and Population Connectivity on Benthic Community Dynamics in the San Francisco Estuary
- CT Development of a Long Island Sound (LIS) Benthic Index for Assessing Environmental Conditions
- CT Effects of Acidification on Coastal Habitats in Long Island Sound
- CT Using Technology to Assess the Invasive Sea Squirt, *Didemnum vexillum*, Impacts on Fisheries and Ecosystems (Regional Project - CT portion)
- CT Response of Zooplankton to Projected Changes in Temperature in Long Island Sound
- DE Invasion of the mitten crab in the Mid-Atlantic: Characterizing larval behavior to predict responses to climate change
- FL Oil contamination as a driver of archaeal abundance and diversity in the Gulf of Mexico
- FL Tracing the intrusion of the GOM-2010 oil spill on coastal food webs with natural abundance radiocarbon
- FL Spatial Ecological Modeling of the Gulf of Mexico Supporting an Integrated Ecosystem Assessment
- FL Environmental Controls on the Dynamics of Nursery Habitat Quality for Estuarine-Dependent Fishes
- GA Accumulation of Common Ingredients of Personal Care Products in Estuarine Food Webs
- GA Dynamics of benthic invertebrate communities on temperate offshore reefs of Georgia
- GA Experimental Oyster Reefs to Improve Coastal Water Quality
- GA Using ecosystem services to evaluate future development scenarios in coastal Georgia
- HI Introduced Fish as a Vector for Invasive Parasites

- HI Coral Reef Ecosystem Health within MLCs on Oahu
- HI Plankton Food Web Dynamics and Storm Events in Kaneohe Bay
- ILIN Alteration of Nutrient Cycling and Food Web Structure by Profundal Quagga Mussels in Lake Michigan
- IL-IN Research Program: Constructing the Nearshore Lake Michigan Food Web Using Multiple Trophic Indicators
- LA Identification and incorporation of quantitative indicators of ecosystem function into single-species fishery stock assessment models and the associated biological reference points
- LA Enhancing seed versatility and protection against biological and coastal environmental variables to improve success rates of smooth cordgrass aerial seeding
- LA Effects of Nutrient Enrichment, Sea Level and Herbivory on the Recovery of Coastal Marshes from Hurricane-Induced Salt Water Intrusion
- LA Changes in coastal food webs caused by the Deepwater Horizon crude oil spill: responses by and effects on oysters and other primary consumers
- LA Effects of the Deepwater Horizon oil spill on growth and mortality of *Farfantepenaeus aztecus* (Ives, 1891) and *Callinectes sapidus* (Rathbun, 1896) in an affected Louisiana estuary.
- LA Quantifying the effects of crude oil on the base of the food web by analyzing the evolution of phytoplankton population pre and post Deepwater Horizon oil spill event.
- LA Acute toxicity of a major oil dispersant component to eggs, larvae, and juvenile Gulf killifish (*Fundulus heteroclitus*) at varying salinities
- LAW Ecosystemic Legal Regime Development in the Gulf of Maine: Efforts and Impediments
- LAW Managing Change: Developing a Community-based Ecosystem Management Handbook for the U.S. Arctic Ocean
- LAW The Regulatory Governance Network of Ecosystem-based Fisheries Management in Chesapeake Bay: Mapping Institutions and Regulatory Jurisdiction to Assess Integration across Local, State, and Federal Scales
- MD AN INTEGRATED ECOSYSTEM ASSESSMENT OF THE POTOMAC RIVER ESTUARY
- MD FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING LAND USE AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY TRAJECTORIES
- MD REGIONAL: FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING LANDUSE AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY TRAJECTORIES
- MD CONNECTIVITY OF FISH NURSERY HABITATS BETWEEN MARYLAND'S COASTAL BAYS AND NEAR SHORE OCEAN ENVIRONMENT
- MD UNEXPECTED RESURGENCE OF SUBMERSED PLANT BEDS IN CHESAPEAKE BAY: HISTORICAL DATA ANALYSIS AND MODELING
- MD A biologically-optimized environmental classification of Maryland streams: assessing impacts of stream burial and responses to climate change
- MD ASSESSING THE HABITAT VALUE, LOCAL WATER QUALITY IMPACTS AN NUTRIENT UPTAKE POTETIAL OF FLOATING ISLAND WETLANDS IN THE INNER HARBOR, BATIMORE, MD

- MD QUANTIFYING FINE SCALE SPATIAL SEPARATION OF SMALL JELLYFISH IN CHESAPEAKE BAY: IMPLICATIONS FOR TROPHIC INTERACTIONS
- MD THE EVOLUTIONARY AND ECOLOGICAL POTENTIAL OF VALLISNERIA AMERICANA IN CHESAPEAKE BAY
- ME The Critical Leading Edge of Gulf of Maine Salt Marshes – Interface with Freshwater Wetlands, Uplands, and Constraints by Human Development
- ME Restoration of anadromous fishes: the effects of dam removal and habitat conditioning in spawning streams
- MI Integrated Assessment of Torch Lake Area of Concern
- MIT Incorporation of a compact digital holographic plankton camera into gliders and
- MIT Autonomous Vehicle Exploration and Sampling of Deep-Water Corals
- MN What Feeds Lake Superior Food Webs? A Multi-isotope Investigation
- MS-AL Fish and invertebrate community structure and food-web dynamics in tidal creeks in an anthropogenically fragmented, coastal landscape
- MS-AL Ecosystem Services Provided by Gulf of Mexico Habitats: Tools, Valuation, and Application
- NC Effects of Habitat Alteration and Biotic Interactions on Survival of Juvenile Estuarine Fish
- NC Assessing the potential for estuarine nitrogen removal using ecosystem engineers
- NC Environmental Stress and Microbial Dynamics of Oysters and Marsh Mussels
- NC A Metatranscriptomic Survey of the Eukaryotic Plankton Community Along the Freshwater-Marine Continuum in the Neuse River Estuary
- NJ Survey and Mapping of Temperate Reef Habitats
- NJ Habitat Dynamics of Adult Winter Flounder: Connectivity between Estuaries and Inner Continental Shelves influence management of human impacts associated with dredging
- NJ The decline of winter flounder: Influences of changes in connectivity between estuaries and the inner continental shelf
- NY The Influence of Gelatinous Zooplankton on Nutrient Cycles, Hypoxia, and Food Webs across Long Island Sound
- NY Sources and Fate of Nitrogen in North Shore Embayments
- OH Ecosystem Management Survey: Lake Erie and other Large Aquatic Ecosystems
- OH Environmental tolerance of type A influenza virus isolated from wild waterfowl in Ohio
- OH Development and validation of a high-resolution nearshore model for Lake Erie
- OH Impacts of climate change on public health in the Great Lakes due to harmful algae blooms
- OR Effects of hypoxia on ichthyoplankton and micronekton communities off the Oregon coast
- OR Drivers of ecosystem resilience: toward a predictive understanding of hypoxia's impacts on nearshore fisheries and ecological communities
- OR Understanding, Forecasting and Communicating the Linkages Between Hypoxia and Ocean Acidification in Oregon's Coastal Ocean
- OR Response of Marsh Insects and Benthic Invertebrates to Dike Removal in the Salmon River Estuary: Follow-up, Synthesis and Education
- OR Realized and potential larval connectivity along the Oregon coast

- OR Tides, Freshwater and Winds: Modeling the impacts of currents on the Oregon inner continental shelf and within Yaquina Bay estuary
- PR Symbiont diversity and population dynamics of coral reef sea anemones
- PR Deciphering Phosphorescent Bay: New Approaches Towards the Understanding of this Unique Ecosystem
- PR CHARACTER AND TIMING OF A REEF GIVE-UP EVENT ON THE SOUTHWEST PUERTO RICO SHELF
- PR SEA FAN ASPERGILLOSIS: DEMOGRAPHY, IMPACT AND STRESS
- PR ASPERGILLOSIS OF SEA FANS IN A GLOBAL CONTEXT
- PR MOLECULAR ECOLOGY OF ANTIMICROBIAL RESISTANCE TRAITS IN BACTERIAL AND FUNGAL POPULATIONS FROM CRITICAL COASTAL HABITATS IMPACTED BY SEWAGE, ANIMAL WASTE, AND WASTEWATER TREATMENT PLANT DISCHARGES
- PR APPLICATION OF THE SOIL AND WATER ASSESSMENT TOOL MODEL (SWAT) TO ESTIMATE DISCHARGE AND SEDIMENT YIELDS FROM THE RIO GRANDE DE AÑASCO WATERSHED, PUERTO RICO
- RI Ecological effects of nutrient enrichment on a coastal fringe mangrove system in Jobos Bay, Puerto Rico.
- RI Development of new methods to examine the ecology of a key primary producer in Narragansett Bay.
- RI Concluding the BayMap habitat mapping project and assessing the impact of nutrient reductions on habitat quality in upper Narragansett Bay and Greenwich Bay.
- RI City to Sound: Benthic-pelagic coupling in the Providence River Estuary, Narragansett Bay, Rhode Island Sound, and Block Island Sound.
- RI Nutrient thresholds, gradients and ecofunctional zones in Narragansett Bay: Effects of nitrogen reduction on phytoplankton bloom behavior.
- RI Assessing nitrogen sources supporting phytoplankton along the eutrophication gradient in Narragansett Bay.
- RI Modeling connections between circulation, nitrogen transport and water quality in Narragansett Bay: Implications for management strategies.
- RI The role of interspecies interactions in mitigating diseases of marine animals
- SC Characterization of Southern Flounder Spawning, Spawning Locations and Larval Dispersal off South Carolina
- SC Characterization of Wave and Current Energy Levels in Estuarine Waters for Ecological and Particulate Dispersion Studies: Case Study Winyah Bay, SC
- SC Consequences of Altered Temperature Regimes on the Reproduction, Survival, Growth, and Interactions of Two Key Estuarine Fauna
- TX An experimental test of the effects of beach raking on macroinvertebrate communities of Texas beaches
- TX Role of Microzooplankton in Coastal Ecosystems: Viewing Windows of Opportunity
- TX Investigating Processes that Affect Texas Coastal Hypoxia
- TX Determining Pharmaceutical Loadings to Select Texas Coastal Systems and Associated Risks to Aquatic Life
- TX Mangroves Invading Texas Salt Marshes: Does it Matter?
- TX Movement and Population Connectivity of Fishes Across Estuarine Seascapes

- USC POPULATION DIFFERENCES IN TOXICANT SENSITIVITY IN THE TIDEPOOL COPEPOD
TIGRIOPUS CALIFORNICUS: GENETIC VS. ENVIRONMENTAL FACTORS
- USC IMPACTS OF ALGAL TOXIN ON SPECIES COMPOSITION OF COASTAL PLANKTON
COMMUNITIES
- VA Assessing Ecosystem-level Effects of Hard Clam Aquaculture in Water Quality and
Nutrient Dynamics
- VA Integrated modeling of SAV habitat requirements: Improving predictions of water
quality on a critical marine resource
- VA Opening the bottleneck in bay scallop restoration: Impacts of micropredators on
recently settled bay scallops
- VA Sustainable seagrass restoration in the Virginia Coastal Bays
- WA SLICK FORMING ALGAE: GROWTH, GENETICS AND TOXICITY
- WA INTEGRATING INTERTIDAL HABITAT INTO SEATTLE WATERFRONT SEAWALLS
- WA GLASS SPONGE REEF HABITAT IN THE PACIFIC NORTHWEST
- WA Integrating Intertidal Habitat into Seattle Waterfront Seawalls, Phase 2
- WA Impacts of Armoring on Puget Sound Beaches: Diverse Effects on Diverse Scales
- WA Using microbiota for the evaluation and monitoring of Puget Sound ecosystems
- WA Effects of ocean acidification on trophically-important crustacean zooplankton of
Washington State
- WHOI Mechanisms for Success and Potential Impacts of an Invasive Seaweed
Heterosiphonia japonica in New England Coastal Waters
- WHOI Reconciling Distributional Patterns with Foraging Processes in an Ecological
Hotspot: Aggregation of Humpback Whales, Prey Abundance and Distribution, and
the Shoaling of Non-Linear Internal Waves
- WI LAKE SUPERIOR FOOD WEB DYNAMICS: MODELING AT MULTIPLE SCALES
- WI Physical and Biological Processes Associated with Resuspension of Contaminated
Sediments in the Sheboygan River Estuary
- WI Modeling the Interactive Effects of Dreissenid Invasion and Nutrient Loading on
Autotrophic and Food Web Structure in Green Bay, Lake Michigan
- WI Constructing the Nearshore Lake Michigan Food Web Using Multiple Trophic
Indicators
- WI Understanding Biological Impacts of Metals in Coastal and Urban Waters of the
Great Lakes: Ligand-Interactions, Novel Biochemical Endpoints, and Model
Development
- WI Alteration of Nutrient Cycling and Food Web Structure by Profundal Quagga
Mussels in Lake Michigan
- WI Linking Primary Production and Fish Along the Trophic Gradient in Green Bay, Lake
Michigan
- WI Interactions Between Dreissenid Mussels and River Sediment Plumes After
Resuspension in the Coastal Area Around Sheboygan Harbor

Anthropogenic impacts and stressors – 112 projects

- CA Beaches as Threatened Ecosystems: An Evaluation of Status and Trends in the Ecology of California's Sandy Beaches
- CA Reefs that rock and roll: Critical assessment of rhodolith bed habitat at Catalina Island to inform the California South Coast Region MPA process
- CA Transferrable antibiotic resistance plasmids in urban coastal wetlands
- CT Ingestion and Bioaccumulation of Nanospheres by Eastern Oysters (*Crassostrea virginica*): cellular effects and implications for shellfish safety
- CT Emerging Contaminants in Long Island Sound: Effects of Nanoparticles on Suspension-Feeding Bivalve Molluscs
- CT Measuring and Predicting the Fate and Transport of PerFluorinated Contaminants Entering the Long Island Sound from Municipal Wastewater in the Housatonic Watershed
- DE The Vibrio-HAB connection: Investigating interactions between harmful algal bloom species and pathogenic Vibrio species
- DE Molecular Tracking of Fecal Contamination in Delaware Coastal Waters
- DE REGIONAL: Forecasting Watershed Loading and Lagoon Response Along the Delmarva Peninsula due to Changing Landuse and Climate
- FL Oil contamination as a driver of archaeal abundance and diversity in the Gulf of Mexico
- FL Tracing the intrusion of the GOM-2010 oil spill on coastal food webs with natural abundance radiocarbon
- FL Identifying magnitude and sources of change in oyster reefs in the Big Bend Area of Florida
- FL Effects of oiling on oyster resources in the Big Bend of Florida
- FL A pre-spill assessment of seagrasses along Florida's Gulf coast
- FL Investigating the effects of the DWH oil spill on the trophic ecology of sharks and teleost fishes of the Florida Big Bend using stable isotope analysis
- FL Piloting a Community-Based Social Marketing Program to Protect Marine Ecosystems from Boating Impacts
- GA Accumulation of Common Ingredients of Personal Care Products in Estuarine Food Webs
- GA Using ecosystem services to evaluate future development scenarios in coastal Georgia
- LA The Toxicity of Dispersant Corexit 9500 on Blue Crab Juveniles under Gulf of Mexico Conditions
- LA Development of Conceptually Simple Models for Salinity Intrusion on Bayou Lafourche
- LA Effects of Nutrient Enrichment, Sea Level and Herbivory on the Recovery of Coastal Marshes from Hurricane-Induced Salt Water Intrusion
- LA Changes in coastal food webs caused by the Deepwater Horizon crude oil spill: responses by and effects on oysters and other primary consumers
- LA Microbial Species & Community Structure As Indicators Of Oil Spill Recovery & Restoration: Initial Investigations

- LA Effects of the Deepwater Horizon oil spill on growth and mortality of *Farfantepenaeus aztecus* (Ives, 1891) and *Callinectes sapidus* (Rathbun, 1896) in an affected Louisiana estuary.
- LA Deepwater Horizon Oil Spill Effects on Blue Crab Recruitment
- LA Assessing oil spill impacts on juvenile fishes, crabs, and shrimp at the Chandeleur Islands: a comparison to baseline data
- LA Acute responses of oyster populations to the Deepwater Horizon oil spill across coastal Louisiana: examining hydrocarbon bio-accumulation and oyster health
- LA Rapid assessment of the impact of the Deep Horizon oil spill on Louisiana oyster reefs
- LA Evaluation of Potential Impacts of Oil Spill from the Accident of the BP Deepwater Horizon Rig on the Vegetation of Louisiana Coastal Wetlands
- LA Quantifying the effects of crude oil on the base of the food web by analyzing the evolution of phytoplankton population pre and post Deepwater Horizon oil spill event.
- LA Acute toxicity of a major oil dispersant component to eggs, larvae, and juvenile Gulf killifish (*Fundulus heteroclitus*) at varying salinities
- LA The influence of oil dispersants and salinity on the biodegradation crude oil components and the resulting effects on sediment microbial community structure and diversity
- MD METHOD ASSESSMENT FOR DNRA MEASUREMENTS AND APPLICATION TO THE COASTAL BAYS
- MD CYANOBACTERIAL BLOOMS: A ROADBLOCK TO ESTUARINE RESTORATION
- MD EFFECTS OF DIEL CYCLING HYPOXIA ON ACQUISITION AND PROGRESSION OF *PERKINSUS MARINUS*
- MD REGIONAL: FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING LANDUSE AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY TRAJECTORIES
- MD A biologically-optimized environmental classification of Maryland streams: assessing impacts of stream burial and responses to climate change
- MD EXPLORATORY STUDY OF TRACE METALS IN THE CHESTER RIVER
- MD *Phragmites australis* Invasion in the Chesapeake Bay: Implications of Nitrogen Pollution, Elevated CO₂ and Genotypic Variation for Tidal Marsh Management
- ME The Critical Leading Edge of Gulf of Maine Salt Marshes – Interface with Freshwater Wetlands, Uplands, and Constraints by Human Development
- ME Restoration of anadromous fishes: the effects of dam removal and habitat conditioning in spawning streams
- MIT Innovative uses of a power plant's thermal discharge: destratifying the Charles River Basin
- MIT Assessing the Bioactivity of Estrogens, Including Halogenated Derivatives, in Chlorinated Sewage Effluents and Coastal Seawater
- MN Temporal Pathogenicity Potential of Bacteria on Lake Superior Beaches and in Waterways

MN	Stressor Gradients and Spatial Narratives of the St. Louis River Estuary
MS-AL	Characterizing Stormwater Nitrogen Inputs To Mississippi's Coastal Waters: A Landscape Approach
MS-AL	Residence Time as a Factor Controlling HABs and Fecal Coliform Bacteria in Little Lagoon, AL
MS-AL	Fish and invertebrate community structure and food-web dynamics in tidal creeks in an anthropogenically fragmented, coastal landscape
NC	Effects of Habitat Alteration and Biotic Interactions on Survival of Juvenile Estuarine Fish
NC	Impacts of Sea-level Rise and Land-use Modifications on Fringing Marsh Sustainability
NC	Are fish productivity metrics related to anthropogenic alterations of habitat?
NH	Nutrient, trace metal and particle release from sediments in the Great Bay Estuary and riverine system
NH	Microbial pathogen removal guidance for stormwater management
NH	Interactions between Salinity and the Resident Microbial Community in Excluding Pathogenic Vibrio from Oysters
NJ	Evaluating ecological and social impacts of New Jersey legislation regulating fertilizer nitrogen loads to Barnegat Bay – Little Egg Harbor Estuary by using isotopic signatures, seagrass demographics, social response, and communications
NY	Cumulative impacts of multiple stressors on eelgrass populations in New York estuaries
NY	Phase Shifts Among Primary Producers Within Long Island Sound: Will Anthropogenic Stressors Continue to Expand the Niche of PSP- and DSP-producing Dinoflagellate Blooms?
NY	Birdsong as an indicator of sublethal polychlorinated biphenyl (PCB) bioavailability in the environment
NY	Systematic Evaluation of Nitrogen Removal by BMPs in the Long Island Sound Watershed
NY	Nitrogen Removal Capacity of Connecticut Estuaries: Assessing Distribution and Controls
OH	Environmental tolerance of type A influenza virus isolated from wild waterfowl in Ohio
OH	Fate of Inorganic Nanoparticles in Surface Water Environments
OH	Uptake of Agricultural Hormones and Analogs by Plants in the Lake Erie Watershed
OH	Investigating the performance of active materials amended to clay minerals for sequestering sediment contaminants
OH	Should nitrogen be managed in Lake Erie? The potential role of nitrogen fixation by cyanobacteria
OR	Effects of hypoxia on ichthyoplankton and micronekton communities off the Oregon coast

- OR Drivers of ecosystem resilience: toward a predictive understanding of hypoxia's impacts on nearshore fisheries and ecological communities
- OR Understanding, Forecasting and Communicating the Linkages Between Hypoxia and Ocean Acidification in Oregon's Coastal Ocean
- OR Response of Marsh Insects and Benthic Invertebrates to Dike Removal in the Salmon River Estuary: Follow-up, Synthesis and Education
- PR BENTHIC FORAMINIFERA AS BIO-INDICATORS OF HEAVY METAL POLLUTION: TORRECILLA LABOON (SAN JUAN BAY ESTUARY), PUERTO RICO
- PR RAPID DETECTION AND QUANTIFICATION OF FECAL POLLUTION IN THE CARIBBEAN
- PR MOLECULAR ECOLOGY OF ANTIMICROBIAL RESISTANCE TRAITS IN BACTERIAL AND FUNGAL POPULATIONS FROM CRITICAL COASTAL HABITATS IMPACTED BY SEWAGE, ANIMAL WASTE, AND WASTEWATER TREATMENT PLANT DISCHARGES
- PR APPLICATION OF THE SOIL AND WATER ASSESSMENT TOOL MODEL (SWAT) TO ESTIMATE DISCHARGE AND SEDIMENT YIELDS FROM THE RIO GRANDE DE AÑASCO WATERSHED, PUERTO RICO
- RI Validating and improving a mechanistic sediment flux modeling framework to simulate a climate and nutrient management driven transition from eutrophication to oligotrophication.
- RI Ecological effects of nutrient enrichment on a coastal fringe mangrove system in Jobos Bay, Puerto Rico.
- RI Concluding the BayMap habitat mapping project and assessing the impact of nutrient reductions on habitat quality in upper Narragansett Bay and Greenwich Bay.
- RI A multi-proxy reconstruction of anthropogenic induced productivity and spatial coupling in Narragansett Bay
- RI Impacts of anaerobic ammonium oxidation (anammox) on benthic nitrogen cycling in Rhode Island coastal waters
- RI Evaluating climate change impacts on nitrogen cycling along a gradient of anthropogenic impact - from Narragansett Bay to Rhode Island Sound and Block Island Sound
- RI Nutrient thresholds, gradients and ecofunctional zones in Narragansett Bay: Effects of nitrogen reduction on phytoplankton bloom behavior.
- RI Assessing nitrogen sources supporting phytoplankton along the eutrophication gradient in Narragansett Bay.
- RI Modeling connections between circulation, nitrogen transport and water quality in Narragansett Bay: Implications for management strategies.
- RI Response of nitrogen cycling consortia to changes in nutrients and dissolved oxygen in Narragansett Bay.
- SC Physical Controls on Benthic Fluxes of Microalgae and Particulate Organic Matter in Estuarine Environments
- SC Submarine Groundwater Discharge to Long Bay, SC: Preliminary Assessment of Land Use Impact, Geological Controls and Nutrient Loads
- TX An experimental test of the effects of beach raking on macroinvertebrate communities of Texas beaches

Wan-Jean Lee

- TX Determining Pharmaceutical Loadings to Select Texas Coastal Systems and Associated Risks to Aquatic Life
- USC HIGH RESOLUTION REMOTE SENSING OF COASTAL DISCHARGE PLUMES AND ALGAL BLOOMS IN THE SOUTHERN CALIFORNIA BIGHT
- USC Contaminant-Related Thyroid Disruption in Wild Fish in Southern and Northern California: Cause and Effect Evaluations
- USC The Role of small upstream reservoirs in trapping organic carbon, nutrients, and metals in the San Francisco Bay Area
- VA Bioavailability of effluent organic nitrogen in Virginia coastal waters
- WA INTEGRATING INTERTIDAL HABITAT INTO SEATTLE WATERFRONT SEAWALLS
- WA Integrating Intertidal Habitat into Seattle Waterfront Seawalls, Phase 2
- WA Impacts of Armoring on Puget Sound Beaches: Diverse Effects on Diverse Scales
- WA How does hypoxia impact marine food webs and fisheries? Evaluating distributional shifts in Hood Canal, WA.
- WA Acoustic propagation measurement and modeling in Puget Sound to support noise environmental impact efforts
- WA Partitioning multiple pressures impacting southern resident killer whales
- WA Recovery of Elwha River salmon and trout after dam removal: Recolonization and the awakening of dormant life history diversity
- WHOI Alternative Nitrogen Cycling Pathways: When Does Nitrate Disappearance Alleviate Eutrophication?
- WHOI Does Epiphytic Nitrogen Fixation Lead to a Spiral of Increasing Eutrophication in Shallow Estuaries?
- WHOI Mitigating Risk to Whales from Lobster Fishing
- WHOI Shifts in Greenhouse Gas Emissions and Productivity of Coastal Wetlands in Response to Anthropogenic N Loading and Rising Sea Level
- WHOI Reconciling Distributional Patterns with Foraging Processes in an Ecological Hotspot: Aggregation of Humpback Whales, Prey Abundance and Distribution, and the Shoaling of Non-Linear Internal Waves
- WI PARALLEL TOXICOGENOMIC RESOURCES FOR ZEBRAFISH AND RAINBOW TROUT: IDENTIFYING CONSERVED MOLECULAR BIOMARKERS OF TOXICANT EXPOSURE
- WI GENOMIC APPROACH TO UNDERSTANDING TCDD TOXICITY IN ZEBRAFISH
- WI Ecological Immunology and Pathogen Resistance of Amphibians in Stressed Great Lakes Ecosystems
- WI Application of Molecular Based Methods for Investigation Sources of Fecal Pollution at Great Lakes Beaches
- WI Influence of Regional Mercury Sources on Lake Michigan Tributaries: A 15-Year Comparison
- WI Physical and Biological Processes Associated with Resuspension of Contaminated Sediments in the Sheboygan River Estuary
- WI Modeling the Interactive Effects of Dreissenid Invasion and Nutrient Loading on Autotrophic and Food Web Structure in Green Bay, Lake Michigan

- WI Understanding Biological Impacts of Metals in Coastal and Urban Waters of the Great Lakes: Ligand-Interactions, Novel Biochemical Endpoints, and Model Development
- WI Living on the Edge: The Role of the Microbial Community at the Sand-Water Interface in Degraded Beach Water Quality and Ecosystem Health

Biogeochemical and physical processes – 67 Projects

- CA Development of Novel Stable Isotope Approaches to Evaluate Carbon Flow in a Restored Coastal Wetland in Southern California
- CA Developing the capability to monitor and predict upwelling along the California coast using an ocean circulation model
- CA Modeling Physical Drivers and Age Structure of Cottonwood Forest Habitat: An Integrated Systems Approach
- CA Response of calcified and fleshy macroalgae to warming and ocean acidification: from single species to community interactions
- CA Beach evolution on scales from storms to years
- CT Temperature, Salinity and Sea Level in Long Island Sound: NECOFS for Managing Coastal Resources, Ecosystems and Habitats
- CT End Member Mixing Analysis to Quantify Nonpoint Sources in Long Island Sound
- DE Assessing the equilibrium sediment flux of Delaware tidal wetland rivers
- DE Chemical and biological sensors for the in situ determination of biogeochemical processes
- DE Quantifying short-term morphologic evolution and alongshore sediment transport rates at Cape Henlopen, DE using remote sensing and rapid response GPS-equipped vehicles
- DE A Process-Based Model of Long Term Marsh Platform and Shoreline Evolution in Response to Rising Sea Level and Subsurface Flow
- DE Delaware Bay Primary Production Controls by Coastal Upwelling and River Discharge
- DE Quantifying short-term morphologic evolution and alongshore sediment transport rates at Cape Henlopen, DE using remote sensing and rapid response GPS-equipped vehicles
- DE Advancing Radionuclide Tracer Techniques for Estuarine Sedimentary Research
- HI Hanauma Bay Circulation Study
- ILIN Alteration of Nutrient Cycling and Food Web Structure by Profundal Quagga Mussels in Lake Michigan
- LA Development of Conceptually Simple Models for Salinity Intrusion on Bayou Lafourche
- LA Enhancing seed versatility and protection against biological and coastal environmental variables to improve success rates of smooth cordgrass aerial seeding
- LA Effects of Nutrient Enrichment, Sea Level and Herbivory on the Recovery of Coastal Marshes from Hurricane-Induced Salt Water Intrusion
- LA Wetland restoration with sediment conveyance: an experimental approach to reduce uncertainties in attaining successful restoration
- LA Nitrogen mass balance in wetlands receiving diverted Mississippi River water: Utility to development of Conceptual Ecological Models
- LA Sediment Dynamics and Biogeochemical Cycling in a Developing Deltaic System: Understanding Land Building and Habitat Quality in a River Diversion
- LA Isotopic Tracing of Riverine Nitrogen Transformation and Transport from the Atchafalaya to the Gulf of Mexico
- MD METHOD ASSESSMENT FOR DNRA MEASUREMENTS AND APPLICATION TO THE COASTAL BAYS

- MD AN INTEGRATED ECOSYSTEM ASSESSMENT OF THE POTOMAC RIVER ESTUARY
MD FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING LAND USE
AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY TRAJECTORIES
MD REGIONAL: FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING
LANDUSE AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY
TRAJECTORIES
MD Unexpected Resurgence of Submersed Plant Beds in Chesapeake Bay: Role of
Nutrient Inputs and Biogeochemical Cycling
ME Study of General Circulation and Exchange Between Isolated Regions in Casco Bay
MI Using an Integrated Assessment Approach to Restore a Natural Flow Regime in the
Clinton River Watershed
MIT Innovative uses of a power plant's thermal discharge: destratifying the Charles River
Basin
MIT A Coupled Biogeochemical-Genomic Approach to Answer – Have We
Underestimated Sediment N Fixation?
MN Landscape Regulators of Biogeochemical Pattern and Process in the St. Louis River
Estuary
NJ Evaluation of wind wave process critical in sustaining beach backshore environments
NJ The influence of estuary geomorphology on accretion of coastal wetlands: a
potential for priority planning for New Jersey coastal areas vulnerable to sea level rise
NY Winter assessment of microbial biomass and metabolism: Testing the importance of
winter productivity to summer hypoxia in Lake Erie
NY Effect of Salinity Intrusion on Hudson River Wetland Nitrogen Cycling
NY The role of sediments in nitrogen cycling and eutrophication in the Peconic estuary
OH Development and validation of a high-resolution nearshore model for Lake Erie
OR Effects of hypoxia on ichthyoplankton and micronekton communities off the Oregon
coast
OR Drivers of ecosystem resilience: toward a predictive understanding of
hypoxia's impacts on nearshore fisheries and ecological communities
OR Understanding, Forecasting and Communicating the Linkages Between Hypoxia and
Ocean Acidification in Oregon's Coastal Ocean
OR Realized and potential larval connectivity along the Oregon coast
OR Tides, Freshwater and Winds: Modeling the impacts of currents on the Oregon inner
continental shelf and within Yaquina Bay estuary
PR A SEDIMENTARY RECORD OF MARINE FLOODING EVENTS FROM COASTAL SALT
PONDS, SOUTHWEST PUERTO RICO
RI Validating and improving a mechanistic sediment flux modeling framework to
simulate a climate and nutrient management driven transition from eutrophication
to oligotrophication.
RI Acidification of Narragansett Bay
RI Observations of Rhode Island Sound circulation and hydrography: interaction with
Massachusetts shelf waters.
RI Nutrient thresholds, gradients and ecofunctional zones in Narragansett Bay: Effects
of nitrogen reduction on phytoplankton bloom behavior.
SC Geochemical Characteristics of Submarine Groundwater Seeps on the South Carolina
Continental Shelf

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SC	Physical Controls on Benthic Fluxes of Microalgae and Particulate Organic Matter in Estuarine Environments
SC	Submarine Groundwater Discharge to Long Bay, SC: Preliminary Assessment of Land Use Impact, Geological Controls and Nutrient Loads
SC	Characterization of Wave and Current Energy Levels in Estuarine Waters for Ecological and Particulate Dispersion Studies: Case Study Winyah Bay, SC
TX	Geological Controls on Submarine Groundwater Discharge Into an Upper Bay Estuary-Copano Bay
WA	SCALES OF RESIDENCE-TIME VARIATION IN NORTHWEST ESTUARIES
WHOI	Alternative Nitrogen Cycling Pathways: When Does Nitrate Disappearance Alleviate Eutrophication?
WHOI	Assessing The Impact of Hypoxia/Anoxia on Sediment Denitrification and the Production of Nitrous Oxide in Waquoit Bay
WHOI	Does Epiphytic Nitrogen Fixation Lead to a Spiral of Increasing Eutrophication in Shallow Estuaries?
WHOI	Quantifying the Impact of Low Oxygen Conditions on Sediment Methane Fluxes in Waquoit Bay
WHOI	Shifts in Greenhouse Gas Emissions and Productivity of Coastal Wetlands in Response to Anthropogenic N Loading and Rising Sea Level
WI	Influence of Regional Mercury Sources on Lake Michigan Tributaries: A 15-Year Comparison
WI	Physical and Biological Processes Associated with Resuspension of Contaminated Sediments in the Sheboygan River Estuary
WI	Alteration of Nutrient Cycling and Food Web Structure by Profundal Quagga Mussels in Lake Michigan
WI	Dreissenid Impacts on Nearshore Carbon and Phosphorus Dynamics in Lake Michigan
WI	Interactions Between Dreissenid Mussels and River Sediment Plumes After Resuspension in the Coastal Area Around Sheboygan Harbor
WI	Changing Benthic Metabolism in the Great Lakes
WI	Landscape Regulators of Biogeochemical Pattern and Process in the Saint Louis River Estuary

Tool development – 67 Projects

CA	Development of Biological Control for the New Zealand Mud Snail
CA	Developing tools for the estimation of the impact of invasive <i>Spartina densiflora</i> on the net ecosystem production of a northern California salt marsh
CA	Web-based Early Detection Network for the Invasive Asian Kelp <i>Undaria Pinnatifida</i>
CA	Extending the Use of Solid Phase Adsorption Toxin Tracking to the Land-Sea Interface
CA	Development of Novel Stable Isotope Approaches to Evaluate Carbon Flow in a Restored Coastal Wetland in Southern California
CA	Developing the capability to monitor and predict upwelling along the California coast using an ocean circulation model
CA	High throughput molecular identification of fish eggs and larvae

- CT Using Technology to Assess the Invasive Sea Squirt, *Didemnum vexillum*, Impacts on Fisheries and Ecosystems (Regional Project - CT portion)
- CT Mitigating Risk to Whales from Lobster Fishing (Northeast Sea Grant Consortium regional project)
- DE AUV-based Geoacoustical Mapping of Benthic Habitats in Delaware Bay
- DE Chemical and biological sensors for the in situ determination of biogeochemical processes
- DE Quantifying short-term morphologic evolution and alongshore sediment transport rates at Cape Henlopen, DE using remote sensing and rapid response GPS-equipped vehicles
- DE The remote sensing component for the DE Coastal Ocean Observing System: a gap to be filled
- DE The remote sensing component for the DE Coastal Ocean Observing System: a gap to be filled
- DE Advancing Radionuclide Tracer Techniques for Estuarine Sedimentary Research
- DE Controls of Delaware Bay Primary Production: Expanded Ferry Monitoring with Modeling
- DE Developing Remote Sensing Capability for cost-Effective Monitoring of Environmental Changes Along Delaware's Coast
- DE Molecular Tracking of Fecal Contamination in Delaware Coastal Waters
- DE REGIONAL: Forecasting Watershed Loading and Lagoon Response Along the Delmarva Peninsula due to Changing Landuse and Climate
- FL Tracing the intrusion of the GOM-2010 oil spill on coastal food webs with natural abundance radiocarbon
- FL Spatial Ecological Modeling of the Gulf of Mexico Supporting an Integrated Ecosystem Assessment
- FL Cryopreservation of Florida Sea Oats Germplasm: A Technology to Ensure Long-term Commercial Availability of Site-Specific Genotypes for Dune Restoration
- GA Development of high-resolution optic methods for the study of water quality in a tidal marsh setting
- GA Experimental Oyster Reefs to Improve Coastal Water Quality
- GA Using ecosystem services to evaluate future development scenarios in coastal Georgia
- IL-IN Research Program: Genetic Identification of Asian Carp Hybrids - a New Threat to Invaded Waters
- LA Nitrogen mass balance in wetlands receiving diverted Mississippi River water: Utility to development of Conceptual Ecological Models
- LAW Managing Change: Developing a Community-based Ecosystem Management Handbook for the U.S. Arctic Ocean
- LAW Legal Tools and Best Practices for Reducing Harmful Algae Blooms in Lake Erie
- MD METHOD ASSESSMENT FOR DNRA MEASUREMENTS AND APPLICATION TO THE COASTAL BAYS
- MIT Development and Validation of the Water Quality Model System for Massachusetts
- MIT Enabling high- and low-molecular weight AUV-based chemical analysis:
- MIT Wireless Underwater Video Transmission

- MIT Active samplers: development of biomarkers for coastal pollution in the blue
- MIT Energy Efficient AUV using a Lateral Line Sensor
- MIT Development of a Scientific Management Framework to Support the Ecosystem-Based Management of Coastal Resources
- MIT Combating nitrogen-driven coastal eutrophication: a selective ion array approach to rapid in-situ measurement of nitrate and ammonium
- MIT Incorporation of a compact digital holographic plankton camera into gliders and
- MIT Acoustic Communication Networks for Distributed Autonomous Underwater
- MIT Touch-at-a-Distance: Pressure Microsensor Arrays for AUV Navigation
- MIT Development of an Automated Seepage Meter for Quantifying Submarine
- MIT Groundwater Discharge in the Coastal Zone
- MIT Microbial community composition of permeable reactive barriers: who is really doing the work?
- MN Testing of an Innovative RBP for Detecting Early-Warning Changes in Quality of Urban Trout Streams
- MSAL A Decision Support Toolkit for the Functional Design of Structures in Living Shorelines
- MS-AL Ecosystem Services Provided by Gulf of Mexico Habitats: Tools, Valuation, and Application
- NC Assessing the potential for estuarine nitrogen removal using ecosystem engineers
- NC Examining the Source and Transport of Land-derived Material Impacting North Carolina Coastal Waters: An Integrated Approach using Remote Sensing, Fluorescence Spectroscopy and Geochemical Analysis
- NC Application of genetic markers to inform river herring management
- NJ Developing the Sampling Protocols and Competencies Needed to Monitor Effectiveness of a Rain Garden Designed for Nitrogen Removal
- NY Natural tracers of submarine groundwater discharge into Long Island Sound
- OH Bench-scale evaluation of in-situ ultrasonic remediation of contaminated sediments
- OH Investigating the performance of active materials amended to clay minerals for sequestering sediment contaminants
- OR A Predictive Approach to Risk Analysis and the Economics of Early Detection and Rapid Response for Aquatic Invasive Species
- PR BENTHIC FORAMINIFERA AS BIO-INDICATORS OF HEAVY METAL POLLUTION: TORRECILLA LABOON (SAN JUAN BAY ESTUARY), PUERTO RICO
- PR RAPID DETECTION AND QUANTIFICATION OF FECAL POLLUTION IN THE CARIBBEAN
- PR APPLICATION OF THE SOIL AND WATER ASSESSMENT TOOL MODEL (SWAT) TO ESTIMATE DISCHARGE AND SEDIMENT YIELDS FROM THE RIO GRANDE DE AÑASCO WATERSHED, PUERTO RICO
- RI Development of new methods to examine the ecology of a key primary producer in Narragansett Bay.
- RI Decision-support for the economic analysis of trade-offs in coastal and marine spatial planning (CMSP) for the US Northeast region.

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- TX Evaluation of LISST instruments to monitor for harmful algal blooms (HABs) in Texas coastal waters
- USC HIGH RESOLUTION REMOTE SENSING OF COASTAL DISCHARGE PLUMES AND ALGAL BLOOMS IN THE SOUTHERN CALIFORNIA BIGHT
- WA Non-invasive Physiological Monitoring of Southern Resident Killer Whales
- WA Acoustic propagation measurement and modeling in Puget Sound to support noise environmental impact efforts
- WA Using microbiota for the evaluation and monitoring of Puget Sound ecosystems
- WA Understanding dormancy requirements and germination of Alexandrium cysts and evaluating cyst mapping as a tool for early warning of harmful algal blooms
- WHOI Passive Acoustic Monitoring of Biological Sounds and Ambient Noise Levels at the Proposed Cape Wind Site
- WI An Autonomous Microbial Genosensor for Detection of Gene Expression in Toxic Cyanobacteria
- WI Application of Molecular Based Methods for Investigation Sources of Fecal Pollution at Great Lakes Beaches

Climate – 28 Projects

- CA Response of calcified and fleshy macroalgae to warming and ocean acidification: from single species to community interactions
- CT Effects of Acidification on Coastal Habitats in Long Island Sound
- CT Response of Zooplankton to Projected Changes in Temperature in Long Island Sound
- DE A Process-Based Model of Long Term Marsh Platform and Shoreline Evolution in Response to Rising Sea Level and Subsurface Flow
- DE Invasion of the mitten crab in the Mid-Atlantic: Characterizing larval behavior to predict responses to climate change
- DE REGIONAL: Forecasting Watershed Loading and Lagoon Response Along the Delmarva Peninsula due to Changing Landuse and Climate
- HI Ocean Acidification: Impacts on Calcification and Carbonate Mineral Dissolution on the Barrier Reef of Kaneohe Bay, Hawaii
- LA Effects of Nutrient Enrichment, Sea Level and Herbivory on the Recovery of Coastal Marshes from Hurricane-Induced Salt Water Intrusion
- MD FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING LAND USE AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY TRAJECTORIES
- MD REGIONAL: FORECASTING THE RESPONSE OF DELMARVA LAGOONS TO CHANGING LANDUSE AND CLIMATE: ALTERNATIVE STABLE STATES AND RECOVERY TRAJECTORIES
- MD Phragmites australis Invasion in the Chesapeake Bay: Implications of Nitrogen Pollution, Elevated CO₂ and Genotypic Variation for Tidal Marsh Management
- MIT Assessment of Salt Marsh Buffering Capacity and Vulnerability to Climate-Related Impacts
- NC Impacts of Sea-level Rise and Land-use Modifications on Fringing Marsh Sustainability
- NJ The influence of estuary geomorphology on accretion of coastal wetlands: a potential for priority planning for New Jersey coastal areas vulnerable to sea level rise
- OH Impacts of climate change on public health in the Great Lakes due to harmful algae blooms
- OR Modeling Myxozoan Disease in Pacific Salmon: How Will Climate Change Affect Parasite Distribution and Salmon Survival?
- OR Drivers of ecosystem resilience: toward a predictive understanding of hypoxia's impacts on nearshore fisheries and ecological communities
- OR Understanding, Forecasting and Communicating the Linkages Between Hypoxia and Ocean Acidification in Oregon's Coastal Ocean
- RI Validating and improving a mechanistic sediment flux modeling framework to simulate a climate and nutrient management driven transition from eutrophication to oligotrophication.
- RI Acidification of Narragansett Bay
- RI Climate change implications for the treatment and function of onsite wastewater treatment systems.
- RI Evaluating climate change impacts on nitrogen cycling along a gradient of anthropogenic impact - from Narragansett Bay to Rhode Island Sound and Block Island Sound
- RI Linking natural, behavioral and communication sciences to enhance coastal community well-being in the face of climate change
- SC Consequences of Altered Temperature Regimes on the Reproduction, Survival, Growth, and Interactions of Two Key Estuarine Fauna

- USC Will a warmer, more acidic ocean lead to increased pseudo-nitzschia bloom toxicity in the southern California bight?
- WA Effects of early exposure of Pacific oysters to ocean acidification on subsequent performance
- WA Effects of ocean acidification on trophically-important crustacean zooplankton of Washington State
- WHOI Shifts in Greenhouse Gas Emissions and Productivity of Coastal Wetlands in Response to Anthropogenic N Loading and Rising Sea Level

Policy and management- 23 Projects

- CA Reefs that rock and roll: Critical assessment of rhodolith bed habitat at Catalina Island to inform the California South Coast Region MPA process
- CA Trophic Ecology of the gopher rockfish (*Sebastes carnatus*): providing baseline information for monitoring and evaluation of marine protected areas.
- CA Effects of Marine Reserves on Behaviorally-Mediated Changes in Spawning Success of California Sheephead
- CA Adaptive Management of Marine Protected Areas: Predicting Responses to MPA Implementation for Comparison to Monitoring Data
- CA MPA-Based Collaborative Techniques to Improve Management of Nearshore Fisheries
- HI Collaborative Research to Develop Sustainable Ecosystem Management: Analysis of Water Resources and Quality in the Contemporary Ahupua'a
- LAW Ecosystemic Legal Regime Development in the Gulf of Maine: Efforts and Impediments
- LAW Managing Change: Developing a Community-based Ecosystem Management Handbook for the U.S. Arctic Ocean
- LAW The Regulatory Governance Network of Ecosystem-based Fisheries Management in Chesapeake Bay: Mapping Institutions and Regulatory Jurisdiction to Assess Integration across Local, State, and Federal Scales
- LAW Legal Tools and Best Practices for Reducing Harmful Algae Blooms in Lake Erie
- LAW Regulatory and Outreach Strategies for Aquatic Invasive Species in Oregon
- MD PRESCRIBED BURNS IN THE SUSTAINABLE CONSERVATION AND RESTORATION OF TIDAL MARSHES
- MD *Phragmites australis* Invasion in the Chesapeake Bay: Implications of Nitrogen Pollution, Elevated CO₂ and Genotypic Variation for Tidal Marsh Management
- MIT Development of a Scientific Management Framework to Support the Ecosystem-Based Management of Coastal Resources
- NC Application of genetic markers to inform river herring management
- NJ Evaluating ecological and social impacts of New Jersey legislation regulating fertilizer nitrogen loads to Barnegat Bay – Little Egg Harbor Estuary by using isotopic signatures, seagrass demographics, social response, and communications

NJ	The influence of estuary geomorphology on accretion of coastal wetlands: a potential for priority planning for New Jersey coastal areas vulnerable to sea level rise
OH	Should nitrogen be managed in Lake Erie? The potential role of nitrogen fixation by cyanobacteria
RI	Climate change implications for the treatment and function of onsite wastewater treatment systems.
RI	Modeling connections between circulation, nitrogen transport and water quality in Narragansett Bay: Implications for management strategies.
RI	Decision-support for the economic analysis of trade-offs in coastal and marine spatial planning (CMSP) for the US Northeast region.
USC	The value of habitat diversity of marine reserves: Spiny lobster and sheephead use of the intertidal zone at Santa Catalina
USC	Successful Adaptation: Identifying Effective Process and Outcome Characteristics and Practice-Relevant Metrics

Monitoring – 22 projects

CA	Trophic Ecology of the gopher rockfish (<i>Sebastes carnatus</i>): providing baseline information for monitoring and evaluation of marine protected areas.
CA	Adaptive Management of Marine Protected Areas: Predicting Responses to MPA Implementation for Comparison to Monitoring Data
CT	Development of a Long Island Sound (LIS) Benthic Index for Assessing Environmental Conditions
DE	The remote sensing component for the DE Coastal Ocean Observing System: a gap to be filled
DE	Quantifying short-term morphologic evolution and alongshore sediment transport rates at Cape Henlopen, DE using remote sensing and rapid response GPS-equipped vehicles
DE	The remote sensing component for the DE Coastal Ocean Observing System: a gap to be filled
DE	Controls of Delaware Bay Primary Production: Expanded Ferry Monitoring with Modeling
DE	Developing Remote Sensing Capability for cost-Effective Monitoring of Environmental Changes Along Delaware's Coast
DE	Molecular Tracking of Fecal Contamination in Delaware Coastal Waters
FL	Tracing the intrusion of the GOM-2010 oil spill on coastal food webs with natural abundance radiocarbon
FL	Southwest Florida Bay Scallop Restoration and Monitoring Initiative
MIT	Consortium for Ocean Sensing In the Nearshore Environment (COSINE)
MIT	Energy Efficient AUV using a Lateral Line Sensor
MIT	CCD: Water Quality Monitoring and Improvement
NJ	Developing the Sampling Protocols and Competencies Needed to Monitor Effectiveness of a Rain Garden Designed for Nitrogen Removal

PR	RAPID DETECTION AND QUANTIFICATION OF FECAL POLLUTION IN THE CARIBBEAN
TX	Evaluation of LISST instruments to monitor for harmful algal blooms (HABs) in Texas coastal waters
USC	HIGH RESOLUTION REMOTE SENSING OF COASTAL DISCHARGE PLUMES AND ALGAL BLOOMS IN THE SOUTHERN CALIFORNIA BIGHT
USC	Resolving the annual pattern of algal toxins in coastal waters of Los Angeles
WA	Non-invasive Physiological Monitoring of Southern Resident Killer Whales
WA	Using microbiota for the evaluation and monitoring of Puget Sound ecosystems
WHOI	Passive Acoustic Monitoring of Biological Sounds and Ambient Noise Levels at the Proposed Cape Wind Site

Conservation and Stewardship – 15 projects

AK	Implementing an Early Detection and Rapid Response (EDRR) Framework for Nonindigenous Marine Species in Alaska with Citizen Science
AK	Collaborative Research: Building Capacity for Community-based Marine Mammal Conservation in Bristol Bay
CA	Reefs that rock and roll: Critical assessment of rhodolith bed habitat at Catalina Island to inform the California South Coast Region MPA process
CA	Trophic Ecology of the gopher rockfish (<i>Sebastes carnatus</i>): providing baseline information for monitoring and evaluation of marine protected areas.
CA	Effects of Marine Reserves on Behaviorally-Mediated Changes in Spawning Success of California Sheephead
CA	Cross-shelf larval migrations regulating larval supply and connectivity in a network of marine reserves
CA	Adaptive Management of Marine Protected Areas: Predicting Responses to MPA Implementation for Comparison to Monitoring Data
CT	Population Dynamics of Horseshoe Crabs and their Ecological Links to other species in Long Island Sound
CT	Mitigating Risk to Whales from Lobster Fishing (Northeast Sea Grant Consortium regional project)
FL	Piloting a Community-Based Social Marketing Program to Protect Marine Ecosystems from Boating Impacts
HI	An empirical test of ecosystem-based management: how density and size structure of opihi affect community structure
TX	Post-Ike Recovery of Upper Texas Coast Beaches and their Status as Sea Turtle Nesting Habitat
TX	Population Status and Demographics of the Texas Diamondback Terrapin (<i>Malaclemys terrapin littoralis</i>)
USC	The value of habitat diversity of marine reserves: Spiny lobster and sheephead use of the intertidal zone at Santa Catalina
WHOI	Mitigating Risk to Whales from Lobster Fishing

Social science – 11 projects

- AK Ecological, economic and social changes as a result of Sea Otter recolonization in southern Southeast, Alaska
- AK Identifying Red and Blue King Crab Stocks for Sustainable Harvest and Sustainable Coastal Alaskan Communities
- LA Oral history in communities at risk
- LA Private market alternatives for maintaining wetland viability in coastal Louisiana: A double-hurdle approach
- LAW Ecosystemic Legal Regime Development in the Gulf of Maine: Efforts and Impediments
- MN Stressor Gradients and Spatial Narratives of the St. Louis River Estuary
- NJ Evaluating ecological and social impacts of New Jersey legislation regulating fertilizer nitrogen loads to Barnegat Bay – Little Egg Harbor Estuary by using isotopic signatures, seagrass demographics, social response, and communications
- OR Understanding, Forecasting and Communicating the Linkages Between Hypoxia and Ocean Acidification in Oregon's Coastal Ocean
- OR A Predictive Approach to Risk Analysis and the Economics of Early Detection and Rapid Response for Aquatic Invasive Species
- RI Decision-support for the economic analysis of trade-offs in coastal and marine spatial planning (CMSP) for the US Northeast region.
- RI Linking natural, behavioral and communication sciences to enhance coastal community well-being in the face of climate change

Restoration – 15 projects

- CA Making restoration more efficient: Testing the contributions of planting diversity and tamarisk legacy effects to recovering tidal marshes
- CA Understanding the roles of competing bacterial endosymbionts in abalone health, management, and restoration
- FL Southwest Florida Bay Scallop Restoration and Monitoring Initiative
- FL Cryopreservation of Florida Sea Oats Germplasm: A Technology to Ensure Long-term Commercial Availability of Site-Specific Genotypes for Dune Restoration
- LA Enhancing seed versatility and protection against biological and coastal environmental variables to improve success rates of smooth cordgrass aerial seeding
- LA Wetland restoration with sediment conveyance: an experimental approach to reduce uncertainties in attaining successful restoration
- LA Microbial Species & Community Structure As Indicators Of Oil Spill Recovery & Restoration: Initial Investigations
- MD CYANOBACTERIAL BLOOMS: A ROADBLOCK TO ESTUARINE RESTORATION
- ME Restoration of anadromous fishes: the effects of dam removal and habitat conditioning in spawning streams
- MI Using an Integrated Assessment Approach to Restore a Natural Flow Regime in the Clinton River Watershed
- NC Metapopulation Dynamics Guides Oyster Restoration and Shell Budgets in NC

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NC	Quantifying Oyster-Reef Accretion Rates and Structural Evolution for Improving Restoration Success
NJ	Comparative Analysis of Bivalve Clearance Rates for Restoration Management
VA	Sustainable seagrass restoration in the Virginia Coastal Bays
WI	Utilizing Molecular Genetic Markers to Develop Wild Rice Restoration and Management Guidelines for Great Lakes Coastal Habitats

Indicators – 13 projects

AK	Increased Variance As a Leading Indicator of Reorganization in Alaskan Marine Ecosystems: An Empirical Test
CT	Development of a Long Island Sound (LIS) Benthic Index for Assessing Environmental Conditions
DE	Development of diatoms as indicators of water quality in Delaware's Inland Bays
FL	Developing Indicators to Quantify Oyster Reef Water Filtration Services Along Florida's Gulf and Atlantic Coasts
IL-IN	Research Program: Constructing the Nearshore Lake Michigan Food Web Using Multiple Trophic Indicators
LA	Identification and incorporation of quantitative indicators of ecosystem function into single-species fishery stock assessment models and the associated biological reference points
LA	Microbial Species & Community Structure As Indicators Of Oil Spill Recovery & Restoration: Initial Investigations
MIT	Active samplers: development of biomarkers for coastal pollution in the blue
MS-AL	Habitat Suitability Index for Submerged Aquatic Vegetation of the Mississippi Coast
NC	Linking Changes in Hypoxia to Effects on Fish Growth Using Three Short-Term Growth Indicators
NY	Birdsong as an indicator of sublethal polychlorinated biphenyl (PCB) bioavailability in the environment
PR	BENTHIC FORAMINIFERA AS BIO-INDICATORS OF HEAVY METAL POLLUTION: TORRECILLA LABOON (SAN JUAN BAY ESTUARY), PUERTO RICO
WI	Constructing the Nearshore Lake Michigan Food Web Using Multiple Trophic Indicators

Capacity building – 3 projects

AK	Collaborative Research: Building Capacity for Community-based Marine Mammal Conservation in Bristol Bay
FL	Piloting a Community-Based Social Marketing Program to Protect Marine Ecosystems from Boating Impacts
FL	Spatial Ecological Modeling of the Gulf of Mexico Supporting an Integrated Ecosystem Assessment

Valuation – 2 projects

MS-AL	Ecosystem Services Provided by Gulf of Mexico Habitats: Tools, Valuation, and Application
MS-AL	Integrating Revealed and Stated Preference Approaches for Ecosystem Service Valuation