

Attachment 1: Statement of Work for 2017 Sea Grant-NOAA Regional Integration

Region: NOAA Central Region

Project Title: Nutrient Runoff Risk Reduction: A workshop to explore decision support tools

Personnel:

Minnesota Sea Grant:

Co-Lead Program Director: Dr. John Downing

Project Lead: Jesse Schomberg

Secondary Contact: Dr. Chris Filstrup

Louisiana Sea Grant:

Co-Lead Program Director: Dr. Robert Twilley

Project Co-Lead: Dr. Matthew Bethel

Regional Collaboration Team:

Regional Team Lead/Co-lead: John Ogren

Regional Coordinator: Bethany Perry

Secondary Contact: Steve Buan

Project Description:

The NOAA Central Region Collaboration Team, Minnesota and Louisiana Sea Grant programs will host a two-day workshop, tentatively planned for the week of January 29th, 2018, at the National Water Center in Tuscaloosa, Alabama focused on methods and tools aimed to reduce nutrient runoff risk.

The purpose of the workshop is to:

- Determine the state-of-science of the Runoff Risk Forecasting (RRF) tool development and application in Michigan, Ohio, Wisconsin, Minnesota, Indiana/Illinois, and New York, to:
 - Increase familiarity with RRF within the Great Lakes Sea Grant programs so it can be incorporated into both current and future outreach efforts
 - Disseminate information to Louisiana SG and Mississippi/Alabama SG to inform plans for RRF application to nutrient management in Gulf watersheds
- Facilitate networking with Sea Grant, NOAA, and partners to strengthen and build relationships. The proposed workshop aims to bring together researchers, managers, and outreach professionals from a wide range of disciplines to highlight ongoing research and outreach activities, discuss innovative tools to enhance water quality management, and to explore opportunities for future partnerships across the Mississippi River Basin region.
- Foster relationships among Sea Grant, NWS, NOS, Water Center staff, and NOAA

- Regional Collaboration to identify and advance potential collaboration opportunities.
- Support a research prioritization process (based on water quality and resource management needs) to inform development of a competitive research funding opportunity to assess the ecosystem benefits of Runoff Risk tools.

What Regional Collaboration and Sea Grant priorities will this support?

Sea Grant

Healthy Coastal Ecosystems

Goal 2: Land, water and living resources are managed by applying sound science, tools and services to sustain ecosystems..

Sustainable Fisheries and Aquaculture

Goal 2: Natural resources are sustained to support fishing communities and industries, including commercial, recreational and subsistence fisheries and aquaculture.

Resilient Communities and Economies (RCE)

GOAL 2: Water resources are sustained and protected to meet existing and emerging needs of the communities, economies and ecosystems that depend on them.

Healthy coastal ecosystems and the fisheries, communities, and economies they support are threatened due to a diversity of stressors and complicated boundaries which are not aligned with traditional political structures. An ecosystem based management approach to improve coastal health addresses these challenges, which requires innovation and collaboration among and between federal, state, and local jurisdictions and active engagement with partners and the public. In addition, it requires understanding of interactions within and between ecosystems.

The workshop focus is on tools developed by states designed to support land management efforts to minimize nutrient transport from the watershed to receiving streams, but will also support increasing knowledge of the upper and lower Mississippi River basin, the Gulf of Mexico, and the lands in between. The information exchange is crucial to developing tools, approaches, and strategies to support ecosystem based management. Specifically, raising awareness of expertise within a variety of organizations, connections between and within NOAA and Sea Grant programs will be enhanced. Connecting this expertise from multiple regions will result in a larger more robust network, which is a first step in collaboration.

NOAA Regional Collaboration

NOAA confronts complex challenges that are place-based, require interdisciplinary approaches and regional tailored solutions. Much like Sea Grant, NOAA benefits from a network of employees and partners representing diverse capabilities across the country, not just within organizational boundaries, but across regions. NOAA Regional Collaboration Teams are NOAA's approach to develop an internal network of regional expertise. The workshop and potential outcomes support all three of NOAA Regional Collaborations Goals: address regional challenges by connecting people and resources; exchange both national and regions insights that inform actions; and improve the understanding of and respect for NOAA's broad mission and regional capabilities.

What do you plan to achieve/goals for this project?

- Increased awareness of how decision support tools can improve land management decisions in the Mississippi headwaters and complement land use and wetland restoration extension activities by Sea Grant agents in the lower Mississippi River basin.
- Better understanding of multi-regional nutrient runoff and water quality issues, as well as research, outreach, and education needs associated with use of nutrients that contribute to impaired water quality and how runoff risk tools may be used to help address these challenges.
- Opportunities to build and enhance relationships between NOAA, Sea Grant, and partners by connecting regional expertise from multiple organizations as well as introduce National Water Center capabilities and staff.
- Exchange of best practices and outreach and engagement tools developed by NOAA, Sea Grant Programs, and other partners

What are your expected product(s) and results(s)?

- With the knowledge gained from the workshop and the collaborative network established, extension agents will be valuable additions to the research teams and improve the quality of proposals participating Sea Grant programs will prioritize in their next research funding cycle.
- Background, information, and networking provided at the workshop will enhance Sea Grant and extension staff capabilities to engage on nutrient runoff which in turn could support existing education and outreach efforts and/or outreach components required by

Sea Grant for applied research to produce tangible impacts that address a local, state, regional, or in this case, multi-regional need.

- Participating Sea Grant programs could explore creating a special intra-regional research RFP to address research priorities established at the workshop. Regional research RFPs are common among Sea Grant programs but not many multi-regional Sea Grant research RFPs are driven by a broad issue rather than a single regional issue or geography.
- A NOAA competitive research opportunity from this workshop could be designed with a focus to assess the ecosystem and socio-economic benefits of Runoff Risk tools in anticipation of research priorities.
- Potential for future NOAA / Sea Grant cooperative funding opportunities
- Identification of level of interest, assessment of needs, and discussion of feasibility for expanding the use of runoff risk decision support tools down the Mississippi River Basin. This information would be compiled into a report and made available for any future expansion efforts, which we expect will inform efforts to address nutrient issues in other regions, such as the Chesapeake Bay, Florida Gulf, or West Coast.

Project Rationale:

Nutrient removal through land use changes and wetland restoration activities may be the most effective way to affect the Gulf of Mexico hypoxia/water quality issue in the lower Mississippi River basin, while prevention of nutrient loading due to agricultural runoff is an effective method for the upper Mississippi River basin. Nutrient reduction protects in-state and Great Lakes waters as well. Minnesota alone has 433 lakes with nutrient-related impairments, requiring an average of a 45% reduction in phosphorus to meet water quality standards (Minnesota Nutrient Reduction Strategy, 2014). Louisiana has 274 internal and coastal waterbody sub-segments listed as impaired for fish and wildlife propagation due to low dissolved oxygen or high concentrations of nutrients. (2016 DEQ Integrated Report).

Connecting Sea Grant and NOAA efforts and expertise from the headwaters to the Gulf of Mexico provides a unique opportunity to collaborate in support of many objectives and goals related to water quality and related issues for several regions.

How does this strengthen the Sea Grant - Regional Collaboration relationship?

Similar to a 2016 meeting with stakeholders on runoff risk state tools, subject matter experts will

present on specific topics and engage in discussions with participants. The focus is on Sea Grant staff developing an awareness of runoff risk as well as an understanding of tools that states are utilizing or developing to improve decision support for land management efforts to reduce nutrient runoff.

The workshop will be structured to maximize time to exchange information and share knowledge through presentations, discussions, and demonstrations. The meeting would also provide additional opportunities to connect staff within NWS, NOS, Sea Grant and USGS, as well as provide a forum to advance ongoing planning discussions on emerging opportunities, such as the development of competitive research funding to assess the ecosystem benefits of Runoff Risk tools.

What NOAA and Sea Grant programs and assets, and partners, will be involved?

Presenters from both NOAA (NOS and NWS), the NOAA Central Region Collaboration Team, and Sea Grant programs will be instrumental in planning, as well as facilitation and execution of the workshop. This will be accomplished by sharing expertise and experiences unique to their organizations. In addition, project co-leads - Minnesota and Louisiana Sea Grant programs and the NOAA Central Region Collaboration Team will identify key individuals from NOAA and Sea Grant programs, as well as key partners, to attend and participate. These include water quality specialists, extension and outreach specialists (both Land and Sea Grant programs), coastal managers (water quality resource), law and policy programs, etc. Additionally, the workshop is planned to be held at NOAA's National Water Center, which provides additional opportunities for connections and discussions on potential collaborations.

Preliminary Invitation List:

Presenters and Subject Matter Experts (7 max)

Individuals who are actively engaged with current runoff risk development from Wisconsin, Michigan, and Ohio. Also representative of the institutions and knowledge areas utilized.

Michigan EnviroImpact

1. Jason Piwarski, MSU Institute of Water Research (Web development expertise)

Ohio Applicator Forecast

1. Chris Winslow, Ohio Sea Grant Director (leadership)
2. Jay Martin, OSU and Ohio Sea Grant (Lake Erie nutrient and lead for GLRI project on quantifying RRAF)

Wisconsin Runoff Risk Advisory Forecast

1. Sara Walling, WI Department of Agriculture (Ambassador and key partner in creation of first tool)

NOAA:

1. Alan Lewitus (NOS and NOAA Central Region Team)
2. Dustin Goering (NWS Runoff Risk Project Lead)
3. Steve Buan (NWS North Central River Forecast Center and NOAA Central Region Team)

Sea Grant Participants (15 max)

Staff from Sea Grant Programs (1-2 per program) including water quality specialists, extension and outreach specialists, coastal managers (water quality resource), law and policy programs, etc.

- Minnesota, Michigan, and Wisconsin
 - Rationale: Tools are available in their states
- Indiana/Illinois and New York
 - Rationale: Expansion for planned for FY18
- Louisiana and Mississippi/Alabama
 - Further supports connections up/downstream as well as potential collaborative opportunities with National Water Center
- Sea Grant Law Center

- Karen Bareford, National Water Extension Liaison, University of Alabama and the National Water Center

Other NOAA (2)

- National Water Model Representative (Brian Cosgrove)
- Felix Martinez (NOS Program Manager - Located in Great Lakes)

Hosts (4-5)

1. Matt Bethel (LA Sea Grant)
2. Jesse Schomberg, Chris Filstrup, John Downing (MN Sea Grant)
3. Bethany Perry (NOAA Central Region Team)

Key Milestones:

Finalize project plan (August 2017)
Identify participants and partners (Q1)
Plan Workshop (Q1)
Hold Workshop (January 2018)
Produce Report (Q2)