



# Proposal Guidelines for 2016-18

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## UNIVERSITY OF WISCONSIN SEA GRANT COLLEGE PROGRAM

A faculty member (or person having principal investigator status at his/her institution) in the University of Wisconsin System or other Wisconsin college or university applying to the University of Wisconsin Sea Grant College Program for funding must prepare his/her proposal in accordance with these guidelines. Applicants must have submitted a pre-proposal by the January 20, 2015, deadline to have a full proposal considered.

All applicants are required to submit proposals via the UW Aquatic Sciences Center (administrative home of UW Sea Grant) online proposal submission system, iPROPOSE. This Web-based submission system will be available for input March 25, 2015. **The deadline for submission is 5 p.m. (Central Daylight Time) on Friday, May 1, 2015.** Please contact our Assistant Director for Research and Student Engagement, Jennifer Hauxwell ([jennifer.hauxwell@aqua.wisc.edu](mailto:jennifer.hauxwell@aqua.wisc.edu), (608) 262-0905) with questions regarding proposal submission.

### REVIEW PROCESS

All research proposals will receive at least 3 confidential peer reviews on the basis of scientific merit, competence of the investigator(s), applicability of the proposed project to UW Sea Grant priorities, outreach plan, and the proposed budget.

Review criteria for external peer reviewers of **research proposals** include:

- Rationale: Evaluate the degree to which the proposed activity addresses an important issue, problem, or opportunity in development, use, or management of marine or coastal resources.
- Scientific or Professional Merit: Evaluate the degree to which the activity will advance the state of the science or discipline through use and extension of state-of-the-art methods.
- Innovativeness: Evaluate the degree to which new approaches to solving problems and exploiting opportunities in resource management or development, or in public outreach on such issues will be employed; alternatively, the degree to which the activity will focus on new types of important or potentially important resources and issues.
- Qualification and Past Record of Investigators: Evaluate the degree to which investigators are qualified by education, training, and/or experience to execute the proposed activity; record of achievement with previous funding.
- Outreach: Evaluate the degree to which investigators have incorporated an outreach plan for the research findings or tools they plan to develop, the degree to which stakeholder or end-user awareness or buy-in has been sought, and the likelihood the work will inform the public and decision-makers as a result of the outreach efforts. [*New this year*].
- Summary Review: Please provide a brief summary of your overall evaluation of the merit of this proposal.
- Summary Rating: Please indicate how you would rate this proposal ranging from Excellent (5) to Poor (1)

Review criteria for **Integrated Assessment** proposals are included in Attachment 1.

Review criteria for **Education proposals** are included in Attachment 2.

In addition to the external peer reviews, for both research and Integrated Assessment proposals, a technical review panel, with input from Sea Grant staff and the Wisconsin Sea Grant Advisory Council, will review proposals and external peer reviews and make recommendations on which projects to fund. Education proposals will be reviewed independently by a panel of education experts.

Applicants will be notified in late October 2015 as to whether their proposal(s) will be included in the 2016-18 UW Sea Grant omnibus proposal submission.

## **TIME FRAME AND APPROXIMATE ANNUAL BUDGETS**

Projects will normally begin February 1, 2016, or February 1, 2017. Though funding is on a year-by-year basis, proposals should be written to cover the entire period of time necessary to fulfill the proposed objectives (**up to two years**).

Proposal budgets for funding by UW Sea Grant are limited to:

- Base research focus areas (Healthy Coastal Ecosystems, Sustainable Fisheries and Aquaculture, Resilient Communities and Economies) - \$120,000/year
- Joint Wisconsin-Minnesota - \$120,000/year for Wisconsin PIs (note additional \$120,000/year available for Minnesota PIs)
- Joint Wisconsin-Illinois/Indiana - \$100,000/year for Wisconsin PIs (note additional \$100,000/year available for Illinois/Indiana PIs)
- Integrated Assessment - \$150,000/year
- Education focus area - \$25,000/year

These maximum limits are on a per-year basis per proposal. These limits include all costs (salaries, fringe benefits, tuition remission, equipment, supplies, field travel, contracts, ship time and indirect costs).

## **ALSO INCLUDED THIS YEAR**

### **Data Management Plan Required**

The America Competes Act requires the federal government to ensure that data from federally supported research is made visible, accessible and independently understandable to general users, free of charge or at minimal cost, in a timely manner (typically no later than two years after the end of the project), except where limited by law, regulation, policy, or by security requirements. The National Oceanic and Atmospheric Administration (NOAA) is mandating Sea Grant programs to require data management plans from all their investigators funded. Principal Investigators that have mechanisms in place to meet this requirement need only explain those mechanisms.

Investigators should include a data management plan with their proposal, describing in 1-2 paragraphs, their plan to make their data and metadata available and interpretable. Deposition of data in standard data archives (e.g., by discipline, such as GenBank, National Oceanographic Data Center, and others), is acceptable. Other options, including university

libraries, are detailed by UW-Madison's Research Data Services at <http://researchdata.wisc.edu>. If the data are to be archived in a large-scale database or warehousing effort, please include the anticipated time frame of data submission and contact information for the database-management organization. If the data will not be archived in a national or regional database, PIs should describe plans for making the data available upon request and ensuring that the data remain available, safely archived, for up to 20 years.

### **Graduate Fellows**

UW Sea Grant views the graduate and undergraduate students supported by UW Sea Grant funds as valuable assets not only for the current work but as future researchers. This year, we are establishing a UW Sea Grant fellows program intended to broaden the experience of UW Sea Grant-supported students and create a camaraderie among the graduate students. We expect all students receiving UW Sea Grant support to be involved in this program. We anticipate the fellows program may include professional development, seminars, evening meetings, and/or occasional weekend activities and joint projects. Details will be made available after notification of funding in fall 2015.

### **Outreach Component**

The National Sea Grant College Program recently initiated a new evaluation process for its 33 state programs. **A major emphasis of the review process relies on the impacts of the federal investment in the program and its strategic focus areas, not just in terms of research but also placing greater emphasis on delivery of the research products to coastal stakeholders.** Consequently, in this year's proposal process, we are asking PIs to work with our outreach and education staff to develop outreach/education components for their project. We would like our PIs and their graduate students to take a more active role in delivering information about their work and research findings to public audiences as well as key policy-makers who might benefit from science support for decision-making. The outreach staff can help you identify possible target audiences, venues, media and methodologies to achieve this goal. In addition, we encourage PIs to engage potential end users of their research prior to submitting a proposal. The goal of these initial conversations should be to not simply inform end users of project goals, but rather to engage them in discussion to determine what questions and content and form of end products would be most useful for them. External reviewers will be asked to evaluate the outreach component of the proposal.

# DETAILED INSTRUCTIONS FOR SUBMITTING A PROPOSAL

Submission of a proposal will involve the following steps:

**NOTE:**

If you are submitting your proposal to the Special Minnesota–Wisconsin Joint Request for Proposals, see also Attachment 3.

If you are submitting your proposal to the Special Illinois-Indiana-Wisconsin Joint Request for Proposals, see also Attachment 4.

## STEP 1. DRAFT AND FINALIZE RESEARCH PROPOSAL DESCRIPTION (FOR ALL PROJECTS EXCEPT INTEGRATED ASSESSMENTS\* AND EDUCATION PROPOSALS\*\*)

Exceptions:

\*If submitting a proposal to the special call for **Integrated Assessments**, please see the proposal description details for step 1 in Attachment 1.

\*\*If submitting an **Education proposal**, please see the proposal description details for step 1 in Attachment 2.

For all other research proposals (including the joint calls with Minnesota and Illinois-Indiana):

Draft your proposal description in Microsoft Word. When finalized, convert your proposal from Microsoft Word to Adobe Portable Document Format (PDF).

**Note: Maximum length of 20 pages for Parts A-E below in no less than 11-point type and 1.5 line spacing. This page limit does not include the additional sections F-I.**

The proposal description must contain the following information:

- A) **Background.** Summarize the problem or opportunity being addressed, including a brief but adequate literature review.
- B) **Objectives/Hypothesis.** Specifically, what is the hypothesis to be tested, what are your goals and exactly what do you hope to accomplish? Objectives should be stated in such a way as to be verifiable upon completion of the project.
- C) **Approach.** Describe your research plan and methods, including standard techniques, special equipment, computer models, etc., to be used.
- D) **Applications.** Identify potential users of the information that will be developed in the project and/or explain how this information is applicable to the problem or opportunity being addressed. Describe how the information will be disseminated to users, including an outreach component. Describe any outreach you conducted in developing the

project.

- E) **References.** Provide complete bibliographic information for all references cited in the text.

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[Through Reference section – 20 page limit. Page limit does not apply for additional sections.]

- F) **Other Funding Sources.** Cite other current or anticipated support for the project (include in-kind match funds from industry, agencies, etc.).
- G) **Current (and Expected) Grants, Gifts and Contracts.** List the title of each project, source of support, amount of support and funding period for your work in this general area.
- H) **Data Management Plan.** Describe in a few paragraphs a plan to make data and metadata available and interpretable.
- I) **CV.** Provide a CV for each investigator following the format of Attachment 5.

## STEP 2. DOWNLOAD BUDGET TEMPLATE

Download the Microsoft Excel budget information workbook (WI\_Budget\_information.xlsx) from UW Sea Grant website (<http://seagrant.wisc.edu/funding>) to your computer.

## STEP 3. BUDGET INFORMATION

Complete the Microsoft Excel budget information workbook you downloaded in Step 2. Prepare your budget request according to the instructions contained in the workbook and save the Excel file on your local computer or network. Do NOT convert the Excel file to PDF.

For budget advice, including questions regarding submission of multi-campus or multi-institutional proposals and questions regarding downloading and working with the Excel file, contact Jean Touchett ([jtouche@aqu.wisc.edu](mailto:jtouche@aqu.wisc.edu); 608-263-3252).

**NOTE: Steps 4 through 9 are completed online at <https://aqu.wisc.edu/iPROPOSE>.**

## STEP 4. CREATE AN iPROPOSE ACCOUNT

Create an account in the Aquatic Sciences Center's Web-based proposal submission system, iPROPOSE (<https://aqu.wisc.edu/iPROPOSE>). The account that you created to submit your preproposal (or an account from previous solicitations) will not work for submission of a full proposal. The iPROPOSE site will be available March 25, 2015.

## STEP 5. LOG ON TO iPROPOSE, SELECT PROPOSAL TYPE, AND ENTER PROPOSAL INFORMATION

Log on to the iPROPOSE system.

From the menu, select the type of proposal you are submitting from the following options:

- Integrated Assessment proposal – SGI 2016-18 Omnibus
- OR-
- Research or Education proposal (includes base focus areas HCE, SFA, RCE and ELWD and joint MN-WI and IL/IN-WI proposals) – SGI 2016-18 Omnibus

Enter title, abstract, project summary, suggested reviewers and project contacts directly into online form fields. Once logged in to the iPROPOSE online system, you will be able to create a new proposal submission. For each proposal, you will need to provide the following information directly into form fields on the Web page. You do not need to provide all of the information at once. You can leave the site and return later without losing any information that you have saved there. **We recommend that you prepare and save the longer text items on your computer and then copy and paste them into the online fields.** The following information will be required at the website:

- A. Project Summary Information:
  - a. Project title.
  - b. Project start and completion dates.
  - c. Institution where project will be managed.
  - d. Abstract (300-word maximum).
  - e. Objectives.
  - f. Methodology.
  - g. Rationale.
  - h. Wisconsin Focus Area (select from the drop-down list).
  - i. Five “keywords” that describe the subject matter of your proposal.
- B. Investigators (principals and associates and the percentage of effort of each on project).  
Note: Only faculty members (or persons having principal investigator status at his/her institution) in the University of Wisconsin System or other Wisconsin college or university (or associated out of state colleges or universities for the joint calls with Minnesota and Illinois-Indiana Sea Grants) may be designated as Principal Investigators. Other investigators affiliated with a project are to be designated as Associate Investigators.
- C. Contact information. Indicate the names and email addresses of the administrative contacts for this project.
- D. Suggested reviewers. Enter the names, affiliations and email addresses of at least three qualified reviewers and select their areas of expertise from the drop-down list.

## STEP 6. UPLOAD PROPOSAL DESCRIPTION

Upload the PDF proposal file prepared in Step 1. The iPROPOSE system permits you to “browse” your local computer files to locate and upload the PDF file you saved locally in Step 1.

## **STEP 7. UPLOAD BUDGET INFORMATION**

Upload the budget information Microsoft Excel file prepared in Step 3. The iPROPOSE system permits you to browse your files to locate and upload the Excel budget file you saved locally in Step 3.

## **STEP 8**

Optionally, upload any additional materials, such as letters of support. Only Adobe PDF format is accepted. Note – support letters are required for Integrated Assessment proposals (see Attachment 1).

## **STEP 9. SUBMIT YOUR PROPOSAL**

After you are sure you have provided all the necessary information and are satisfied your proposal is complete, click on the “Submit Proposal” button. Please note that once you have done this, you will no longer be able to edit your submission. If the submission is successful, you will receive an email confirmation. **This step MUST be completed by 5 p.m. Central Daylight Time on Friday, May 1, 2015.**

## **STEP 10. PROVIDE ADMINISTRATIVE APPROVAL**

All proposal submissions require administrative approvals and clearances before they can be considered. Ensure that administrative approval has been provided by 5 p.m. Central Daylight Time on Friday, May 1, 2015. See below:

**Campuses other than UW-Madison:** An email stating that the proposal has received all required approvals and clearances must be sent to Jean Touchett ([jtouchett@aqu.wisc.edu](mailto:jtouchett@aqu.wisc.edu)). This email must be from a campus official who is authorized to approve extramural grant applications. Attachment of official transmittal documents or electronically routed authorization forms are also acceptable. This administrative approval must be sent by **5 p.m. Central Daylight Time on Friday, May 1, 2015.**

**UW-Madison:** The WISPER system should be used to provide required clearances and to show principal investigator approval, chair approval and division approval. The WISPER record does not need to be routed through UW-Madison Research and Sponsored Programs (RSP); it should be routed to WISPER user JEAN TOUCHETT instead. The “Submission Method” selection for the WISPER record should be “Internal Routing Only”. Proposals that are approved for inclusion in the overall Sea Grant Institutional Proposal are packaged into one submission that goes through RSP in October. The WISPER record must be routed by **5 p.m. Central Daylight Time on Friday, May 1, 2015.**

## Attachment 1

### Special Request for Integrated Assessment Proposals -Project Description and Evaluation Criteria

#### Overview

Wisconsin Sea Grant is soliciting proposals for up to two Integrated Assessment research projects for up to two years at up to \$150,000 per year. The integrated assessment approach develops information, tools and partnerships that will help decision-makers better address a particularly challenging environmental issue and will utilize an approach embraced by Michigan Sea Grant and the Graham Sustainability Institute at the University of Michigan as described below.

The two Integrated Assessment topics developed by Wisconsin Sea Grant staff through collaboration with government agencies and stakeholders are:

1. **Total Maximum Daily Load (TMDL) Implementation in the Agriculture Sector in the Lower Fox River Watershed** – Wisconsin Sea Grant contact: Julia Noordyk, Coastal Storms Outreach Specialist, Phone: (920) 465-2795, Email: [noordykj@uwgb.edu](mailto:noordykj@uwgb.edu)
2. **Climate Adaptation in a Great Lakes Coastal Community** – Wisconsin Sea Grant contact: David Hart, Assistant Director for Extension, Phone: (608) 262-6515, Email: [dhart@aqua.wisc.edu](mailto:dhart@aqua.wisc.edu)

General background information related to Integrated Assessments is provided below followed by required proposal elements, proposal evaluation criteria and a detailed description of the two focus areas.

#### Integrated Assessment Approach

The Integrated Assessment process brings together citizens, industry representatives, scientists and policy makers to define and evaluate policy or management options related to particularly difficult — or “wicked” — environmental problems. Wicked problems are encountered where facts may be uncertain, values are in conflict, stakes are high, decisions are urgent, and community representation is required for resolution of the relevant issues.

Integrated Assessments summarize scientific knowledge to build consensus and guide decision making. These projects are assessments because they involve expert review and analysis of existing data and information, rather than additional experimentation. Projects integrate the needs of decision makers, perspective of stakeholders and expertise from several disciplines, typically physical, biological and social sciences.

Each Integrated Assessment project will follow a unique trajectory depending on the type and scope of the focal issue; however, most projects include the following elements:

1. **Define and refine the policy-relevant question around which the assessment is to be performed.** This often begins with identification of an issue by managers or policy makers that has defied typical and routine action. The focal Integrated Assessment question must be refined with stakeholder input.
2. **Clarify the history, causes and consequences of the issue.** Projects should help clarify aspects of the issue that are uncertain and are impeding action. A description of current conditions and historical trends can enhance understanding and provide a



foundation for further analyses. To address the issue effectively, decision makers will need to better understand the probable causes and the environmental, social and economic consequences of the issue.

**3. Identify and evaluate potential options.** Projects should identify potential options addressing the issue, including policies, management actions or new initiatives that are politically, socially and economically feasible. Integrated Assessments help stakeholders compare and evaluate a suite of options, rather than recommend a single approach.

**4. Develop tools and information that can guide decisions and help implement potential options.** If appropriate, researchers should provide an assessment of certainty levels associated with their findings to help policy makers interpret analyses or identify future research needs.

A key to success of the Integrated Assessment approach is an inclusive stakeholder process that both enables the technical teams to learn from those most affected by the issue and provides useful and accessible information for the stakeholders to learn more about the issue(s) affecting them. It is important that the stakeholder group includes multiple viewpoints and that participants perceive that the group is being convened and facilitated by a neutral party. If the issue is so contentious that it is impossible to provide a neutral assessment team, the team must be able to demonstrate that all sides of the issue are represented so the process itself will be seen as fair.

Our decision to include a special request for Integrated Assessments was influenced by Michigan Sea Grant and the Graham Sustainability Institute at the University of Michigan and the language for describing the process is used with permission of Michigan Sea Grant. Two documents are critical to understanding the IA process: 1) Tackling Wicked Problems through Integrated Assessment: A Guide for Decision Makers, Project Leaders and Scientists (Michigan Sea Grant and Graham Sustainability Institute. 2009. Available at: <http://www.miseagrant.umich.edu/downloads/research/tackling-wicked-problems.pdf>); and 2) Benefits of Integrated Assessment: Information for Decision Makers, Project Leaders and Scientists (Michigan Sea Grant and Graham Sustainability Institute. 2010. Available at: <http://www.miseagrant.umich.edu/downloads/ia/10-200-Benefits-of-Integrated-Assessment.pdf>). Additional resources on Integrated Assessments can be found at the Michigan Sea Grant website: <http://www.miseagrant.umich.edu/research/approach>.

### **Proposal Elements**

Draft your proposal description in Microsoft Word. When finalized, convert your proposal from Microsoft Word to Adobe Portable Document Format (PDF).

Integrated assessment proposals should include the following elements, and be limited to 20 pages from beginning Project Title (A) through the References (H) section, excluding pages required for the remaining sections [current and expected grants (I), gifts and contracts, data management plan (J), and curriculum vitae (K)]. The proposal should use no less than 11-point type and 1.5 line spacing. Investigators will also follow the detailed instructions for submitting a proposal in the proposal guidelines, although the proposal elements below will be used in place of those in Step 1 of the Detailed Instructions (p. 4). Supporting documents (L) should be provided following Step 8 of the Detailed Instructions (p. 4).

- A) Project Title  
Include a title for the Integrated Assessment project.
- B) Problem Statement:  
Describe the issue your assessment will address, demonstrating an understanding of the context and underlying issues. Identify previous and ongoing attempts to address this problem, and the technical and non-technical barriers that hinder an effective response. Indicate the geographic focus of your assessment and the type of potential options that will be considered, e.g., management actions, legislation, regulations, education/outreach programs, or other initiatives. Include your draft IA question.
- C) Objectives:  
Describe the objectives of this Integrated Assessment. Do not describe how you will conduct the assessment, but convey what you will attempt to accomplish with the project.
- D) Project Approach:  
Describe each stage of the proposed Integrated Assessment. If your proposal relies on developing new methods, give the reviewers ample information about the starting point for those new methods and how they will evolve over the course of the project. Indicate how you will access or generate the needed data and information for the technical analysis. Be sure to identify specific methods and tools, e.g., models, special analytical approaches, to be used. Make it clear how the proposed methods are appropriate and how they will succeed.
- E) Stakeholder Process:  
Provide a detailed overview of the stakeholder engagement process. Research teams are encouraged to discuss their outreach plans with the Wisconsin Sea Grant contacts specified in the overview at this appendix. Questions to consider include:
- What will be the role of stakeholders?
  - Who will be involved?
  - How will you determine that you have all the right entities engaged?
  - What specific methods will you use to engage stakeholders?
  - How will you maintain stakeholder involvement?
  - How will the stakeholder process be integrated with technical aspects of the project?
- F) Project Timeline:  
Provide a timeline of the Integrated Assessment stages, including the stakeholder process, by project quarter. Identify project task, team leader and support for each element.
- G) Overview of IA Team:  
Describe how the principal investigator's previous accomplishments are relevant both to leading a multidisciplinary team and to this specific project. Indicate why the IA team is appropriate for this project and whether individuals, sub-units or the entire team have worked (together) on similar projects. Specify the roles and responsibilities of each team member, including who will be involved in day-to-day project activities.

H) References:

Provide complete bibliographic information for all references cited in the text.

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[Through Reference section – 20 page limit. Page limit does not apply for additional sections.]

I) Current (and Expected) Grants, Gifts and Contracts:

List the title of each project, source of support, amount of support and funding period for your work in this general area.

J) Data Management Plan:

Describe your plan to make data and metadata available and interpretable.

K) Curriculum Vitae:

Provide a Curriculum Vita for each investigator following the format of Attachment 5.

L) Supporting Documentation (\*letters should be included following Step 8 of the guidelines):

The Integrated Assessment team must secure a letter of endorsement from a representative of the appropriate management or policy agency who has the authority to make or influence management decisions. Additional letters indicating stakeholder willingness to participate and contribute are valuable. Projects that demonstrate support from collaborators or stakeholders will be more competitive.

### **Proposal Selection Criteria**

Proposals must comply with all submission instructions and proposal guidelines in order to be considered for funding. Each compliant, full proposal will be peer-reviewed by three to five experts in the field of the proposed project.

Reviewers provide both written comments and a proposal rating by employing the criteria below. All written peer-reviews will be provided to an expert panel, which will review the proposals and provide advice on funding priorities to the Wisconsin Sea Grant management team.

Applicants should directly and explicitly address the following criteria somewhere within their proposal. Each submittal will be rated under a point system, with a total of 100 points possible.

Applicants will be evaluated based on the quality and extent to which they address the criteria; failure to provide applicable information in the proposal may affect the score assigned for a criterion.

#### **1. Problem Statement – 5 points**

To what extent does the proposal explain the context, underlying issues and potential options for the focal issue?

## 2. Project Approach – 30 points

A. Technical Aspects: To what extent does the proposed project adhere to the goals and approach of Integrated Assessment? How well does the proposal explain the data sources and analytical methods involved in the technical aspects of the assessment? (15 points)

B. Collaborative Process: To what extent does the list of potential decision makers, intended users and relevant stakeholders reflect a holistic understanding of the defined problem? To what extent does the proposal describe appropriate methods for collaboration related to each stage of the Integrated Assessment? (15 points)

## 3. Roles, Responsibilities and Qualifications – 20 points

To what extent do the PI and project team members possess the skills, experience and qualifications to execute the proposed activities? How suitable is the PI to leading a multidisciplinary assessment process and will he/she be involved in day-to-day project activities? To what extent have individuals or the team addressed similar issues or taken a similar approach to addressing natural resource problems? How well defined are roles within the team?

## 4. Synergy – 15 points

To what extent will the research team leverage complementary projects, existing data sources, and the time and support of stakeholders or government units? Does the proposal demonstrate significant support from stakeholders or collaborators?

## 5. Feasibility – 30 points

A. Practicality: How feasible is the approach given the available data, expertise of the team, and proposed methods? How realistic is the timeline in terms of completing the proposed work and activities? Is the budget appropriate for the work proposed? (15 points)

B. Potential Impact: To what extent will the project address the technical and non-technical barriers to effective resolution of the issue? How likely is the project to influence policy, planning, natural resource management or other types of decision making? (15 points)

## **2016-18 Integrated Assessment Topics**

### **1. TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION IN THE AGRICULTURE SECTOR IN THE LOWER FOX RIVER WATERSHED**

#### *Why does this topic represent a wicked problem?*

In the late 1980s, Lower Green Bay and the section of the Fox River below the DePere Dam were designated an Area of Concern (AOC) by the International Joint Commission. Green Bay suffers from many beneficial use impairments (BUIs) including degradation of fish and wildlife populations, eutrophication or undesirable algae, as well as restrictions on drinking water and swimming. Point source and runoff pollution account for a primary cause of eight of the 13 BUIs listed as impairments in this AOC. In 1988, the Wisconsin Department of Natural Resources (WDNR) worked with community stakeholders to develop a Remedial Action Plan to outline the key actions and recommendations necessary to restore the AOC. Since that time, many studies have been undertaken with the goal of restoring these beneficial uses, but nutrient and sediment loading from upstream continues to be an issue.

In 2012, Total Maximum Daily Loads (TMDL) for Total Phosphorus (TP) and Total Suspended Solids (TSS) in the Lower Fox River and Lower Green Bay Watershed were developed by the

WDNR and approved by the Environmental Protection Agency. Achieving the average annual TMDL for both TP and TSS will require more than a 50% total reduction from in-basin loads. The 2013 State of the Bay report ([link](#)) lists the status of TP and TSS indicators in Green Bay as poor and the trend as unchanging.

The TMDL process identified that agriculture was the source of 46% of the TP and 66% of the TSS in this watershed. Unlike pollution that originates from a point source, such as industrial and sewage treatment, and is highly regulated, agricultural non-point pollution is dispersed across the landscape making management complex and often voluntary. In addition, most of the TP and TSS that impacts Green Bay result from just a handful of large storm events annually, indicating that climate will continue to play an important role in pollution loads to the river and bay.

*How does this topic relate to Wisconsin Sea Grant's 2014-17 strategic plan?*

The Health Coastal Ecosystems focus area of the 2014-17 strategic plan includes goals that Great Lakes ecosystems and their habitats are protected, enhanced or restored and that ecosystem-based approaches are used to manage land, water and living resources. Strategies include:

- Improving and enhancing stakeholder access to and understanding of data, models, policy information and training that support ecosystem-based planning, decision-making and management approaches.
- Developing and sharing materials, websites, training and workshops to help residents, resource managers, businesses and industries understand the effects of human activities and environmental changes on coastal resources.
- Collaborating with local, state, tribal and regional agencies and non-governmental organizations to implement strategies.
- Supporting efforts to involve stakeholders in resource management decision-making processes and to help resource managers incorporate public input in resource management decisions.

*Why is this topic of interest to our partners and what would an integrated assessment on this topic accomplish?*

The implementation of TMDLs will play a critical role in improving Wisconsin's impaired water bodies. Agriculture contributes to almost 50% of TP and over 60% of TSS in the Lower Fox River Basin making it an important sector in TMDL implementation. However, current participation of agricultural producers in meeting TMDLs varies greatly within the basin.

Agricultural practices are driven by many factors, including economic forces, federal/state/local policies and regulations, climate and cultural values. Therefore, there is no "one size fits all" approach for TMDL implementation. Current regulations such as agricultural performance standards (e.g., nutrient management plans), incentive-based policies (e.g., conservation programs and water quality trading), new business/market creation, farmer-led community organizations and technology could all be used to help the agricultural sector meet water quality goals. Interdisciplinary research should focus on strategies that improve TMDL implementation in the Lower Fox River watershed.

An integrated assessment for this topic would bring together agricultural producers and associated industries, resource management agencies, and other coastal stakeholders to identify and evaluate the best or new policy/regulatory alternatives, economic markets, educational and community-based programs and technologies to meet water quality goals for

the Lower Fox River watershed and Green Bay. The Integrated Assessment team would bridge natural sciences, social sciences, and policy studies to: 1) engage stakeholders and refine the policy-relevant questions; 2) synthesize existing data, studies and models from across North America to provide an objective description of current conditions and trends, as well as the probable causes and the environmental, social, and economic consequences of the issue; 3) identify desired outcomes and evaluate various policy options; and 4) provide technical guidance for implementation. These products would be useful not only in the Lower Fox River watershed, but also across the state in watersheds with similar TMDL implementation issues.

## **2. CLIMATE ADAPTATION IN A GREAT LAKES COASTAL COMMUNITY**

### *Why does this topic represent a wicked problem?*

Climate change poses a variety of challenges to Wisconsin's Great Lakes coastal communities. Climatologists project warmer temperatures, less ice cover, increasing wind speeds, along with more frequent and intense rainstorms for the Great Lakes region. Lake levels vary naturally and are difficult to predict over extended time periods. These climatic and water level changes will affect both built and natural environments. Some structures and habitats are more vulnerable than others. The coasts of Wisconsin's Great Lakes are home to some of the most fragile ecosystems in the state. The economic health of Wisconsin is also closely linked to the Great Lakes coasts. In 2011, Great Lakes-related jobs accounted for over 37,000 employees, \$743 million in wages and \$1.65 billion in goods and services in the 15 coastal counties. Infrastructure, including storm-water delivery systems and harbor and marina structures are aging and deteriorating. Some port facilities are built on timber foundations that date back to the late 1800s and recent persistent low water levels on the Great Lakes exposed this infrastructure to accelerated deterioration.

### *How does this topic relate to Wisconsin Sea Grant's 2014-17 strategic plan?*

The Resilient Communities and Economies focus area of the 2014-17 strategic plan includes a goal that coastal communities adapt to the impacts of hazards and climate change. Strategies include:

- Supporting research that evaluates the impacts of increased climate variability and change, including intensity and frequency of rainfall and storm events on coastal community infrastructure.
- Developing visualization tools and make them available to communities so that they can understand the consequences of alternative development and storm-water mitigation scenarios.
- Collaboration with regulatory agencies, tribal entities and communities to help them understand the vulnerability of coastal properties to storm impacts.
- Making communities aware of products and tools that can help them adapt to changing coastal storm and climatic conditions.

### *Why is this topic of interest to our partners and what would an integrated assessment on this topic accomplish?*

Local government officials face many challenges in today's economic climate - meeting increased demand for services in a time of decreased revenue and growing mandates, maintaining infrastructure and balancing economic opportunities with environmental risks. In addition to these challenges, local government officials in Great Lakes communities face an array of issues related to a dynamic coast and a changing climate. This integrated assessment will synthesize existing climate research from groups such as the Wisconsin Initiative on Climate

Change Impacts and the National Climate Assessment and translate them to strengthen the resilience of a particular Great Lakes community in Wisconsin. The Integrated Assessment will utilize a multidisciplinary approach to generate policy alternatives to strengthen the resilience of the chosen coastal community to climate variability and provide a blueprint that can be adopted by other communities.

## Attachment 2

### Education Proposals

#### -Project Description and Evaluation Criteria

Please contact our Education Coordinator, Kathleen Kline ([kkline@aqu.wisc.edu](mailto:kkline@aqu.wisc.edu), (608) 262-0645) for questions related to education proposals.

The following criteria will be used to evaluate the education proposals:

- Ability to advance environmental literacy and workforce development in the Great Lakes Region
- Ability to address Great Lakes Literacy Principles ([www.greatlakesliteracy.net](http://www.greatlakesliteracy.net)) & WI DPI science and environmental education standards
- Innovativeness (new approaches or learning tools)
- Competency of the proposing team
- Ability to contribute to Sea Grant performance measures (# of Sea Grant facilitated curricula adopted by formal and informal educators; # of people engaged in Sea Grant supported informal education programs; and # of educators who participated in Sea Grant education programs.)

Draft your proposal description in Microsoft Word. When finalized, convert your proposal from Microsoft Word to Adobe Portable Document Format (PDF).

Education proposals should include the following elements, and be limited to 20 pages from the Background (A) through the References (F) section, excluding pages required for the following remaining sections [current and expected grants (G), gifts and contracts (H), data management plan (I), curriculum vitae and supporting documentation (J)]. The proposal should use no less than 11-point type and 1.5 line spacing. Investigators will also follow the Detailed Instructions for submitting a proposal (p. 4), although the proposal elements below will be used in place of those in Step 1.

The proposal description must contain the following information:

- A) **Background.** Summarize the problem or opportunity being addressed, including a brief but adequate literature review.
- B) **Audience.** Identify the project's primary target audience and any secondary audiences.
- C) **Objectives.** What are your goals and exactly what do you hope to accomplish?
- D) **Approach.** Describe the methods you will use to accomplish your objectives. Identify how the projects will address the Great Lakes Literacy Principles ([www.greatlakesliteracy.net](http://www.greatlakesliteracy.net)). If the audience includes K-12 students and/or educators, identify how the project will meet WI DPI science and environmental education standards.



- E) **Evaluation.** How will you measure your results and show that you have accomplished your objectives?
- F) **References.** Provide complete bibliographic information for all references cited in the text.

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[Through Reference section – 20 page limit. Page limit does not apply for additional sections.]

- G) **Other Funding Sources.** Cite other current or anticipated support for the project (include in-kind match funds from industry, agencies, etc.).
- H) **Current (and Expected) Grants, Gifts and Contracts.** List the title of each project, source of support, amount of support and funding period for your work in this general area
- I) **Data Management Plan.** Describe in a few paragraphs a plan to make data and metadata available and interpretable. This includes curriculum materials and evaluation data.
- J) **CV.** Provide a CV for each investigator following the format of Attachment 5.

## Attachment 3

### Special Minnesota–Wisconsin Joint Request for Proposals

Proposals applying to this Minnesota–Wisconsin joint solicitation are submitted through the Wisconsin iPROPOSE system described in these guidelines. The steps for submitting a proposal to this joint effort are nearly the same as for a conventional proposal; any exceptions are detailed in the table below.

The primary difference is that the proposal budgets need to be structured in such a way that, if approved for inclusion in the Minnesota and Wisconsin Sea Grant Institutional Proposals, they can be severable between the two programs. Each program has different mechanisms and rates regarding the budgets. Therefore, separate MS Excel budget files should be prepared for these proposals.

Key Points for Minnesota– Wisconsin joint proposals	Minnesota	Wisconsin
Project length:	Maximum of two years	Maximum of two years
Project dates:	Beginning February 1, 2016	Beginning February 1, 2016
Maximum budget per year (including graduate student support, fringe benefits, tuition remission, ship time and F&A [IDC] costs):	\$120,000 per year (Researchers within the UM System do NOT need to include indirect costs)	\$120,000 per year, which includes indirect costs.
Budget information contact:	Peter Thibault <a href="mailto:thiba026@d.umn.edu">thiba026@d.umn.edu</a> (218)-726-6605	Jean Touchett <a href="mailto:jtouchett@aqu.wisc.edu">jtouchett@aqu.wisc.edu</a> 608-263-3252
Administrative approval:	<b>Proposals should NOT be routed through the University of Minnesota Sponsored Research Office</b> , but require a letter from the respective department approving/acknowledging the proposal. Letter needs to be sent to Peter Thibault by the deadline.	The same administrative approval process as described in Step 10 of the Proposal Submission Guidelines apply to the Wisconsin share of the proposal and budget. Administrative approval needs to be sent to Jean Touchett by the deadline.
Submission Procedure:	Handled as a single proposal submitted through the Wisconsin iPROPOSE system with three exceptions: <ol style="list-style-type: none"> <li>1. Step 5.C. – names of administrative and financial contacts for both programs are to be indicated.</li> <li>2. Step 7 – two Excel budget files are uploaded (one for Minnesota share and one for Wisconsin share).</li> <li>3. Step 10 – Minnesota budgets must be cleared through Minnesota administrative channels and Wisconsin budgets through Wisconsin administrative channels.</li> </ol>	

## Attachment 4

### Special Illinois-Indiana-Wisconsin Joint Request for Proposals

Proposals to the Illinois-Indiana–Wisconsin joint solicitation are submitted to both Illinois-Indiana Sea Grant and Wisconsin Sea Grant. **Only the Wisconsin investigators submit their proposal through the Wisconsin iPROPOSE system described in this document.** Illinois-Indiana applicants should submit documents to [iisgres@purdue.edu](mailto:iisgres@purdue.edu).

Applicants should prepare a single set of documents to describe the entire project and submit the same information to both programs, EXCEPT the budgets. WI partners should follow all directions described above, taking care to describe ONLY the WI portion of the budget on the budget form (Steps 3 and 7). The same budget limits and descriptions apply as with a conventional UW Sea Grant proposal. Administrative approval requirements are the same as for any UW Sea Grant proposal and are described in these guidelines under Step 10.

IL/IN partners should submit one (1) PDF plus one budget form describing the IL/IN portion of the project to [iisgres@purdue.edu](mailto:iisgres@purdue.edu) by 5 pm Central Daylight Time on May 1, 2015. The PDF submitted to Illinois-Indiana Sea Grant should include:

- Project Summary Information from Step 5, Parts A and B in this document
- Proposal Description from Step 6 in this document
- Optional Supporting Documents from Step 8 in this document

Further details for the IL/IN portion of budget can be found at <http://iiseagrant.org/funding/forms/coreforms.html> or by contacting Carolyn Foley ([cfoley@purdue.edu](mailto:cfoley@purdue.edu)) or Angela Archer ([amcbride@purdue.edu](mailto:amcbride@purdue.edu)).

**Attachment 5**

**CV**

[Maximum length 2 pages per investigator. Type size should be no smaller than 10 point.]

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**NAME:**

**TITLE:**

**DEPARTMENT:**

**CAMPUS ADDRESS:**

**CITY, STATE, ZIP:**

**TELEPHONE NUMBER:**

**FAX:**

**EMAIL ADDRESS:**

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**EDUCATION: (degrees, institutions, dates – list most recent first)**

**POSITIONS HELD: (title, organization, years – list most recent first)**

**PROFESSIONAL MEMBERSHIPS: (no abbreviations)**

**SELECTED PUBLICATIONS: (list most recent first)**

**Author (last name first, initial). Year. Title of article. *Name of Journal*, vol.(no.):page number(s).**