

1. Funding Opportunity Number: EPA-R5-GL2010-1
Focus Area: Nearshore Health and Nonpoint Source Pollution
Program: Communicating Beach Monitoring to the Public

2. Name of the Proposal: Development of a Beach Safety Outreach Program for Wisconsin

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4. Type of Organization: State Health Department

5. Proposed Funding Request: \$299,717 over 3 years

6. Project Description

To reduce the incidence of beach-related illness, the Wisconsin Department of Health Services seeks to increase the accessibility and availability of data and information on microbial beach hazards and to improve public awareness of these hazards. New web content on beach and surface water quality parameters such as coliform bacteria, lake algae (Cladophora), and cyanobacteria (blue-green algae) will be created. A range of outreach activities will be conducted, and new outreach materials such as brochures and press releases will be developed. The project will be guided by a comprehensive beach quality program evaluation plan.

7. Project Location: State of Wisconsin
HUC codes: Parts of 04 and 07

Project Narrative

8. Full Project Description:

Overarching Goal: *To protect the health and safety of Wisconsin residents and tourists who use Lake Michigan, Lake Superior, Lake Winnebago and other state lakes for recreational purposes. This goal will be accomplished by increasing the public's awareness of health risks that are posed by microbial and chemical contamination of our lakes, rivers and streams, and by promoting water quality monitoring and conservation efforts.*

8.1: Background

Each summer, more than a million state residents and tourists visit Wisconsin's beaches and enjoy swimming, boating and water skiing in our lakes and rivers. While most of these outings will become cherished family memories, some will result in preventable illnesses such as gastrointestinal illness, diarrhea, ear infections or dermal rashes caused by bacteria, enteroviruses, or toxin-producing cyanobacteria. Despite these occurrences, most Wisconsin residents are unaware of how the state's recreational waters are monitored for microbial contamination or toxin-producing algae. In many cases, recreational water users erroneously assume that their local beaches are tested frequently for the full complement of potential microbial contaminants, or may believe that water that looks clean and refreshing on a warm summer day can be assumed to be safe for swimming, boating and water skiing. Increasingly, local health departments have diverted resources or staff formerly dedicated to monitoring recreational waters in their jurisdiction and the posting of beach hazard alerts to other environmental health or public health activities.

The Wisconsin Department of Health Services' Bureau of Environmental and Occupational Health proposes to increase awareness of beach safety factors including coliform bacteria, water conditions, and the presence of toxin-producing algae through a multi-faceted outreach program. Requested funds will be used to expand the bureau's website to include an interactive page on beaches; develop a series of seasonal press releases; design a traveling display to be used at professional conferences; and create outreach materials including posters and fliers. Outreach will be targeted at local health departments, lake associations and the general public. These additional outreach efforts will include expanded collaborations with partners such as the Wisconsin Association of Lakes, the Wisconsin Department of Natural Resources (DNR), local governments, and local lakes associations.

Given that Wisconsin has more than 1,000 miles of shoreline along Lake Michigan and Lake Superior, as well as along the Mississippi River, and thousands of other inland lakes and rivers, a comprehensive program to monitor and post every potential entry point for recreational water users is not achievable. As such, we propose a multi-tiered project aimed at increasing the accessibility and availability of data and information about microbial beach hazards, and the knowledge of Wisconsin residents of recreational water hazards such as bacteria, algae and cyanobacteria. This project will include subcomponents focused on public education and outreach, enhanced monitoring of beaches by local public health agencies, and the development

of an interactive, web-based portal with data and information on microbial beach hazards and beach closings, warnings and advisories..

There are a range of current resources for beach safety information, including an EPA-funded beach information web page maintained and supported by the Wisconsin Department of Natural Resources (www.wibeaches.us). This particular web resource focuses on providing information about bacteriological hazards, and contains links to websites for a number of localities that conduct beach monitoring. This proposal seeks to present integrated data and information on a broader range of microbial beach hazards (bacteria, algae and cyanobacteria) in tandem with outreach efforts, and includes a comprehensive evaluation component. This project would significantly enhance state and local health capacity on beach safety, and would leverage the significant data analysis, visualization and reporting capabilities inherent in Wisconsin's Environmental Public Health Tracking (EPHT) web portals to improve how beach quality data are presented and disseminated in Wisconsin.

8.2: Project Relevance:

This project fits GLRI Action Plan focus area of Nearshore Health and Nonpoint Source Pollution and addresses the Great Lakes Regional Collaboration's Clean Beaches Initiative. The Great Lakes Regional Collaboration (GLRC) has identified coastal health as a priority recognizing the significance of beaches to the economic well-being, health and quality of life of the region's citizens and called for identification of sources of contamination and remediation. After finding that 90% of the beach advisories and closings were from unknown sources, U.S. EPA worked with state and local beach program partners to develop standardized beach sanitary survey forms in 2007. These forms are used by beach managers to identify sources of pollution, share information, and develop remedial action plans. In addition, the US EPA has worked with the USGS to develop a website citizens can use to get information about beach safety.

8.3: Project Objectives:

This project is intended to increase public awareness of the hazards fecal contaminants, algae and cyanobacteria pose to recreational water users and enhance the public's ability to access and understand surface water quality data information. Each of these microbial hazards has a different range of potential health effects, and developing strategies to address them requires an understanding of the unique features of each:

➤ Bacteria

Bacteria, viruses and protozoa constitute a major human health concern for recreational waters, including those of the Great Lakes. In many cases when a Great Lakes beach is closed, it is due to observed contamination on shorelines near major metropolitan centers or the mouths of streams and rivers. These closings often follow storm events when bacteria-rich surface water runoff is flushed into nearshore areas via streams, rivers and combined sewage overflows. In some instances, beach closures may be based on the potential for high bacteria levels to develop following storm and rain events.

Human exposure to microorganisms occurs primarily through ingestion of water, and can also occur via the entry of water through the ears, eyes, nose, or broken skin. Each year, it is estimated that hundreds of Wisconsin residents experience gastrointestinal upsets, respiratory illnesses, or infections affecting the skin, eyes, or ears as a direct result of contact with contaminated surface water.

➤ **Algae**

Large quantities of decaying algae have been found fouling Wisconsin's Lake Michigan shoreline in recent years. As the algae and organisms trapped in the algae rot, they can generate a pungent septic odor that many people confuse with sewage. Nutrient (phosphorus) sources, zebra mussels, and declining lake levels have been implicated in the recent increase in nuisance algae. The presence of rotting Cladophora on Lake Michigan beaches presents aesthetic and odor problems that impair recreational use of Lake Michigan. Cladophora is a green alga, and does not produce toxins the way cyanobacteria (or blue-green algae) can. Cladophora itself does not present a risk to human health. However, Cladophora rotting on a beach promotes bacterial growth. In addition, crustaceans that wash up with the algae can attract large flocks of gulls, resulting in high concentrations of fecal material and bacteria. The bacteria associated with Cladophora can pose a risk to human health.

➤ **Cyanobacteria**

Cyanobacteria (or blue-green algae) are microscopic organisms that are naturally present in lakes and streams. They can become very abundant in warm, shallow surface waters that receive a lot of sunlight. When this occurs, they can form blooms that discolor the water or produce floating rafts or scums on the surface of the water. Some blue-green algae produce toxins that could pose a health risk to people and animals when they are exposed to them in large enough quantities. Health effects could occur when surface scums or water containing high levels of blue-green algal toxins are swallowed, through contact with the skin or when airborne droplets containing toxins are inhaled while swimming, bathing or showering. Consuming water containing high levels of blue-green algal toxins has been associated with effects on the liver and on the nervous system in laboratory animals, pets, livestock and people. Livestock and pet deaths have occurred when animals consumed very large amounts of accumulated algal scum from along shorelines. Direct contact or breathing airborne droplets containing high levels of blue-green algal toxins during swimming, boating or water skiing can cause irritation of the skin, eyes, nose and throat and inflammation in the respiratory tract.

Specific Objectives

- To increase the availability and accessibility of water quality data and information about microbial levels and beach closings, warnings and advisories;
- To increase public awareness of beach-related microbial hazards and common surface water quality problems, and to improve public understanding of the underlying causes of water pollution and steps individuals and communities can take to address them;

- To effectively develop and implement a project evaluation plan, including the identification and engagement of key program stakeholders, solicitation and incorporation of feedback on project deliverables, and achievement and documentation of incremental improvement in addressing microbial beach hazards.

8.4: Project Activities:

Increase the availability and accessibility of water quality data and information about microbial levels and beach closings, warnings and advisories

In its efforts to support and expand its environmental public health surveillance capacity, Wisconsin has maintained a cooperative agreement with the Center for Disease Control (CDC) and Prevention's EPHT program since 2002. This program's goals have focused on creating web-based platforms for accessing, analyzing, visualizing and reporting related environmental and health outcome data. Within this framework, Wisconsin's EPHT staff have worked closely with a variety of environmental health programs to develop novel approaches for displaying health outcome and hazard surveillance data. Both Dr. Werner and Dr. Knobeloch have been involved in Wisconsin's EPHT activities during the program's development.

Based on guidance from the program's Technical Advisory Group, the Wisconsin EPHT program has targeted the needs of local health departments and other local constituencies as primary portal users. For communities with significant recreational beach activity, particularly Great Lakes communities, substantial effort is required from local environmental public health infrastructure to monitor beach quality and respond to these monitoring results. With this proposal, the WI Bureau of Environmental and Occupational Health (BEOH) seeks to leverage existing and developing EPHT efforts to create a web-based portal for analyzing, visualizing and reporting data on beach quality and information about community responses to these data, such as beach closings and advisories.

In Year 1 of this project, work will begin by developing an inventory of available data and web resources relating to beach quality in Wisconsin. This inventory will include detailed information on the specific parameters collected, the years for which data on these parameters have been available, the frequency and seasonality with which these data are collected, the means by which these data are stored or accessed (such as Excel file, Access file, Oracle database, etc.), and a description of the qualitative information that accompanies these data. Once this inventory is created, a meeting of interested stakeholders will be convened to identify priorities for data and indicators to be targeted for inclusion in a queryable, web-based data portal. For this meeting, attendees will be selected with an eye to identifying members to serve on an advisory committee for this panel (the Beach Improvement Advisory Committee).

In order to provide guidance on this initiative, this Beach Improvement Advisory Committee (BIAC) will be formed as a technical resource and evaluation panel for this proposal. In order to maximize the utility of this committee, membership will be sought from the following agencies and organizations:

- Wisconsin Department of Health Services' Bureau of Occupational and Environmental Health;

- Wisconsin Department of Natural Resources' Bureau of Watershed Management;
- Wisconsin State Laboratory of Hygiene (SLH);
- Wisconsin Association of Lakes (two representatives from lake associations);
- Two representatives from local public health departments, including one representing a jurisdiction on Lake Michigan or Lake Superior;
- A representative from the University of Wisconsin – Milwaukee's Great Lakes Wisconsin Aquatic Technology and Environmental Research (WATER) Institute.

The BIAC will meet no fewer than two times per year for each of the three years of this proposal. The membership of the BIAC will be augmented as the grant period proceeds as needed to address the advisory and evaluation purposes of the project.

In Year 1 of this project, work on this objective will focus on identifying data and indicators that will be prioritized for analysis and visualization on the beach quality data portal. In Year 2, work will focus on the development of a beta version of this web portal. This work will benefit from BEOH's efforts within its EPHT program to develop new content areas for private drinking well test results and radon. As iterations of the beach quality data portal are developed and reviewed, modifications will be made based on feedback from potential users from state and local agencies as well as local lake associations. As available, feedback from the BIAC will be sought and incorporated into beach quality portal development efforts. Efforts in Year 3 will focus on evaluating the utility of the beach quality web portal and incorporating these findings into modifications of the content and function of the portal.

Increase public awareness of beach-related microbial hazards and common surface water quality problems, and to improve public understanding of the causes that underlie these problems

While the development of a publicly-accessible beach quality web portal will be a valuable tool for providing beach-related data and information to a variety of audiences around Wisconsin, it is not expected that such a portal is sufficient to increase public awareness about beach quality issues to a level that would ensure a sustainable, measurable improvement in public health. As such, additional outreach efforts will be undertaken to supplement this beach quality web portal to address a range of concerns, including the need to develop, test and refine complex messages about the distinction between Cladophora and blue-green algae, and the need to reach rural and underserved populations that are unlikely to access web-based portals and populations for whom English is not a primary language.

To this end, a number of efforts will be made to address message development and outreach issues. As the BIAC is developed and convened, this group would be called upon to help prioritize beach health issues for outreach efforts in Year 1. In consultation with the BIAC, a uniform statewide approach for outreach that can be implemented throughout Wisconsin will be developed. At the end of Year 1, it is hoped and expected that specific outreach messages and audiences will be identified to focus the outreach efforts to be undertaken in Year 2 and Year 3.

During Years 2 and 3, strategies for disseminating the prioritized messages and audiences for beach quality outreach will be developed and implemented. These outreach efforts may include

some enhancement to DHS' harmful algal blooms website to address issues raised in Year 1 related to recreational water use by specific user groups such as swimmers, boaters and water skiers. The website would provide links to local government postings on water quality monitoring for coliform bacteria, *swimmer's itch*; dangerous conditions, such as local flooding or swift currents; and harmful algae.

A key feature of outreach efforts during Years 2 and 3 will be the development and implementation of a structure for providing small grant opportunities to local public health departments and lake associations. These grants will address both (a) targeted water quality monitoring and (b) outreach efforts based on local priorities as well as those identified by the BIAC and others in Year 1.

Additional work will be undertaken in Years 2 and 3 to create and disseminate beach safety program outreach materials. This will include brochures, press releases, a display board, and posters. In some cases, templates for such materials have already been created by BEOH's CDC-funded harmful algal bloom surveillance program. Where such templates do not exist, they will be created by program staff so that they can be branded by local public health agencies, individual local lake associations and others identified as the outreach priorities and plans are developed in Year 1.

To effectively develop and implement a project evaluation plan, including the identification and engagement of key program stakeholders, solicitation and incorporation of feedback on project deliverables, and achievement and documentation of incremental improvement in addressing microbial beach hazards

In any public health program, a formal program evaluation plan is valuable in systematically and comprehensively collecting information about the activities, characteristics, and outcomes of the program in question. Evaluation provides information on progress toward program goals, helps in justifying funding choices, and aids in identifying aspects of the program that are working well and those where improvement is needed. In addition, evaluation assesses the success of the program's short-term, intermediate, and long-term outcomes. These results are provided to stakeholders and are used to improve the overall effectiveness of the program.

In order to guide this program evaluation, evaluative information will be gleaned from the workplan that each of the program's contractual partners will submit annually, along with measures to assess the action steps and overall objectives. The development of the program evaluation plan will be centered around four primary activities: partner engagement, program description, evaluation question identification and prioritization, and collection of credible evidence.

A. Partner Engagement. The first step in developing the evaluation plan will be to identify members and roles for the program's *evaluation team*. Proposed members of the evaluation team include the lead investigators, the harmful algal bloom program outreach specialist, the staff person hired for this proposal and two external program stakeholders. The subsequent step will be to engage the Beach Improvement Advisory Committee, which will serve as an evaluation resource panel in the development of the plan. For developing evaluation questions, BIAC

membership may be supplemented by interested parties with experience in program evaluation. Engaging stakeholders will also help to effectively implement the evaluation plan and increase the credibility of the evaluation results.

B. Program Description. Developing a comprehensive written description of the beach quality program and its various components will be the next step in evaluation planning. A logic model will be developed to aid in communicating program goals, objectives and action steps with its partners and stakeholders. In addition, individual logic models will be developed and formalized with each contractual partner to describe resources, inputs, activities, outputs and outcomes based on the project descriptions and workplans. These sets of objectives and logic models will provide the basic blueprints for partner-specific evaluation activities as the program evaluation process proceeds.

C. Evaluation Question Identification and Prioritization. In this step, primary audiences for the results of evaluation activities are identified so that activities can be properly scoped to maximize their utility. It is likely that the many of the stakeholders identified in Step 1 will be contained on this list, along with others with interests in program outcomes. These individuals will be consulted to offer feedback on evaluation design and selection of evaluation questions, and to help identify proposed used for evaluation results. With this input, process and outcome evaluation questions will be developed and prioritized by the evaluation team, and reviewed with key stakeholders.

D. Collection of Credible Evidence. After the evaluation questions have been established, measurable process and outcome indicators will be developed or adapted from other statewide programs to answer these evaluation questions. Once the indicators have been established, data sources, performance benchmarks and responsible parties will be identified. Data collection efforts such as surveys, listening sessions, and key informant interviews may be required. Information from discussions with stakeholders in Steps 1 and 3 will help identify priority areas and gauge the feasibility of gathering desired types of data. Input for developing surveys and interview questions will be required for all evaluation team members. Guiding criteria for carrying out this step will be the relative utility, feasibility, propriety and accuracy of various tools and approaches that may be considered for program evaluation purposes.

E. Framework for Disseminating Results and Revising Plan. Evaluation findings will be disseminated by several means, including progress reports and grant applications to EPA, and summaries on the beach quality web portal. Feedback from stakeholders on preferred means by which evaluation results should be shared will be collected and considered. All evaluation reports will include specific plans for actions to be taken by the beach quality program in response to evaluation findings. At the end of each of the last two project years, evaluation results will be reviewed to determine if the project workplan or the evaluation plan should be updated. Revisions may require the addition of new program evaluation indicators and will be considered by the full evaluation team.

A timeline for YR 1 program evaluation activities is described in the timeline below.

Timeline for Program Evaluation Activities (Year 1)

Activity Month	1	2	3	4	5	6	7	8	9	10	11	12
Develop logic models												
Engage stakeholders												
Develop evaluation questions												
Prioritize evaluation questions												
Finalize evaluation questions												
Develop measures/indicators and when each will be evaluated (short term, intermediate, long term)												
Identify existing data sources for data collection and new sources if needed												
Finalize evaluation plan												

With the program’s evaluation plan finalized at the end of Year 1, the plan will be implemented in Years 2 and 3.

9. Outcomes, Outputs, and Expected Results:

Project outcomes will include:

1. The creation of a Beach Improvement Advisory Committee (BIAC) comprised of local and state level stakeholders interested in monitoring Wisconsin’s beach safety and health. This group will work towards raising awareness regarding the issues that face Wisconsin’s beaches, including Harmful Algal Blooms, point and non-point source pollution, bacterial contamination, and fish toxicity.
2. The expansion of the DHS website to include information about current beach surveillance efforts. The new content will include a searchable database of lakes in Wisconsin’s Great Lakes Basin. The information available through the searchable database may include fish consumption advisories, historic information about the prevalence of harmful algal blooms, beach advisories, etc.
3. The development of infrastructure and mini-grant grant funding to assist local agencies invested in promoting beach health and safety in Wisconsin’s Great Lakes Basin.
4. The development of outreach materials regarding Wisconsin’s current beach monitoring practices to raise awareness about the ongoing beach health and safety efforts.
5. The development and implementation of a comprehensive program evaluation plan to guide program efforts and enhance program sustainability

Expected Results

Expected results from this project include:

1. Wisconsin citizens will be familiar with common beach safety hazards, such as sewage overflows, storm-related surface runoff, and harmful algal blooms.
2. Wisconsin citizens and health professionals will understand the benefit of beach monitoring.
3. Wisconsin citizens, as well as the press, will be familiar with water quality indicators and know where to find beach safety information using the internet.
4. The number of gastrointestinal illnesses, respiratory symptoms and infections associated with microbial or algal contamination of recreational waters will be reduced.
5. Wisconsin citizens have a better understanding of the need to protect the quality of our surface waters by, for example, reducing fertilizer applications, choosing phosphate-free products, keeping yard waste out of the storm sewers, and cleaning up pet waste.
6. Through the Beach Improvement Advisory Committee (BIAC), cross-agency discussions regarding beach health and safety will be facilitated. There is currently no interagency group that meets regularly to discuss beach health issues in a timely fashion. Convening this group will improve interagency collaboration regarding the health and safety of Wisconsin's beaches and near shore areas.
7. Popular Wisconsin beaches will be prioritized for monitoring and posting based on the number of users and their history of bacterial or algal contamination.

10. Collaboration, Partnerships, and Overarching Plans:

This program will build on current collaborations between the Wisconsin Department of Health Services, the Wisconsin Department of Natural Resources, the Wisconsin State Lab of Hygiene, the Wisconsin Lakes Association and Wisconsin's local health departments. Representatives from each of these agencies have a history of productive and effective collaboration. This proposed project will complement BEOH's current harmful algal blooms program, a five-year project funded by a cooperative agreement with Centers for Disease Control and Prevention. This project will build additional capacity for outreach and education on beach safety and conservation.

One objective of this proposal is to provide mini-grants to local agencies which will help build outreach and education capacity at a local level. Additionally, the dissemination of information from the state to the local public health agency level will increase collaboration across public health agencies.

The development of the Beach Improvement Advisory Committee (BIAC) will provide a forum for information sharing about local and statewide water quality issues. This group will include members from a variety of agencies and levels (state and local) and improve cross-agency collaboration.

11. Programmatic Capability and Past Performance:

The Wisconsin Department of Health Services has a cooperative agreement with the Centers for Disease Control and Prevention to monitor adverse health effects associated with exposure to

harmful algal blooms. The cooperative agreement began in 2008 and includes 5 years of funding, with an annual budget of \$150,000. To date the Wisconsin Department of Health Services (DHS) has made significant progress towards achieving the goals and objectives set forth in the original application. Program staff have submitted two progress reports and a program reapplication, all of which have been favorably received by the Centers for Disease Control and Prevention (CDC). In addition to meeting the reporting requirements of the CDC, DHS staff have also presented program background and progress at local, state and national conferences.

Dr. Knobeloch, Dr. Werner and Mr. Warzecha have worked together for more than 10 years and have administered numerous EPA and CDC grants. Dr. Knobeloch is currently conducting a statewide study to assess barriers to well water testing and recently completed work on an EPA Great Lakes Program Office grant that assessed current mercury levels, fish intake and advisory awareness among volunteers in a 2004 mercury exposure study. Dr. Mark Werner has more than a decade of experience as an occupational and environmental health scientist and manager. Both Dr. Knobeloch and Dr. Werner have considerable expertise in the fields of toxicology, epidemiology and biomonitoring. Mr. Warzecha has a Masters Degree in water resources management from the University of Wisconsin and has considerable experience in addressing health issues related to surface water and groundwater contamination and in environmental health management.

These investigators have served or currently serve as PIs and Co-PIs on the following grants and contracts are related to the Great Lakes initiative:

Lynda Knobeloch, Mark Werner and Charles Warzecha

Surveillance of Harmful Algal Blooms Contract

CDC grant no. 1U38EH000332-01

Contract amount: \$750,000

Current contract dates: 10/01/2008 -09/29/2013.

Project status: Ongoing

This contract was awarded in October of 2008. To date, all progress reports have been completed on time. Our program accomplishments have exceeded CDC's requirements and many of our electronic case ascertainment methods are being proposed for use by other contractors. A manuscript summarizing human and animal case reports for 2009 is in preparation.

Lynda Knobeloch

Follow-up Study of Volunteers in a 2004 Mercury Exposure Study

USEPA/GLNPO Assistance no. GL-00E358-01-2

Contract period: 10/01/2007-12/31/2009

Award amount: \$100,000

Project status: Completed. All progress reports were submitted on time and the proposed goals and objectives have been met. A manuscript summarizing our findings has been submitted to Environmental Research and is currently in review status.

Great Lakes Charter Captain Mortality Study

Lynda Knobeloch, PhD, PI

Great Lakes Commission, Great Lakes Air Deposition Program

Contract dates: 03/29/2006-07/31/2008

Award amount: \$114,815

Project status: Completed on time with all objectives and goals met. Study findings were presented at the 5nd Annual Conference on Great Lakes Research and described in a publication by Tomasallo et al, 2009.

Mark Werner

Environmental Public Health Tracking Network Implementation

Centers for Disease Control and Prevention

Contract amount: \$4,500,000

Contract period: 8/1/06 – 7/31/11

Project status: Ongoing

This contract was awarded in August of 2006. The project seeks to establish public and secure web-based environmental public health tracking (EPHT) portals displaying data and information on a range of environmental endpoints and related health outcomes, including air quality, asthma and myocardial infarction hospitalizations, birth defects, carbon monoxide poisonings, cancer, and drinking water quality. Wisconsin's portals were launched in 2009, and current efforts to obtain user and stakeholder feedback for portal revisions are ongoing.

Facilities and Other Resources

Wisconsin Department of Health Services

The mission of the Wisconsin Department of Health Services is to lead the nation in fostering healthy, self-reliant individuals and families. The Department is one of 18 administrative departments within Wisconsin's executive branch and has many key responsibilities ranging from public health, mental health, long term care, services to the disabled, medical assistance and children's services.

Bureau of Environmental and Occupational Health

The proposed cooperative agreement would be administered within the Department of Health Services' Bureau of Environmental and Occupational Health. This bureau, which is one of five bureaus located within the Division of Public Health, is comprised of four sections and has a staff of more than 60 environmental health professionals. Bureau programs collaborate with many federal and state partners on environmental disease prevention and surveillance.

The Bureau of Environmental and Occupational Health (BEOH) has ample experience and depth in the area of safe recreational and drinking water. Related programs that will provide technical support to this agreement include the beach and pool safety program, safe drinking water

program, general toxicology, and epidemiology. The BEOH maintains grant agreements with several federal agencies including the CDC, U.S. EPA, ATSDR and HUD and administers several general tax and program revenue funded programs. These include the licensing and inspection of hotels, restaurants and pools; the licensing of medical radiation equipment; the Groundwater Protection Program; the Air Toxics Program; general toxicology and environmental epidemiology; indoor air quality, and human exposure to environmental contaminants.

BEOH has experience and expertise in all of the following:

- a. Responding to human and animal health concerns related to algal blooms and algal and cyanobacterial toxins;
- b. Integrating health and environmental data on a widely-accessible web-based electronic platform in cooperation with NCEH. The current Environmental Public Health Tracking program is an example;
- c. Working with statewide partners, including local health departments, the Wisconsin DNR and others, to minimize health risks related to harmful algal blooms;
- d. Working with NCEH's Health Studies Branch to address emerging environmental health issues (most notably methyl tert-butyl ether as a public drinking water contaminant and CDC's recent Household Water Filtration Study);
- e. Inspection of indoor recreational water facilities including assessment of microbiological safety;
- f. Working with the US EPA Great Lakes National Program Office to increase awareness of fish consumption advisories for Great Lake sportfish.

The BEOH has strong fiscal and management experience. Systems are in place for contracting and monitoring agreements for services with public and private, profit and nonprofit entities. The DHS maintains the Community Aids Reporting System (CARS), which provides monthly reports of grantee expenditures and contract balances for management and program staff. Program staff, as a routine part of their duties, monitors grantee expenditures to ensure consistency with work plan activities and overall grant goals and objectives.

12. Budget:

Budget Item	Year 1	Year 2	Year 3
a. Personnel/Salaries	0	0	0
b. Fringe Benefits	0	0	0
c. Travel	\$1,500	\$1,500	\$1,500
d. Equipment - one desktop computer	\$1,500	0	0
e. Supplies	\$2,500	\$2,500	\$2,000

f. Contractual costs 0.5 FTE Program manager Fringe @ 38.5% Indirect charges at 15% DNR and Lakes Associations Informational technology services	\$88,438	\$89,891	\$90,388
g. Internal Services \$6,000/yr	\$6,000	\$6,000	\$6,000
h. Total Charges	\$99,938	\$99,891	\$99,888

13. ACORN statement

This project does not involve collaboration with the Association of Community Organizations for Reform Now (ACORN) or any of its affiliates, subsidiaries, or allied organizations.

14. Summary of Qualification for Key Staff (attached)