

From the Director

While writing this, I am reflecting on the momentous upheaval we have all undergone in just a matter of months. A pandemic and a fervent national discussion — along with, hopefully, a series of systematic actions addressing social justice in America — forever mark this as a time of before and a time of after.

2020 is the year that straddled that before and that after. Wisconsin Sea Grant certainly experienced the bifurcation. Our years of 2018, 2019 and the first two months of 2020 had radically different contours than the balance of 2020. With this biennial report, we reflect on our service and accomplishments on behalf of the Great Lakes. We simultaneously look forward. In each instance, it is through the lens of a profoundly altered world.

Before the unprecedented change brought about by COVID-19, our extension staff crisscrossed the state, offering one-on-one consultations, delivering presentations and attending planning meetings with partners. Our research project-supported students lined up at laboratory benches to analyze samples collected through field work. Our funded researchers taught courses and submitted peer-reviewed papers based on Sea Grant-supported work. Our graduate fellows, the next generation of Great Lakes scientists and managers, gathered for group learning at poster sessions and conferences.

Then came the after. In accordance with public health guidelines and protocols put in place by the university campuses on which we work, like so many others, we forged new ways to complete our tasks and serve stakeholders from a distance.

Before the death of George Floyd in Minneapolis and its repercussions, Sea Grant sought to embody and employ diversity, equity and inclusion in meetings, strategic planning, hiring practices, research and community engagement.

Then came the after. We reexamined it all. We advanced dialogue and action within our own program, and outward, to do what we could to shape a more just society.

In the face of both the new coronavirus and sociological reexamination and realignment, constants remain. We remain constant in our efforts to promote the sustainable use of the Great Lakes through research, outreach and education. We are privileged to own this mission and pleased to share this report, the embodiment of our version of the before and the after.

Sincerely,

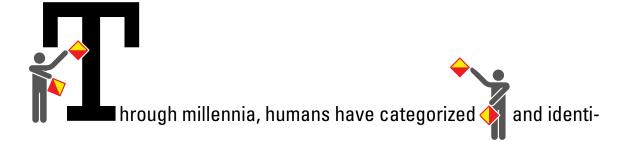
Jim Hurley
Director





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Navigating Great Lakes Needs



fied what is a part of our lives. We have named natural features and processes. We have blazed paths, displayed flags and posted wayfinding symbols. We have quantified and counted, built knowledge, and deepened connections to each other and what is around us — such as lakes, streams, rivers and ponds — which have always drawn human-kind to their shores.

That communication — semaphore and water-based signage — helps us navigate. That deepened connection — forged by the data of buoys, secchi discs, Niskin bottles, trawl nets and lab analysis — helps us identify, name, understand, discuss and feel. It makes stewards of us. We are stewards of the sweetwater inland seas.

The Ojibwe names for lakes Superior and Michigan are Gichi-gami and Mishigami, respectively. Again, through millennia,

we name and connect with the Great Lakes that touch Wisconsin. We know, and do not know, these bodies of water because there is always more to learn and do with partners and collaborators, and always, on behalf of stakeholders.

At Wisconsin Sea Grant, we sort our work into focus areas —
Healthy Coastal Ecosystems, Sustainable Fisheries and
Aquaculture, Resilient Communities and Economies, and Environmental
Literacy and Workforce Development. These are the basis for grouping and communicating.

Under the flag of 2018 through 2020, we name the facts that follow, which are representative of some of our efforts. We then claim our accomplishments, applying the power of evidence-based thinking and the practicality of policies leading to the integration of science to action.

Healthy Coastal Ecosystems

12 funded research projects. staff members. 5 nesting pairs 2019 on the Cat Island chain of



8 formal outreach initiatives undertaken by of highly endangered piping plovers found in restored lands in the bay of Green Bay. Sea Grant

contributed to both restoration planning and ongoing management of the island chain that is being rebuilt using dredged material from the shipping lanes of Green Bay.

2 years of aquatic species management

by the state of Wisconsin before the 2019 adoption of a new plan, which was devel-

oped and adopted thanks to Sea Grant leadership. **50** water-collection and storage bottles used in a research project conducted by Prof. Christine Remucal at the University of Wisconsin-Madison and her team to assess the role of dissolved organic

matter and photoreactivity in breaking cholesterol-inhibiting atorvastatin, medicine carbamazepine. The work and Technology.

down pollutants, specifically, insect repellant DEET,

antidepressant venlafaxine and anti-epileptic

was published in 2019 in Environmental Science
tation samples from the National Atmospheric

Deposition Program National Trends Network analyzed by Martin Shafer in work funded by Sea Grant and at the Wisconsin State Lab of Hygiene. He detected, for the first time ever, per- and polyfluoroalkyl substances (PFAS) in rainfall. This data will now be used by the U.S. Environmental Protection Agency in deposition models.



\$120,000 is the amount of a two-year (2019-2021) grant awarded to a student to build on already-established Sea

Grant work that developed a wild rice toolkit for Native American communities. The new funds will enable the study of how mercury, sulfide mining and climate change affect wild rice beds. Up to 100 analyses for mercury isotopes in archived U.S. Geological Survey samples of

2019 paper in the Proceedings of the National

Academy of Sciences authored by Sea Grantsupported student Ryan Lepak and a team includ-

Great Lakes fish and lakebed sediment that led to a

ing Sea Grant's Director Jim Hurley. The work showed that although there have been four decades of reduced mercury use and loading in the region, there has not been a decline in the amount of mercury accumulating in large game fish. This is due to the nonnative Dreissenid mussels in Lake Michigan that force fish to seek atypical food sources that contain more mercury.

Healthy coastal ecosystems?
Like this flag, we signal an enthusiastic YES. Sea Grant researchers and outreach staff pour considerable energy into understanding, maintaining, remediating and restoring the treasured spots throughout the Great Lakes basin that support habitats and resources.



Sustainable Fisheries and Aquaculture



6 formal outreach initiatives undertaken by species in the Great Lakes. 2 fish diseases

studied by Sea Grant-funded researchers in this reporting period that impact both wild

fish and those raised in aquaculture: viral hemorrhagic septicemia, which causes

fish to bleed out; columnaris, caused by Flavobacterium columnare and often fatal;

and saprolegniasis, a fungus that affects fish in early

life. 118 days spent on the Lake Michigan commercial fishing vessel Peter Paul by Sea Grant's fisheries

specialist to collect trawl catch data, which led to a state rule

change allowing fishers to extend their fishing season to the winter and harvest lake whitefish using trawl nets.

Economic value of lake whitefish: \$1.25 to \$1.60 per

Harvesting fish using trawl nets in December through

pound harvested using trap nets.

March, when fewer fresh fish



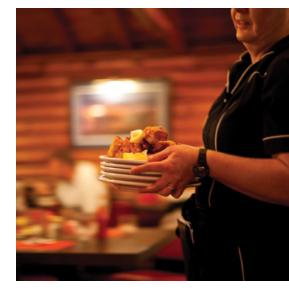
When it comes to Sea Grant investment in research and outreach to support and expand the region's land-based aquaculture efforts, it's **ALL ABOARD**, just as this flag represents, and then set forth. Aquaculture puts protein on dinner plates and makes for a healthy and tasty meal to boot. The industry creates jobs and production can be done in environmentally appropriate ways that conserve and protect water.

are available, means a higher value — \$2.10 to \$2.40 per pound. 250 supper clubs in Wisconsin, which serve local staples such as brandy old fashioneds and a Friday-night fish fry, with walleye being a popular choice. 100,000 square feet: The size of the Hixton, Wis., Superior Fresh aquaculture operation, which has received research funding in collaboration with

the Wisconsin Sea Grant-supported University of
Wisconsin-Stevens Point Northern Aquaculture
Demonstration Facility to refine rearing
techniques of Atlantic salmon. Average number

of eggs a large female walleye can produce: 50,000. The record is more than $600\ \text{,}\ 000\ \text{.}$

Superior Fresh



Resilient Communities and Economies

8 funded research projects.

members. 582
toppled the monthly record —
record for the entire Great

feet: Lake Michigan's April 2019 water level, which notched in 1986 — by three inches. It was yet another Lakes Basin that is in a five-year-and-counting run of

high-water levels that are causing erosion, lake sediment displacement and flooding. 8 to 140 feet the height of Ozaukee County bluffs that are eroding and collapsing into the high waters of Lake Michigan.

6 feet is the root depth of common ninebark. The shrub can stabilize a coastal bluff and is included on a recommended vegetation list for lakeside bluff care prepared and distributed by Sea Grant's coastal engineer. 7,732 feet of steel valued at \$11.5 million in the Duluth-Superior Harbor protected from accelerated fresh-

water corrosion in 2018-20 because of mitigation studies conducted by Sea Grant and



partners, leading to innovative protective jackets. 3 colors on the rip current warning light in Port Washington, Wis., installed by Sea Grant and partners, protecting swimmers at a Lake has seen a tragic death. The light means no longer requires a person to raise and lower warning flags. 1 2 visualization tools included in the online

Wisconsin Coastal Atlas — built and maintained by Sea Grant — to

help understand, among other things, Green Bay flooding, Milwaukee County bluff failure or up-to-date beach conditions.

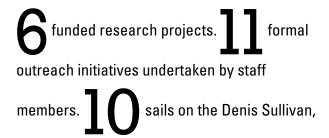


In the face of flooding, erosion and storms, Sea Grant does not wave the white flag but instead conceptualizes and works to implement an **ALTERED COURSE**, which this flag means. Along with partners, Sea Grant proposes practices that lessen or prevent unwanted consequences affecting shorelines, beaches and bluffs, as well as infrastructure in Wisconsin cities, towns and villages.



Environmental Literacy and Workforce Development





a 19th century three-masted Great Lakes schooner that



lake sturgeon objects,

curricula.



installation at the Thelma Sadoff Center for the Arts in Fond du Lac that celebrated the art and science behind the largest of the Great Lakes fish.

googly eyes, as needed to complete the paper plate turtle craft in the Come Out of Your Shell updated story time lesson plan —

one of 10 Sea Grant-created teaching tools for educators, librarians and families.

Wisconsin graduate fellows who worked with mentors in state agencies and who, among other things, updated a Wisconsin coastal processes manual, advanced knowledge about hybrid splake in Wisconsin waters and furthered understanding

about the effects of PFAS on human health.

41,104 K-12 students reached with Sea Grant Great Lakes learning.



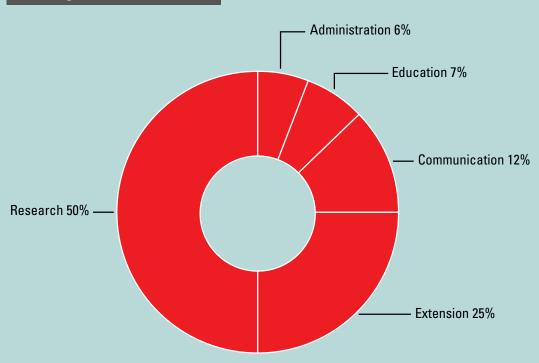
Sea Grant is proud to fly this flag — the **DESIRE TO COMMUNICATE**

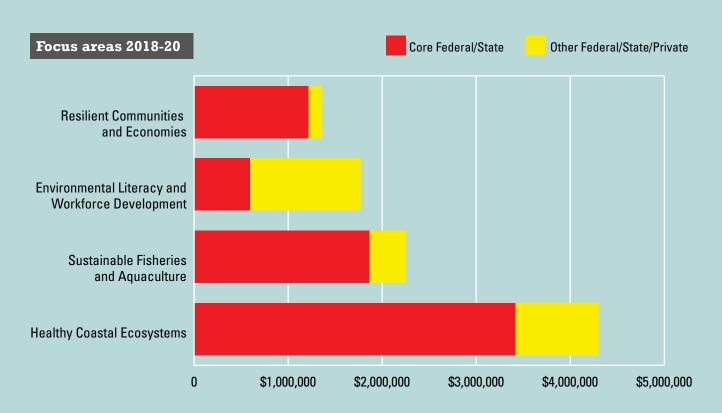
flag — because it contributes to building environmentally literate individuals who understand the natural world and the interplay of the living and non-living environment. Those individuals harvest knowledge to make science-based decisions about the Great Lakes and coastal areas.

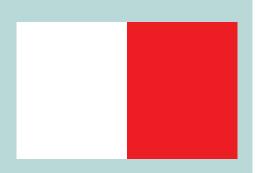


The Numbers

Funding Allocation 2018-20







When hoisted above a vessel, this flag means PILOT ON **BOARD**. Sea Grant shows its leadership colors through the strength and diversity of those individuals who tirelessly contribute to the mission of Great Lakes stewardship. Staff expertise is highly valued and the voice of external advisory bodies is welcomed and respected.

Leadership

Four people make up the Sea Grant leadership team. Two external bodies composed of diverse members provide guidance. The chancellor of the University of Wisconsin-Madison appoints the Sea Grant Advisory Council. The second body, the Sea Grant Committee on Outreach and Education, includes members who provide advice and assistance based on broad professional experience.

Sea Grant Management Team

Director

James Hurley (608) 262-0905 hurley@aqua.wisc.edu

Assistant Director for Communications

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moira@aqua.wisc.edu

Assistant Director for Extension

David Hart (608) 262-6515 dhart@aqua.wisc.edu

Associate Director

Jennifer Hauxwell (608) 263-4756

jennifer.hauxwell@agua.wisc.edu

Wisconsin Sea Grant Mission and Vision Statements

Mission

Wisconsin Sea Grant promotes the sustainable use of Great Lakes resources through research, education and outreach.

Vision

Thriving coastal ecosystems and communities.

Office Locations

Main Office

1975 Willow Drive Madison, WI 53706-1177 (608) 262-0905

UW-Green Bay

2420 Nicolet Drive MAC 212 Green Bay, WI 54311-7001 (920) 465-2795

UW-Green Bay, Manitowoc campus

705 Viebahn St. Founders Hall F215 Manitowoc, WI 54220-6699 (902) 683-4697

School of Freshwater Sciences

UW-Milwaukee 600 E. Greenfield Ave. Milwaukee, WI 53204 (414) 382-1723

Lake Superior National Estuarine Research Reserve Building

14 Marina Drive Superior, WI 54880 (715) 919-2154

Sea Grant Advisory Council

James Hurley (ex officio), director, Sea Grant, UW-Madison

Todd Ambs, deputy secretary, Wisconsin Department of Natural Resources, Madison

Thomas J. Blewett, retired, program director, Community Natural Resource and Economic Development, University of Wisconsin Cooperative Extension, Madison

Sharon Cook, owner, Sharon Cook, LLC, Milwaukee

Deb DeLuca, executive director, Duluth Seaway Port Authority, Duluth, Minn.

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Michael Friis, program manager, Wisconsin Coastal Management Program, Verona

H.J. (Bud) Harris, professor emeritus, Natural and Applied Sciences, UW-Green Bay, De Pere

Al House, president, Apostle Islands Sport Fisherman's Association, Washburn

J. Val Klump, senior director and associate dean of research, School of Freshwater Sciences, UW-Milwaukee

Madelyn Leopold, private property owner and retired attorney, Madison

Larry J. MacDonald, former mayor, Bayfield

Becky Sapper, director, Wisconsin Master Naturalist Program, Division of Extension, UW-Madison, Ashland

Lori Tate, section chief, Fisheries Management Bureau, Wisconsin Department of Natural Resources, Madison

Dreux Watermolen, section chief, Science Information Services, Bureau of Science Services, Department of Natural Resources, Madison

Larry Wawronowicz (chair), natural resources director, Lac du Flambeau Band of Lake Superior Chippewa Indians, Woodruff

Wisconsin Sea Grant

Sea Grant Committee on Outreach and Education

Kate Angel, federal consistency and coastal hazards coordinator, Wisconsin Coastal Management Program, Madison

June Breneman, communications, University of Minnesota Duluth

Gene Clark, retired, coastal engineer, lola

Brenda Coley, co-executive director, Milwaukee Water Commons

Bart De Stasio, professor, Lawrence University, Appleton

Meg Domroese, director of programs and impact, Gathering Waters Inc., Madison

Steve Galarneau, director, Office of Great Waters, Wisconsin Department of Natural Resources, Madison

Steve Galetka, land records administrator, Bayfield County, Washburn

Jim Giglierano, geographic information officer, Wisconsin Department of Administration, Madison

Tricia Gorby, director, Natural Resources Institute, Division of Extension, UW-Madison

Lee Haasch, owner, Haasch Guide Service, Algoma

Vicky Harris, coordinator, Wisconsin Clean Marina Program, De Pere

Charlie Henriksen, owner, Henriksen Fisheries, Sister Bay

Jody Henseler, middle school educator, Manitowoc

Hannah Stonehouse Hudson, HSH Communications, Milwaukee

Tina Kakuske, director, Door County Library, Sturgeon Bay **Edith Leoso,** tribal historical preservation officer, Bad River Band of Lake Superior Chippewa Tribe, Odanah

Paula Maday, public information officer, Great Lakes Indian Fish and Wildlife Commission, Odanah

Victoria Ryberg, environmental education consultant, Wisconsin Department of Public Instruction, Madison

Anne Sayers, deputy secretary, Wisconsin Department of Tourism, Madison

Jason Serck, planning and port director, city of Superior

Bill West, president, Blue Iris Fish Farm, Black Creek

Pat Wilborn, PortFish Ltd., Port Washington



Fellows and Interns



Sea Grant recognizes the important responsibility it holds to foster the scholarship and careers of young professionals. From 2018-20, these inspiring fellows and interns have contributed to the sustainable use of freshwater and ocean resources through their efforts.

Dean John A. Knauss Marine Policy Fellow

Joe Naughton, 2020

Coastal Management and Water Policy Fellow

Bridget Faust, 2018

Great Lakes Commission FellowJack Cotrone, 2018

J. Philip Keillor Fellows

Yi Liu, 2018 Elizabeth Tristano, 2018 Adam Arend, 2019 Lydia Salus, 2020 Gavin Dehnert, 2020 Patrick Blaufuss, 2020

Summer Undergraduate Interns

Brenna DeNamur, 2020 Elise Ertl, 2020 Claire Finucane, 2020 Celeste Gunderson, 2020 Emma Holton, 2020 Sarah Schiltz, 2020 Isabel St. Arnold, 2020 Eliza Suchan, 2020

Partners and Collaborators

State, regional, national and bi-national government

21st Century Community Learning Centers

Aquatic Nuisance Species Task Force

Argonne National Laboratory

Bad River Band of Lake Superior Chippewa

Bay-Lake Regional Planning Commission

Center for Great Lakes Literacy

Coastal Zone Canada Association

East Central Wisconsin Regional Planning Commission

Fond du Lac Band of Lake Superior Chippewa Indians

Fox River Navigational System Authority

Great Lakes Fishery Commission

Great Lakes Indian Fish and Wildlife Commission

Great Lakes Panel on Aquatic Nuisance Species

Ho-Chunk Nation

Illinois Coastal Management Program

Illinois Natural History Survey

International Joint Commission

International Oceanographic
Data and Information Exchange,
Intergovernmental Oceanographic
Commission, UNESCO

Lac Courte Oreilles Band of Lake Superior Chippewa Indians

Lac du Flambeau Band of Lake Superior Chippewa Indians

Menominee Indian Tribe of Wisconsin

Michigan's 1836 Treaty Waters Technical Fisheries Committee

Michigan Coastal Zone Management Program

Michigan Department of Natural Resources

Minnesota Board of Water and Soil Resources

Minnesota Coastal

Management Program

Minnesota Department of Health

Minnesota Department of Natural Resources

Minnesota Pollution Control Agency

The Mississippi River Basin Panel on Aquatic Nuisance Species

National Oceanic and Atmospheric Administration

- Coastal Storms Program
- Great Lakes Environmental Research Laboratory
- Great Lakes Observing System
- Lake Superior National Estuarine Research Reserve
- Marine Debris Program

- National Marine Sanctuaries
- National Sea Grant Office
- National Weather Service
- Office for Coastal Management
- Office of Ocean Exploration and Research

National Park Service

North Central Region Water Network

Northeast Ohio Regional Sewer District

Northwest Regional Planning Commission

Office of the State Archaeologist, Minnesota

Oneida Nation

Parks Canada

Red Cliff Tribe of Lake Superior Chippewa

Sokaogon Chippewa Community Mole Lake Band of Lake Superior Chippewa

Southeastern Wisconsin Regional Planning Commission

- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Department of Agriculture
- U.S. Department of Transportation
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

Partners and Collaborators, continued



U.S. Forest Service

U.S. Geological Survey

Virginia, state

Wisconsin Coastal Management Program

Wisconsin Department of Agriculture, Trade and Consumer

Protection

Bayfield, city

Bayfield, county

Belgium, town

Brown, county

Wisconsin Department of **Emergency Management**

Wisconsin Department of

Health Services

Wisconsin Department of Natural Resources

Wisconsin Department of Public

Instruction

Wisconsin Department of Tourism

Wisconsin Department of

Transportation

Wisconsin Historical Society

Wisconsin Veterinary Diagnostic

Laboratory

Local, municipal and county government

Ashland, city Evanston, city Sewerage District

Grafton, town

Herbster, town

Kenosha, county

Lake, county

Baileys Harbor, town Fox Point, village

Bayside, village Kenosha, city

Caledonia, city Liberty Grove, town

Calumet, county Long Beach, town

Canton, town Madeline Island

Cedar Grove, village Madison, city

Chicago, city Manitowoc, city

Clinton, town Manitowoc, county

Clover, town Mequon, city

Cudahy, city Metropolitan Water Reclamation District of Greater Chicago

Door, county Milwaukee, city

Douglas, county Milwaukee, county

Duluth, city

Milwaukee Metropolitan

Milwaukee Public Schools

Mishicot, village

Mount Pleasant, village

NEW Water

North Bay, village

Oak Creek, city

Outagamie, county

Ozaukee, county

Pleasant Prairie, village

Port Washington, city

Port Washington, town

Port Wing, town

Racine, city

Racine, county

St. Francis, city

Saxon, town

Sheboygan, city

Sheboygan, county

Shorewood, village

Sister Bay, village

Somers, village

South Milwaukee, city

Southfield, city

Superior, city

Two Rivers, town

Washington, county

Washington-Ozaukee Public Health Department

Waukesha, county

Western Lake Superior Sanitary District

Whitefish Bay, village

Wilmette, city

Wind Point, village

Winnebago, county





Academic

Algoma School District

Bayfield School District

Carleton University

Central Michigan University

College of Menominee Nation

Cornell University

East Carolina University

Gustavus Adolphus College

Hokkaido University

International Association of Aquatic and Marine Science Libraries and

Information Centers

Japan Agency for Marine-Earth Science and Technology

Kewaunee School District

Lake Superior State University

Loyola University Chicago

Manitowoc Public School District

Marquette University

Michigan State University

Michigan Technological University

Milwaukee Public Schools

National Sea Grant Law Center

North Carolina State University

Northern Michigan University

Northland College

Ohio State University

Penn State University

Purdue University

Reedsville School District

St. Norbert College



Shorewood Hills Elementary School

Stony Brook University

Tandem Press

Texas A & M University

University of British Columbia

University of California, San Diego

University of California, Santa Barbara

University of Florida

University of Illinois at Urbana- Champaign

University of Michigan

University of Minnesota-Duluth

University of Minnesota-Twin Cities

University of St. Thomas

University of Vermont

University of Wisconsin-Green Bay

University of Wisconsin-Green Bay, Manitowoc Campus

University of Wisconsin-La Crosse

University of Wisconsin-Madison

University of Wisconsin-Milwaukee

University of Wisconsin-Oshkosh

University of Wisconsin-

Stevens Point

University of Wisconsin-Superior

University of Wisconsin-Whitewater

Valders Area School District

Businesses and non-governmental organizations

1000 Friends of Wisconsin

1000 Islands Nature Center

Abbey Marina, Lake Geneva

Alaska Marine Safety Education Association

All-Natural Greens

Alliance for the Great Lakes

American Planning Association

American Society of Civil Engineers

Apostle Islands Marina

Apostle Islands Sport Fisherman's Association

Association of State Floodplain Managers

Bad River Watershed Association

Baileys Harbor Fish Co.

Bayfield City Dock

Bayfield Regional Conservancy

Birds Canada

Birchline Planning LLC

Blue Iris Fish Farm

CD3

Capuchin Community Services

Cardinal Environmental

Cat Island Advisory Committee

Center for Great Lakes Literacy



Christopher Farms

City of Port Washington Marina

Clean Bay Backers

Clean Drain Dry Dispose LLC

Clean Wisconsin

Coolwater Farms LLC

Crossmon Consulting LLC

Crow River Organization of Water

Discovery World

Ducks Unlimited

Egg Harbor Marina

Esri

Ex Fabula

The Farmory

Fox Valley Humane Society

Fox-Wolf Watershed Alliance

Friends of the Apostle Islands

National Lakeshore

Friends of Lincoln Park

Friends of the Manitowoc

River Watershed

Friends of the North Pikes

Creek Wetlands

Fund for Lake Michigan

Gaslight Pointe Marina

Great Lakes Aquarium

Great Lakes Beach Association

Great Lakes Commission

Great Lakes Community
Conservation Corps

Great Lakes Fisheries Heritage

Consortium

Great Lakes Shipwreck
Preservation Society

Great Lakes Surf Rescue Project

Great Lakes Observing System

Green Bay Aquarium Society

Green Bay Conservation Partners

Harbor Centre Marina

Harbor Club Marina

Harbor District Inc.

Henriksen Fisheries

IMPACT

International Coastal Atlas Network

Kingdom Animalia Exotic

Animal Rescue

Lake Michigan Stakeholders

Lakeshore Natural Resource

Partnership

Lakeshore Towers Marina

LimnoTech

Lower Fox Demonstration

Farms Network

Madison Area Chefs Network

Manitowoc Marina

McKinley Marina

Milwaukee Community

Sailing Center

Milwaukee Riverkeeper

Milwaukee Water Commons

Milwaukee Yacht Club

Museum of Science and Industry

MWH/Stantec Industries

National Museum of the Great Lakes

The Nature Conservancy

Nestegg Marina

Northwest Passage

Ohio History Center

Open Door Café

Park Point Volunteer Surf Rescue

Pentair

Pepperboy Farms

Pikes Bay Marina

Port of Dubuque Marina

Port of Duluth-Superior, Twin Ports

Port Exploreum

PortFish Ltd.



Racine Yacht Club

Reefpoint Marina

Reflo

Riveredge Nature Center

River Revitalization Foundation

Partners and Collaborators, continued

River Road Research

Riverence LLC

Rushing Waters

St. Croix Marina

Salmon Specialists Sportfishing Charters

Schlitz Audubon Nature Center

Seagull Marina

Shedd Aquarium

Sierra Club

Skipper-Bud's marinas

South Bay Marina

South Shore Yacht Club

Southeast Michigan Council of Governments

Southeastern Wisconsin Watersheds Trust (Sweet Water)



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Southport Marina

Superior Chamber of Commerce

Superior Fresh

Superior Public Museums

Superior Rivers Watershed Association

Susie-Q Fish Co.

ThedaCare

Thelma Sadoff Center for the Arts

Upham Woods Outdoor Learning Center

Urban Ecology Center

Urban Organics

Washburn Marina

The Water Council

We Energies

Wehr Nature Center

West Shore Marine

Wildlife Forever

Wisconsin Alumni Association

Wisconsin Aquaculture Association

Wisconsin Association for Floodplain, Stormwater, and Coastal Management

Wisconsin Coastal Beaches Workgroup

Wisconsin Commercial Ports Association

Wisconsin Environmental Education Board

Wisconsin Harbor Towns Association

Wisconsin Land Information Association

Wisconsin Marine Association

Wisconsin Maritime Museum

Wisconsin Underwater Archaeology Association

Wisconsin Water Thinkers Network

Wisconsin Waterfowl Association

Wisconsin Wastewater Operators' Association

Woodland Dunes Nature Center and Preserve

Publications and Other Information Transfer Products

Anderson JD, C Wu. Development and Application of a Real-Time Water Cyberinfrastructure for Kayaker Safety in the Apostle Islands Lake Superior. *Journal* of Great Lakes Research 44(5):990-1001 10.1016/j. glr.2018.07.006 (2018).

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Awards and Resources

Awards

2019 Platinum Award from AVA Digital for College Course Uses Lake Superior Watershed podcast

2019 Honorable Mention from AVA Digital for Milwaukee River Race Proceeds Swimmingly podcast

2019 WAVE Judge's Choice Award for Voices of the Coast: George Schmidt video

2019 WAVE Editing Award for Voices of the Coast: George Schmidt video

2019 Merit Award for Videography for Great Lakes Fisheries and Family Businesses: Titus Seilheimer video

2020 Council for Advancement and Support of Education Silver Award for Voices of the Coast: Mary Lou Schneider video

2020 Digital Gold Award for Rivers2Lake podcast

2020 AVA Honorable Mention Award for Dangerous Current Workshop podcast

Resources

The 2018-23 Sea Grant strategic plan is available for review, go.wisc.edu/z756uw

Program resources, fact sheets, posters and more can be found at aqua.wisc.edu/publications

More than 3,000 water-related resources can be reviewed and checked out from the Wisconsin Water Library, waterlibrary.aqua.wisc.edu

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