

Wisconsin Great Lakes Chronicle
2006



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Recreational sailors enjoy Lake Michigan
near downtown Milwaukee.



FOREWORD

Governor Jim Doyle

Dear Friend of Wisconsin's Great Lakes:

All of us here in Wisconsin benefit from the Great Lakes, one of the world's greatest natural resources. Nearly two million Wisconsin residents live along or near the Lake Michigan and Superior shorelines while almost all state residents visit the coasts for work or play. The Lakes and their coastal resources provide abundant beauty, unique natural and cultural resources, recreational opportunities and a source of drinking water.



The Lakes are also important for our state's economy by supporting transportation, manufacturing and energy production. Ecological diversity thrives in the Lakes, even as we continually battle the threat of invasive species. The people of Wisconsin understand and value the need to preserve and protect Lake Michigan and Lake Superior. To commemorate these lakes and what they provide the state, I have proclaimed September 2006 as Coastal Awareness Month.

My administration is committed to improving the quality of the Great Lakes and their coasts. Over the past year, we have accomplished several objectives:

- I requested that the federal government designate a National Estuarine Research Reserve (NERR) on the shores of Lake Superior, the first on either Lake Michigan or Superior. Estuaries are found at the mouths of the many Wisconsin tributary streams to Lake Superior where the inland sea and the Northwoods meet. A Wisconsin NERR would provide needed research to help state, local and tribal governments better manage coastal resources, increase awareness of coastal resources through education and promote stewardship of estuarine areas.
- The Wisconsin Coastal Management Program in the Department of Administration awarded \$1.5 million in grants to preserve and enhance Wisconsin's Great Lakes coasts. Nonprofit organizations, universities and various levels of governments will support 42 projects totaling \$4.1 million.
- Protecting and enhancing our coastal resources—including our coastal communities—is a priority in my Conserve Wisconsin conservation agenda that guides the efforts of all state agencies.

Looking ahead, Wisconsin is poised to do even more to protect and preserve our Great Lakes.

As Chair of the Council of Great Lakes Governors, I hosted a meeting of the Great Lakes Governors and Canadian Premiers with the goal of developing a strategy to address proposals that would divert waters from the Great Lakes and consumptive uses of Great Lakes water within the basin. On December 13, 2005 in Milwaukee, we joined to sign the *Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement*.

This landmark agreement commits ten state and provincial governments to work together to better manage and protect this unique international resource. It is a good-faith effort between the eight Great Lakes states and the Canadian provinces of Ontario and Québec. This agreement is critical because all of the governments committed to collectively manage our precious Great Lakes. Some of the key parts of the agreement include new protections against water diversions from the Great Lakes, standards for in-basin water consumption, provisions for regional water conservation and an affirmation of Native American treaty rights.

These investments we make now to protect and restore Lakes Michigan and Superior will benefit us and future generations. I ask all Wisconsinites to join me in working toward a healthier Great Lakes system. These are our lakes to enjoy and protect.

The Compact and Agreement create standards that apply to water withdrawals and consumptive uses within the Great Lakes Basin.

THE GREAT LAKES—ST. LAWRENCE RIVER BASIN WATER RESOURCES COMPACT AND AGREEMENT

Kathleen Angel

The Great Lakes contain almost 20 percent of the world's fresh surface water. They hold about 23,000 km³ (5,500 cu. mi.) of water, or six quadrillion gallons. Only the polar ice caps and Siberia's Lake Baikal hold more.

The quantity of water in the Great Lakes is enormous. Consumption of Great Lakes water is enormous as well. The Great Lakes provide 56 billion gallons of water per day for municipal, agricultural and industrial use. Forty million people depend on the Great Lakes for drinking water. As populations have grown, pressure to withdraw water from the Great Lakes has also increased.

In 1998, a company named the Nova Group sought permission to remove water from Lake Superior. The proposal would have allowed it to withdraw 160 million gallons of water per day from the lake for sale to Asian markets. The Province of Ontario approved the permit. Although Ontario has since rescinded the permit, the situation heightened public concern over water diversions. The need for inter-state and international coordination also became clear.

Concerns over jurisdiction and management of the Great Lakes are not new. In 1985, the Governors of the Great Lakes states—Wisconsin, Illinois, Michigan, Indiana, Minnesota, New York, Ohio and Pennsylvania—and the Premiers of Québec and Ontario signed the Great Lakes

Charter. The Charter is a voluntary agreement that provides for management of the Great Lakes. The Council of Great Lakes Governors, currently chaired by Wisconsin Governor Jim Doyle, assists the Governors and Premiers in coordinating activities under the Charter. Within the United States, the Water Resources Development Act (WRDA) of 1986 prohibited the diversion of water from the Great Lakes to outside the basin unless the diversion was approved by the Governor of each of the Great Lake states. Nevertheless, Ontario's approval of the Nova Group's proposal and other discussions for water withdrawals demonstrated that the protections were not adequate.

On June 18, 2001, the Great Lakes Governors and Premiers met in Niagara Falls where they signed an agreement to develop binding compacts to protect and preserve our Great Lakes. The agreement was an amendment to the Great Lakes Charter named the Great Lakes Charter Annex of 2001 (the Annex).

Since signing the Annex, the states and provinces have developed implementing agreements. On December 13, 2005, the Governors and Premiers met in Milwaukee where they signed The Great Lakes—St. Lawrence River Basin Sustainable Water Resources Agreement (the Agreement) and The Great Lakes—St. Lawrence River Basin Water

Resources Compact (the Compact). The Agreement is a good-faith effort between the Great Lakes States, Ontario and Québec. The Compact is an interstate agreement.

The Compact and Agreement set minimum standards for new diversions—that is, removing water out of the Great Lakes Basin. They prohibit new or increased diversions with a few exceptions: straddling communities (where the water will be taken outside of the Basin, but the community's boundaries are partly inside and partly outside of the Basin), intra-Basin transfers (moving water from the watershed of one Great Lake to another), and straddling counties (where the community is outside of the Basin, but the county is partly within it). The Compact and Agreement also express that a Supreme Court decision, rather than the new agreements, will govern withdrawals from Lake Michigan for Chicago's use.

To qualify for an exception, a proposal must meet a number of requirements that vary depending on the type of project and how much water the community proposes to divert. Proposals for diversions to communities in a straddling county and some intra-Basin transfer proposals need approval by the Council of Great Lakes Governors. Each governor has veto power in such cases.

The Compact and Agreement go beyond addressing diversions. They also create standards that apply to withdrawals and consumptive uses within the Basin. All of the water withdrawn needs to be returned to the source watershed, less an allowance for consumptive use (water that is incorporated into products or lost through evaporation). A withdrawal or consumptive use must be implemented so as to ensure it causes no significant adverse impact to the waters of the Great Lakes.

The proposal must incorporate conservation measures and meet municipal, state and federal laws and international agreements. Finally, the proposed use must be reasonable. The proposal must show that diverted water and existing water supplies will be used efficiently, there is a balance between economic and social development and environmental protection, and potential adverse impacts are considered. The proposal must include a plan for restoration efforts.

The states and provinces are currently undergoing efforts to ratify the Agreement and Compact. The Great Lakes states have committed to working with each of their own legislatures to ratify the Compact. The Compact sets out minimum standards for states. States may, however, adopt more stringent standards. The states will also ask Congress for its approval. State ratification and congressional consent will make the Compact enforceable. Through the Compact and Agreement, the states and provinces are taking steps to protect the quantity as well as the quality of the waters within our Great Lakes.

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The City of Superior
is in the spotlight for
its pollution prevention
and stormwater
management efforts.

SPREADING THE WORD ABOUT STORMWATER POLLUTION

Kari Jacobson-Hedin

When research assistants from the City of Superior come for a visit, expect to get wet. And muddy. You might even be asked to stick your head and shoulders in a barrel, handle bugs with long legs and lug bags of rocks. It is all for the good of Lake Superior.

Wisconsin identifies stormwater as the leading cause of water quality impairment for Lake Superior, and the City of Superior is in the spotlight for its pollution prevention and stormwater management efforts. The City's Environmental Services Division (ESD) Stormwater Education Program provides Superior residents of all ages the opportunity to participate in hands-on projects that teach ways to prevent stormwater pollution. Activities include planting rain gardens, stenciling storm drains, recruiting volunteer stream monitors and selling rain barrels.

Sixth-Graders Soak Up Science—and Learn How to Plant Rain Gardens. About 125 sixth-graders from Superior Middle School recently spent the entire year immersed in rain gardens. Rain gardens are *mini wetlands* that collect stormwater and allow it to soak into the ground where contaminants are removed and groundwater reserves are slowly recharged. Rain gardens differ from normal gardens in that they are bowl-shaped and contain native plants that can withstand the fluctuations of wet and dry periods.

Teachers Pat O'Connell and Becky O'Brien partnered with ESD research assistants Kari Hedin and Amber Westerbur to get students involved in the entire process of creating rain gardens. Each activity carried a message about stormwater pollution and the role of rain gardens.

In October 2005, students designed their gardens on paper and held class-wide votes for their favorite designs. They transferred these designs to the grounds of the Middle School by spreading landscape fabric over areas where rainwater naturally collects. In winter, they chose plants using a computer program that allowed them to create virtual gardens, and they grew native seedlings from seeds collected by Ms. Hedin.

Once the five rain gardens were dug out, they helped back-fill them with rocks, sand, peat, compost and mulch—a wet and muddy process! Everything came together in June 2006 when the students planted hundreds of native seedlings. Over their ensuing years at the middle school, they will be able to point out the beautiful blooming gardens that they helped create, and it will remain fresh in their minds that they, too, can keep Lake Superior clean.



Dump No Waste – Drains to Lake! These were the words shouted far and wide by Superior’s fifth-graders as they walked City streets using their traffic cones as megaphones. They spread this message in another way—by stenciling storm drains around their school in May 2006. Nearly every fifth-grader from Superior’s six schools participated in the stenciling, and approximately 735 drains were stenciled.

Keeping Current on Northern Wisconsin Streams. Visitors to Amnicon State Park in May 2006 were not enjoying a lazy lunch as they sat at picnic tables under the shade of pine trees. They were trying to determine whether the macroinvertebrates in the trays were mayflies or stoneflies. These types of macroinvertebrates caught in the Amnicon River would tell these volunteer monitors something about water quality.



They also strapped on waders and climbed in the river to learn how to measure dissolved oxygen, temperature, water clarity, water flow and habitat condition. The University of Wisconsin Superior-Extension (UWEX) Program and the ESD coordinated the stream monitoring program by recruiting and training volunteers and helping them find wadable monitoring sites on rivers from Superior to Ashland.

“Monitoring is an important way to obtain baseline and trend data, especially in streams where little is known about water quality and habitat condition,” said Sue O’Halloran of UWEX.

“Consistent monitoring information is needed to make informed resource decisions,” said Scott Toshner, Wisconsin Department of Natural Resources fisheries biologist. “It will help us protect areas with good water quality and point out areas where additional management efforts should be made by our agency.”

After a season of monitoring, volunteers will submit their data to an online statewide database managed by Wisconsin Water Action Volunteers. Their hope is to continue this monitoring program and get a clear idea of the water quality of northern Wisconsin streams.



From Pickles to Rainwater. “Time to do the rain barrel reach!” announced Kari Hedin as she reached waist-deep into an empty rain barrel to secure a spigot with a washer and locknut. Afterward, rain barrel workshop participants approached her and fellow research assistant Amber Westerbur to ask if they could get help securing the spigots on their barrels.

They had just learned how rain barrels can keep rainwater from becoming polluted stormwater runoff and are excited to take their rain barrels home. The recycled plastic barrels that once carried pickles from Greece now serve as catch basins for water running off the roofs of hundreds of Duluth and Superior homes. Approximately 420 rain barrels have been sold since 2005.

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NERRs translate scientific knowledge into practical, on-the-ground actions that citizens can take to protect their quality of life.

WISCONSIN LAKE SUPERIOR NATIONAL ESTUARINE RESEARCH RESERVE

Travis Olson

Lake Superior is the largest and most pristine of the Great Lakes. As such, it has the most at stake in the ongoing efforts to protect and restore coastal ecosystems. Scientific research and regulatory actions are focused primarily on reducing toxic pollution and protecting populations of native species from non-native invaders. Local communities and state and federal agencies are also addressing the effects of land use and runoff pollution through comprehensive planning and improved land management practices.

Despite the impressive achievements of scientists, coastal managers and local communities to increase public awareness and appreciation for restoring Lake Superior's ecosystem, more remains to be done. Much could be accomplished by increasing the knowledge of citizens and decision-makers about the challenges to the lake, and the opportunities for restoring the lake's fisheries, wetlands and other coastal resources.

National System of Coastal Research and Education Centers. Wisconsin is beginning the process of adding a Lake Superior site to a national program that provides opportunities to learn more about managing and restoring coastal resources. The National Estuarine Research Reserve (NERR) System consists of 27 sites that are living laboratories for studying coastal wetlands and neighboring natural communities. Research at these sites is used not only to increase

scientific knowledge, but is also translated into practical, on-the-ground actions that citizens and communities can take to protect their quality of life.

Each NERR site begins as a partnership between the state and federal governments to identify a site that contains a type of estuary, or coastal wetland, that has value for research and education. Once a site is selected, a partnership of state, federal, tribal and local governments, as well as citizens and nonprofit organizations, develops a management plan that describes what resources the NERR will manage and the type of information that is most important for local communities to learn from research activities.

The management of a NERR is the state's responsibility, and there are no federal restrictions on the use of a NERR's land and water resources. Existing sustainable uses such as hunting and fishing can continue.

A typical NERR has a boundary that encompasses the core estuarine area from the lake or ocean to a point upriver where the influence of lake or ocean water diminishes. Although the state must control the majority of the area within the boundary, it does not need to own all of the land.

The NERR System provides annual federal cost-share grants to support site operation, research and education programs. Construction and acquisition grants are also available. NERR sites are managed

by a variety of state agencies including natural resource departments and universities.

Each NERR is part of the national system of reserves. NERR managers across the nation regularly exchange information about estuarine science, land conservation and management and education programs for coastal communities.

Benefits to Wisconsin and Lake Superior.

Establishing a NERR on Lake Superior will bring national recognition to the value of freshwater estuaries and the Great Lakes ecosystem. There is currently only one freshwater NERR at Old Woman Creek on Lake Erie in Ohio. Researchers at that site have for over twenty years studied the relationship between agricultural practices and water quality in Lake Erie. Lessons learned there have been used to improve land use planning and educate landowners and communities about how to reduce soil erosion and runoff pollution of local waterways.

A Wisconsin NERR would enhance existing research and education programs throughout the Lake Superior basin. Research on Wisconsin's Lake Superior coast is currently conducted by several institutions including the University of Wisconsin-Superior's Lake Superior Research Institute, Northland College's Sigurd Olson Environmental Institute, the University of Minnesota-Duluth's Natural Resources Research Institute, the U.S. Environmental Protection Agency's Mid-Continent Division in Duluth, and several departments of the University of Wisconsin-Madison. The Wisconsin and Minnesota Sea Grant programs participate in and support much of this research.


Much like the "Wisconsin Idea," the NERR System uses the results of research to improve the design and implementation of government programs. Through the Coastal Training Program, for example, local community leaders and land

management professionals learn about how to apply science-based lessons to better manage coastal resources. A Wisconsin NERR would also build on existing community education, public school programs and teacher professional development courses provided by University of Wisconsin-Extension programs, Northland College and the Cooperative Education Service Agency for northwest Wisconsin.

Next Steps for a Wisconsin NERR. The University of Wisconsin-Extension is leading the process, in collaboration with the Wisconsin Coastal Management Program, Wisconsin Department of Natural Resources and The Nature Conservancy, to identify the most appropriate site for a Lake Superior NERR. A Site Selection Technical Team will provide shared leadership and scientific expertise, and will include representation by local individuals and organizations. The site selection and designation process is expected to take three to five years and includes several opportunities for public involvement. The final result of developing a NERR on Lake Superior will be better understanding of Lake Superior's coastal ecosystems and greater integration of research and education for Wisconsin's coastal communities.

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By getting people out on the water, more residents and tourists will be inspired to become stewards of our rivers.

THE MILWAUKEE URBAN WATER TRAIL

Cheryl Nenn

When asked what they value most about the greater Milwaukee region, people frequently refer to the close proximity to Lake Michigan or one of the area's three rivers. This is reflected in the building and redevelopment boom along Milwaukee's rivers, improved public access to the waterways, and increasing numbers of anglers and paddlers using the rivers and lakefront.

This change in perception has been brought on in part through improved water quality and river conditions. For instance, the removal of the North Avenue Dam reopened the Milwaukee River to fishing and paddling, and helped flush pollutants out of previously stagnant stretches. As a result, residents and visitors increasingly use our rivers for recreational boating and enjoyment of the natural, cultural and historical attractions that can be discovered from the water.

However, a growing gap existed between interest in riverfront recreation and information about public access to our rivers. Milwaukee River information was primarily passed along through word of mouth rather than by any readily available public source. Access information on the other two rivers, the Kinnickinnic and the Menomonee, was virtually non-existent.

The lack of information on legitimate public access points has led people to use makeshift, and at times illegal and unsafe, access points.

Problems with these unofficial access points include trespassing on private property, unsafe boat launching points and portages, inadequate or inappropriate parking and damage to sensitive shorelines. In addition, increasing riverfront development is making it harder for paddlers to find access points from the land and distinguish between a throng of unsigned private and public piers from the water.

There was also very little information available for local paddlers on trip planning, water safety hazards and features along our three rivers. Due to these reasons, Friends of Milwaukee's Rivers (FMR) developed the Milwaukee Urban Water Trail with the support of the Wisconsin Coastal Management Program.

The concept of a water trail is new to many people. Essentially, water trails are liquid pathways that enable non-motorized boaters to find legal access points, resting sites and nearby cultural, historical, and natural attractions. Unlike a hiking or bicycling trail, water trail advocates do not need to acquire land or invest in landscape improvements. Water trails connect people with places, both natural and human-made, connect past to present, and bring the boater into contact with the rivers and surrounding lands. These connections help provide a sense of place within our watersheds, promote stewardship and bring us together as a community.

The Milwaukee Urban Water Trail is a canoe and kayak route through the urban portions of the Milwaukee, Menomonee and Kinnickinnic Rivers containing more than 25 miles of paddling opportunities. The trail includes 33 access sites (including portages), passes through portions of five cities and two counties, and connects the three rivers to paddling opportunities on Lake Michigan.

The Milwaukee Urban Water Trail was created through a collaborative process involving FMR, the National Park Service Rivers and Trails Program, the Wisconsin Department of Natural Resources, the City of Milwaukee, Milwaukee County Parks, several private landowners, environmental groups and concerned citizens. The map was officially released in fall 2005, and is available to the public as a free paper map and digitally on the FMR website at <http://www.mkeriverkeeper.org>. All of the Water Trail sites have posted signs identifying them as official public sites to minimize confusion about which sites are public and private.

More than 9,000 Water Trail maps have been distributed and thousands of visitors have viewed the map on the FMR website. As the Milwaukee Urban Water Trail becomes more popular, people



increasingly realize that they do not need to travel long distances to go canoeing or kayaking. Instead, they can enjoy the rivers right in their own backyards.

As part of the water trail process, FMR also created a report to provide information on how to physically improve and enhance existing water access sites and associated facilities, identify gaps in access and prioritize development of new access sites and facilities. The recommendations included in this report are meant to serve as a starting point for managing agencies, landowners and interest groups that are encouraged to utilize and build on this information.

The Wisconsin Coastal Management Program is an important partner in these efforts to improve access to our coastal waterways. In addition to the

Milwaukee Urban Water Trail, Wisconsin Coastal Management has funded other river access projects including the design of the Urban Ecology Center launch along the Milwaukee River and the new launch on the Hank Aaron State Trail along the Menomonee River.

The Milwaukee Urban Water Trail builds on a series of efforts to bring life back to the rivers of the greater Milwaukee area by improving river access, water quality and wildlife habitat. The Water Trail connects people more closely to their rivers and encourages responsible use of our rivers and Lake Michigan. By getting people out on the water, more residents and tourists will be inspired to become stewards of our rivers.

Cheryl Nenn is Riverkeeper/project director with Friends of Milwaukee's Rivers. She can be reached at (414) 287-0207 or cheryl_nenn@mkeriverkeeper.org.

Establishing baseline information on wild cranberries and environmental conditions is the first step toward restoration of this native species.

MASHKIIGIMIN (CRANBERRY) IN THE KAKAGON SLOUGHS

Leah Anne Gibala

The Bad River Band of Lake Superior Tribe of Chippewa Indians is a federally recognized Tribe organized under the Indian Re-organization Act of 1934. There are approximately 7,000 enrolled Tribal members with about 2,700 living on or near the reservation. Our reservation has 124,654 acres of land within the exterior boundaries and is located in northern Wisconsin approximately 72 miles east of Duluth, Minnesota. The heart of our community is within the town of New Odanah, (Ō-day'nā), translated loosely in English as *town*. To outsiders, we are known as *Anishinabe Ode-to'win*, or *Place of the People with Good Hearts*.

Wetlands cover nearly 25 percent of the Bad River Reservation, the largest being the Kakagon/Bad River Sloughs. Comprising 12,000 acres, and formed behind a series of sand spits on the south shore of Lake Superior, this single freshwater ecosystem is the Band's most culturally important wetland. It is described in the Federal Registry as "perhaps the finest marsh complex on the Upper Great Lakes."

Within the Bad River Integrated Resources Management Plan (IRMP), wetland conservation is considered a high priority. Specifically, threats to the ecology of the Kakagon/Bad River Sloughs are of concern and include nutrient loading, increased sedimentation, increased recreational and developmental activities, the introduction of exotic species and fluctuations of Lake Superior surface levels.

Native wild cranberry is a historically significant resource in the Kakagon/Bad River Sloughs. Two types of trailing cranberry—*Vaccinium macrocarpum* (large cranberry) and *Vaccinium oxycoccos* (small cranberry)—are commonly found in tamarack swamps and wire-grass sedge meadows that have a sphagnum moss component and wet acidic soils. Both plants grow low on creeping stems, but the small cranberry has branches that can reach up to ten inches high. The large cranberry has alternate leathery leaves and pale pink flowers with recurved petals and stamens that form a beak resembling a crane. The small cranberry has alternate evergreen leaves with rolled edges and a pale underside and small pink to white flowers.

Aniibimin, as large cranberry is called by the Great Lakes Ojibwa, has a round to oval tart red berry that may stay on the vine throughout the winter. Traditionally, the berry was eaten raw or drunk as a tea. An infusion of the plant was occasionally used as a remedy for nausea. *Mashkiigimin*, as small cranberry is known, is red and sour. The Ojibwa took this plant to treat slight nausea and ate the berries as food.

Anecdotal evidence from Band members suggests a significant decline in the abundance of wild cranberry over the last forty to fifty years. Currently, there is little harvest of this culturally important plant because of the scarcity of harvestable stands.

In order to initiate a restoration of the historically significant sites or a reintroduction of viable plants into the system, it is necessary to establish baseline information with regard to cranberry presence and environmental conditions in the areas of interest. This project comprises the initial assessment of sites based on cultural importance and historical significance, and the evaluation of long-term monitoring protocols to study trends in cranberry productivity. The project also provides the Bad River Natural Resources Department with the baseline data needed to develop a long-term monitoring project within the Kakagon/Bad River Sloughs to effectively manage wild native cranberry habitat in coastal wetlands.

This project is part of an integrated and cooperative effort to preserve native plants in coastal wetlands on the Bad River Reservation

in the Kakagon/Bad River Sloughs. Bad River agencies—Bad River Natural Resources Department, Bad River Legal Department, Gitiganing Gardening Committee and the Bad River Vistas—will work with the Natural Resources Conservation Service and the Great Lakes Indian Fish and Wildlife Commission on the following three components:

Wetland Protection and Habitat Restoration.

Methods in tracking trends in wild native cranberry will be assessed in the coastal wetlands of the Kakagon/Bad River Sloughs which will enable the Band to effectively recognize changes and potential threats to the conservation of the ecosystem. The establishment of regular sampling in the sloughs will begin our tracking of the effects of lake level changes on the vegetative communities of the Kakagon/Bad River Sloughs.



Great Lakes Education. At the completion of the project, an educational brochure will be distributed to the community that discusses appropriate activities within the sloughs, sustainable harvest techniques and the historical and cultural significance of cranberry and the Kakagon/Bad River Sloughs. The brochure will provide community members and those living off reservation with background information on the importance of the Kakagon/Bad River Sloughs and the conservation of native plant communities.

Coastal Resources and Community Planning. The project will result in the development of a guidance document and a detailed map to be included into the Bad River GIS database. These resources will depict cranberry densities in areas of interest and be incorporated into the Tribe's existing IRMP as a management tool to preserve culturally significant native plants in coastal wetlands located in the Kakagon/Bad River Sloughs.

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Documenting past
Great Lakes' marine
activity educates
citizens about their
world and prepares
them to deal with
the future.

PROJECT SHIPSHAPE

Carolyn Colwell and Virginia Schwartz

Milwaukee sits on banks where three rivers gather, gazes out across the waters of Lake Michigan and welcomes visitors from all over the world. Transportation activity on these Inland Seas was in the early days by paddle and sail, later by steam and today by a variety of propulsion systems. Documenting past Great Lakes' marine activity is an important task because it helps educate twenty-first century citizens about their world and prepare them to deal with the future.

The Wisconsin Coastal Management Program has helped streamline the documenting process by funding Project Shipshape, but we are getting ahead of our story...

Milwaukee Public Library. Just one mile from Lake Michigan, the venerable Milwaukee Public Library's Central Library houses one of the largest collections of information on Great Lakes vessels: the Great Lakes Marine Collection. Books, magazines and journals, nautical charts and many other materials are included in the collection, the heart of which is the Great Lakes Vessel Files containing information on over 9,000 ships. The cornerstone of the Great Lakes Vessel Files is the Herman G. Runge Collection, acquired by the Library in 1958.



Mr. Runge devoted almost 70 years of his life to collecting and preserving information on all aspects of marine activities on the Great Lakes. He journeyed to the principal lake ports to visit with government and shipping officials, captains and crews of lake boats, ship photographers and fellow collectors. He also kept up a heavy correspondence with other compilers, government agencies and shipping lines. At his death in 1958, he was one of the most knowledgeable and colorful collectors on the lakes.

The Runge Collection contained information on thousands of ships that sailed the lakes as well as approximately 17,000 photographs of Great Lakes ships. It was later augmented by other collections—including the Stevenson and Kramer collections—and together today form the Vessel Files.

Heavily used, the Vessel Files are individual folders of data on more than 9,000 vessels that sailed the Great Lakes from 1679 up to those that are on the Lakes today including diesel-powered, sailing, barges, cargo vessels, passenger boats, military ships and even pleasure craft. The file for each vessel includes a datasheet outlining the vessel's size and history, captains and changes of name. Many of the files also include photographs. The collection is extensively used by divers, genealogists, historians, students and others.

Project Shipshape. Years ago, the Milwaukee Public Library and the Wisconsin Marine Historical Society—a nonprofit organization founded to care for the Runge Collection—recognized the need to make the Vessel Files more widely available and secure. Staff decided that the information on the datasheets should be digitized—converted into an electronic database with the goal of preserving the collection and making the information available on the Internet.

In the maritime world, *shipshape* means the arranging of things properly, neatly and trimly. Therefore, this effort was called Project Shipshape. An undertaking of this size might overwhelm a city-funded library and its generous, but small, friends group. However, this goal is today being realized with the assistance of grants from the Wisconsin Coastal Management Program.

The Library and Marine Historical Society received Coastal Management matching grants for Project Shipshape to create a database containing the information from 9,000 datasheets on Great Lakes vessels. These include 2,000 files on vessels that sailed prior to 1870, an important period in



Great Lakes history and a distant time for which relatively little information is available. The funding will also realize the goal of making the database available on the Internet.

Private citizens generously give their time and talent to make the project a success. Many of the volunteers are members of the Marine Historical Society, college students and retired Library and other City of Milwaukee employees. The volunteers perform research, data entry, proofreading, photocopying, filing, software advising and inventorying of the photo collection.

The digitized files are currently available on a standalone computer at the Milwaukee Public Library and by June 2007 will be available on the Internet. It will be possible to search by vessel name, when, where and by whom the vessel was built, type of vessel, number of masts, and official number.

With the completion of Project Shipshape, historians can use the speed of the computer as their assistant. The collection will also be more readily available to recreational and archeological divers. Genealogists will discover information on ancestors through names of owners, captains, shipbuilders and others associated with a vessel. Once the vessel file datasheets are available online, researchers will be able to order the entire contents of the file—including photos and articles—for a small fee.



Project Shipshape has put the Vessel Files in convenient order: neat, tidy and soon on the Internet. The online Vessel Files will become an even more valuable source of information to researchers and others throughout the world.

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Coastal communities
must embrace their
distinctiveness as they
envision their future
and develop their
comprehensive plans.

COASTAL COMMUNITY PLANNING

Angela Pierce

By 2010, Wisconsin law requires that local and regional land use decisions be based upon an adopted comprehensive plan. As a result, communities have been actively adopting new plans or updating existing plans to be consistent with the State's comprehensive planning laws.

While similar issues are addressed in most comprehensive plans, coastal communities face unique planning challenges. It is essential that coastal communities embrace their distinctiveness as they envision their future and develop meaningful comprehensive plans.

Wisconsin defines a coastal community as located within a county that has shoreline on Lake Michigan or Lake Superior. Wisconsin has fifteen coastal counties and about a third of the state's population resides within these coastal areas.

With continued growth pressures on coastal resources, it is important that communities address unique coastal issues and opportunities as they relate to each of the nine elements of their comprehensive plan:

- Agricultural, Natural and Cultural Resources
- Housing
- Economic Development
- Transportation
- Public and Community Facilities
- Intergovernmental Cooperation
- Land Use
- Issues and Opportunities
- Implementation

Coastal issues are intertwined with every element, and management decisions in each area will likely impact coastal resources.

When addressing *agricultural, natural and cultural resources*, coastal communities need to consider issues and assets unique to the Great Lakes including shore erosion, coastal wetlands, invasive species, lake level fluctuations, public access, historical and archaeological resources, coastal hazards, and beach health and safety.

Coastal communities need to balance residential *housing* development and maintaining the health and natural beauty of the coast. Growing numbers of landowners and visitors to coastal areas can cause user conflicts, create stress on finite resources and significantly impact the sustainability of the coastal environment.

Coastal communities must also balance *economic development* and natural resources. The coastal ecosystem is an economic asset that provides a variety of aesthetic, ecological, recreational, industrial and life-sustaining benefits that must be properly managed. The complex physical and biological processes of coastal ecosystems provide value to people and communities in many ways that can be measured in both dollars and non-monetary ways.

In addition to typical *transportation* issues, coastal communities need to consider unique transportation features such as ports, harbors, marinas, dredging and waterfront storage facilities.

As part of the *public and community facilities* element, coastal communities must discuss the availability of public access to the shoreline for recreational activities. As growth in coastal areas increases, many public access sites are lost to development or conversion to private lands. Moreover, user conflicts may develop because many existing public access areas are unclearly marked or have no signage at all. Coastal communities must also contend with distinctive facilities considerations related to water supplies, sanitary systems, stormwater management, coastal safety, emergency services and beach health.

A community's relationship with neighboring communities can influence planning, public facilities and services. An examination of these relationships and the identification of existing or potential conflicts can help communities address situations systematically. *Intergovernmental cooperation* can be even more significant when communities share coastlines and resources.

The *land use* element includes an inventory and discussion of existing land use controls within the community that may affect or restrict the use of land for specific purposes. Land use issues of particular importance to coastal communities

include bluff setbacks and recession rates, shoreland housing densities and lot sizes, second tier development, shoreline overlay zoning and commercial port development.

The *issues and opportunities* element discusses community development goals, objectives and policies. The community should identify specific concerns and values it holds about coastal assets and issues.

It is also important that coastal communities develop a vision for protection of its coastal resources. Visioning should identify coastal resources that need to be protected or preserved and the manner in which it will be accomplished.

The final element in a comprehensive planning program is *implementation*. Various implementation tools are available to help turn a community's vision into reality including erosion control ordinances, setback ordinances, shoreline overlay zoning and stormwater management ordinances.

As Wisconsin coastal communities undertake the task of developing comprehensive plans or updating existing plans, a planning guidebook entitled *A Guide to Planning for Coastal Communities in Wisconsin* can prove quite helpful. The *Guide* was developed by the Bay-Lake



Regional Planning Commission—with financial assistance from Wisconsin Coastal Management Program—to help Wisconsin communities address coastal issues and opportunities within their comprehensive plans.

The *Guide* discusses coastal issues as they pertain to each of the nine elements of a comprehensive plan and offers information and planning tools on Great Lakes coastal issues, implementation ideas to achieve common coastal planning goals, and references and contacts for further assistance. A copy of the *Guide* is available for download at <http://www.baylakerpc.org> or by contacting the Bay-Lake Regional Planning Commission.

Angela Pierce is a natural resources planner with the Bay-Lake Regional Planning Commission. She can be reached at (920) 448-2820 or apierce@baylakerpc.org.

2006 WISCONSIN COASTAL MANAGEMENT PROGRAM GRANTS

Project Name

Grantee

WCMP Award

Project Description

Coastwide

Lake Michigan Cladophora Management Model

University of Wisconsin-Milwaukee

\$63,354

Develop a model that allows Cladophora production to be simulated using input data of light, temperature and phosphorus supply. Project Contact: Dr. Harvey Bootsma, (414) 382-1717

In Wisconsin Public Television Segment

Biodiversity Project

\$48,000

Create Great Lakes environmental education segments to be shown on *In Wisconsin*. The project is a joint effort between Biodiversity Project and Wisconsin Public Television. Project Contact: Mr. Jeffrey Potter, (608) 250-9876

Lake Superior Counties Wetland

Restoration Inventory

Ashland, Bayfield, Douglas & Iron County

LWCD

\$32,000

Inventory small wetland restorations in Ashland, Bayfield, Douglas and Iron Counties. Project Contact: Ms. Jill Hapner Hewitt, (262) 242-7398

Green Bay Integrity Assessment (Phase 3)

The Nature Conservancy

\$30,000

Collaborative effort of The Nature Conservancy and conservation partners to understand and manage the Green Bay coastal system. Project Contact: Mr. Mike Grimm, (920) 743-8695

Wisconsin Adopt-A-Beach

Alliance for the Great Lakes

\$30,000

Help citizens learn about how the Great Lakes ecosystem functions and foster an ethic of appreciation for the Wisconsin shoreline. Project Contact: Mr. Cameron Davis, (312) 939-0838

Smart Prevention of Aquatic Invasive Species in Wisconsin Coastal Counties

University of Wisconsin-Madison

\$29,981

Study tributary ecosystems that have been identified through modeling as vulnerable to aquatic invasive species (rusty crayfish and zebra mussels). Project Contact: Dr. Jake Vander Zanden, (608) 262-9464

Bluff Recession and Setback Program Along Lake Superior

University of Wisconsin-Madison

\$29,972

Promote public awareness of bluff recession and evaluate nearshore downcutting. Project Contact: Dr. Chin Wu, (608) 263-3078

A Guide to Hazard Mitigation Planning for Coastal Communities in Wisconsin

Bay-Lake Regional Planning Commission

\$29,907

Develop a hazards mitigation planning guide for coastal communities in Wisconsin. The guide will explain how to include coastal hazards in hazard mitigation plans as identified under the Disaster Mitigation Act of 2000. Project Contact: Mr. Mark Walter, (920) 448-2820



Forestry Best Management Practices for Wisconsin's Great Lakes Coastal Areas
Department of Natural Resources
\$25,425

The DNR and its partners will develop forestry practices and management recommendations for the coastal watersheds. Project Contact: Ms. Carmen Wagner, (608) 266-1667

Lake Superior Public Access Study
Northwest Regional Planning Commission
\$20,000

Assess existing sites and facilities that provide public access to the waters of Lake Superior. Project Contact: Mr. Jason Laumann, (715) 635-2197

Wisconsin's Maritime Trails 2006: The Christmas Tree Ship *Rouse Simmons*
Wisconsin Historical Society
\$16,675

Support the Wisconsin Maritime Trails initiative to document the shipwreck *Rouse Simmons* in Manitowoc County. Project Contact: Mr. John Broihahn, (608) 264-6496

2006 Great Waters Institute
Institutes for Journalism & Natural Resources
\$15,000

Immerse 14 journalists in an institute providing in-depth information about current issues affecting Great Lakes water and coastal resources. Project Contact: Mr. Peter Annin, (608) 278-8005

GIS Topographic Digitization
Southeast Wisconsin Regional Planning Commission
\$1,000

Update the Southeastern Wisconsin Regional Planning Commission's Geographic Information System file to include a completed topographic feature overlay for two US Public Land Survey Sections along the Lake Michigan shoreline. Project Contact: Dr. Donald Reed, (262) 547-6721

Technical Assistance
Bay-Lake Regional Planning Commission
\$20,000

Provide technical support and public outreach in the Bay-Lake Region. Project Contact: Mr. Mark Walter, (920) 448-2820

Technical Assistance
Northwest Regional Planning Commission
\$20,000

Provide technical support and public outreach in the Lake Superior Region. Project Contact: Mr. Sheldon Johnson, (715) 635-2197

Technical Assistance
Southeastern Wisconsin Regional Planning Commission
\$20,000
Provide technical support and public outreach in the Southeast Region. Project Contact: Dr. Donald Reed, (262) 547-6721

Technical Assistance to Local Units of Government
Department of Natural Resources
\$374,464

Enhance water resource protection in coastal counties by supporting four DNR water management specialists. Project Contact: Ms. Lois Simon, (608) 266-8852

Coastal Wetland Inventory
Department of Natural Resources
\$88,524

Update the Wisconsin Wetland Inventory for all coastal counties and convert aerial photographs to digital files for Manitowoc County. Project Contact: Ms. Lois Simon, (608) 266-8852

Bayfield County

Big Rock Road South Approach to Sioux River Bridge
Town of Bayview
\$45,000

Address an erosion problem at the Big Rock Road crossing of the Sioux River in the Town of Bayview. Project Contact: Mr. Donald Jenicek, (715) 779-5737

Brown County

Suamico Shoreland Acquisition
Village of Suamico
\$80,000

Acquire two adjoining lots with 100 feet of shoreline adjacent to an existing village property with 60 feet of shoreline on Green Bay. The land will be dedicated as public parkland with linkages to Sensiba Wildlife Area via a recreational trail. Project Contact: Mr. Tim Krause, (920) 434-8410

Brown County (continued)

Coastal Community Cost of Development Pilot Study

Brown County Planning Commission
\$29,984

Analyze the net fiscal costs or revenue of various developed land uses on the budget of the Village of Suamico and compare with the net fiscal cost or revenue associated with the Village's undeveloped coastal land uses. Project Contact: Mr. Aaron Schuette, (920) 448-3400

Town of Scott Natural and Archeological Resource Protection Plan

Town of Scott
\$21,325

Inventory and analyze ecological and anthropological resources along a corridor from the Bay of Green Bay to the Niagara Escarpment. Project Contact: Mr. Dave Cerny, (920) 465-8000

Door County

Sturgeon Bay Waterfront Walkway Extension

City of Sturgeon Bay
\$101,000

Extend a waterfront walkway through the City's recently acquired waterfront park that includes 233 feet of dockwall frontage. Project Contact: Mr. Marty Olejniczak, (920) 746-2910

Non-Point Source Beach Contamination Abatement

Door County Soil and Water Conservation Department
\$49,500

Develop non-point pollution abatement and beach management plans for public beaches in Door County. Project Contact: Ms. Vinni Chomeau, (920) 746-2214

Groundwater Area Recharge Delineation: Door County

University of Wisconsin-Extension
\$31,650

Delineate groundwater recharge areas for wetlands that are considered essential habitat for the endangered Hine's emerald dragonfly. Project Contact: Mr. Kenneth Bradbury, (608) 263-7921.

Door County Wetland Restoration Inventory

Door County Soil and Water Conservation Dept.
\$22,000

Inventory small wetland restorations in Door County following the protocol of previous WCMP-funded projects along Lake Michigan. Project Contact: Mr. William Schuster, (920) 746-2214

Discover Wisconsin TV Episode

Sturgeon Bay Visitor and Convention Bureau
\$15,000

Produce a syndicated TV episode, radio programs, Internet web sight, trade shows and public relations spotlighting Sturgeon Bay's waterfront, natural harbors, cultural opportunities and other related attractions. Project Contact: Ms. Becky McKee, (920) 743-6246

Phragmites Control on Coastal Wetland State Natural Areas

Department of Natural Resources
\$14,000

Restore 38 acres of wetlands in eleven State Natural Areas through removal of invasive Phragmites (common reed). Project Contact: Mr. Mark Martin, (608) 266-8916

Douglas County

Great Lakes Climate Change Issues Seminar Series

University of Wisconsin-Superior
\$26,724

Create a seminar series providing a regional focus on climate change issues. Project Contact: Mr. Gene Clark, (715) 394-8472

Lake Superior Storm Water Education Project

Lake Superior Research Institute,
University of Wisconsin-Superior
\$18,458

Provide stormwater education for citizens in three communities in the Lake Superior basin: Ashland, Washburn and Superior. Project Contact: Ms. Sue O'Halloran, (715) 394-8525

Study of the Vascular Plants of Amnicon Falls State Park

University of Wisconsin- Superior
\$17,472

Conduct a first-time comprehensive floristic inventory of the vascular plants located within the boundaries of Amnicon Falls State Park. Project Contact: Dr. Don Davidson, (715) 394-8161



Kenosha County

Exterior Restoration of Southport Lighthouse Keeper's Dwelling

City of Kenosha
\$22,035

Complete the second phase of the restoration of the Kenosha Lighthouse Keeper's Dwelling. Project Contact: Mr. Mike Maki, (262) 653-4030

Kewaunee County

Algoma Marine and Boat Launch Water Modeling Feasibility Study

City of Algoma
\$20,143

Develop a sedimentation model for the City of Algoma's harbor area and a feasibility report evaluating alternative plans for municipal marina expansion. Project Contact: Mr. Thomas Romdenne, (920) 487-5203

Marinette County

Menekaunee Harbor Dock Rehabilitation

City of Marinette
\$61,764

Replace 520 feet of existing wood timber dock wall with a stepped rock and timber-cribbed sea wall and floating fishing dock for public access. Project Contact: Mr. Brian Miller, (715) 732-5134

Marinette County Outdoor Recreation Plan

Marinette County Parks & Outdoor Recreation Dept.
\$12,529

Update the Marinette County Outdoor Recreation Plan in conjunction with a multi-jurisdictional comprehensive plan. Project Contact: Mr. Erik Aleson, (715) 732-7531

Milwaukee County

Shipshape III: Great Lakes Marine Vessel File Database Online

Milwaukee Public Library
\$32,017

Fulfill three needs of the Great Lakes Marine Collection: promote and publicize the collection on the Internet, update a reference backlog and finalize the set-up of the database for future updating. Project Contact: Ms. Virginia Schwartz, (414) 286-3216

Building a Kinnickinnic River Constituency Through Education & Activity

Sixteenth Street Community Health Center
\$25,512

Implement the Center's Kinnickinnic River Corridor Action Plan that serves as a community-led update of the Remedial Action Plan for the Kinnickinnic River portion of the Milwaukee Estuary Area of Concern. Project Contact: Mr. Peter McAvoy, (414) 672-1315

Oconto County

On the Trail of Shoreland Restoration in Oconto & Marinette Counties Publication

Lumberjack Resource Conservation & Development (RC&D) Council
\$8,600

Working through the RC&D, Oconto and Marinette Counties will organize, develop and distribute *On the Trail of Shoreland Restoration in Oconto & Marinette Counties* to lake, river and wetland shoreland property owners throughout the two counties. Project Contact: Mr. Erhard Huettl, (715) 362-3690.

Racine County

Historic Preservation of the Wind Point Light Station Tower

Village of Wind Point
\$56,000

Restore the historic lighthouse tower at Wind Point. Project Contact: Ms. Jeanne Tomasek, (262) 639-3524

Plan for the Historic Sixth Street District

Historic Sixth Street Association
\$34,000

Create a Comprehensive Environmental, Economic and Arts Development Master Plan for the 6th Street Arts and Entertainment District of Racine, restore the connection to the adjacent Root River and improve the river's water quality. Project Contact: Mr. Jim Spodick, (262) 909-0552

We All Live on the Water

Root-Pike Watershed Initiative Network
\$25,275

Facilitate the design of informational signs to be installed in coastal counties at strategic river crossings, lake landings, beaches and public access spots. Project Contact: Ms. Allison Werner, (262) 638-0482

Evaluation of Real-time, Quantitative PCR as a Method to Determine Pollutant Loading

City of Racine Health Department
\$21,940

Conduct bacterial sampling and analysis of point and non-point sources of pollution at Lake Michigan beaches in Racine. Project Contact: Dr. Julie Kinzelman, (262) 636-9501



ACKNOWLEDGEMENTS

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 WISCONSIN COASTAL
MANAGEMENT PROGRAM

