CHEQUAMEGON BAY

CBAP

AREA PARTNERSHIP

Strategic Priorities

Mapping a Path to the Future

The Chequamegon Bay Area Partnership (CBAP) is a coalition of agencies, governments, organizations, and institutions in the Chequamegon Bay area of northern Wisconsin whose guiding statement is "to improve the ecological, economic, and social fabric of the Chequamegon Bay area of Lake Superior through a collaborative natural resource decision-making and implementation team."

The purpose of this document is to provide background on the Chequamegon Bay area and how the CBAP formed, summarize its accomplishments as of February 2013, and describe broad priorities the CBAP collectively believes are needed to achieve its guiding statement. The CBAP continues to grow and evolve and it is expected that this will be a working document as the CBAP continues to refine the scope and breadth of its work.

Prepared By:

The CBAP Steering Committee

- Julie Buckles, *Northland College/Sigurd Olson Environmental Institute (NC/SOEI)*
- Valerie Damstra, *Bad River Watershed Association*
- Tom Fratt, *Ashland County Land and Water Conservation Department*
- MaryJo Gingras, *Iron County Land and Water Conservation Department*
- Cherie Hagen, *Wisconsin Department of Natural Resources*
- Al House, *Town of Bayview; Apostle Islands Sport Fisherman's Association*
- Sara Hudson, *City of Ashland*
- Matt Hudson, *NC/SOEI*
- Ted Koehler, *United States Fish and Wildlife Service*
- Randy Lehr, *NC/SOEI*
- Katie Meyer, *City of Ashland*
- Naomi Tillison, *Bad River Natural Resources Department*
- Mark Peterson, *NC/SOEI*

CBAP Active Partners

- Ashland County Land and Water Conservation Department
- Bad River Band of the Lake Superior Tribe of Chippewa Indians
- Bad River Watershed Association
- Bayfield County Land and Water Conservation Department
- Bayfield Regional Conservancy
- City of Ashland
- City of Bayfield
- Iron County Land and Water Conservation Department
- Northland College and the Sigurd Olson Environmental Institute
- Northwoods Cooperative Weed Management Area
- Red Cliff Band of Lake Superior Chippewa
- United States Fish & Wildlife Service
- United States Geological Survey
- University of Wisconsin Extension-Basin Education
- Wisconsin Department of Natural Resources

Primary author: Matt Hudson, *NC/SOEI*

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I. Background and Regional Need

The Chequamegon Bay area is one of the most ecologically significant regions throughout the Lake Superior basin and provides the foundation of the economic and social well-being of its surrounding communities. The bay itself covers an area of 53 square miles, averages 28 feet in depth, and is fed by more than 2,100 miles of streams draining nearly one million acres of land in Bayfield, Ashland, and Iron counties in northern Wisconsin (Figure 1).

Chequamegon Bay and its surrounding watersheds contain approximately one-quarter of the coastal wetlands (Maynard and Wilcox, 1997; Minc and Albert, 2006) and one-fifth of the nearshore waters (Edsall and Charlton, 1997) throughout the United States coast of Lake Superior. The area also includes many sites identified on the Lake Superior Binational Program's map of *Important Habitat in the Lake Superior Basin* (LSBP, 2006), and many of its coastal tributaries have been identified as Outstanding or Exceptional Resource Waters by the Wisconsin

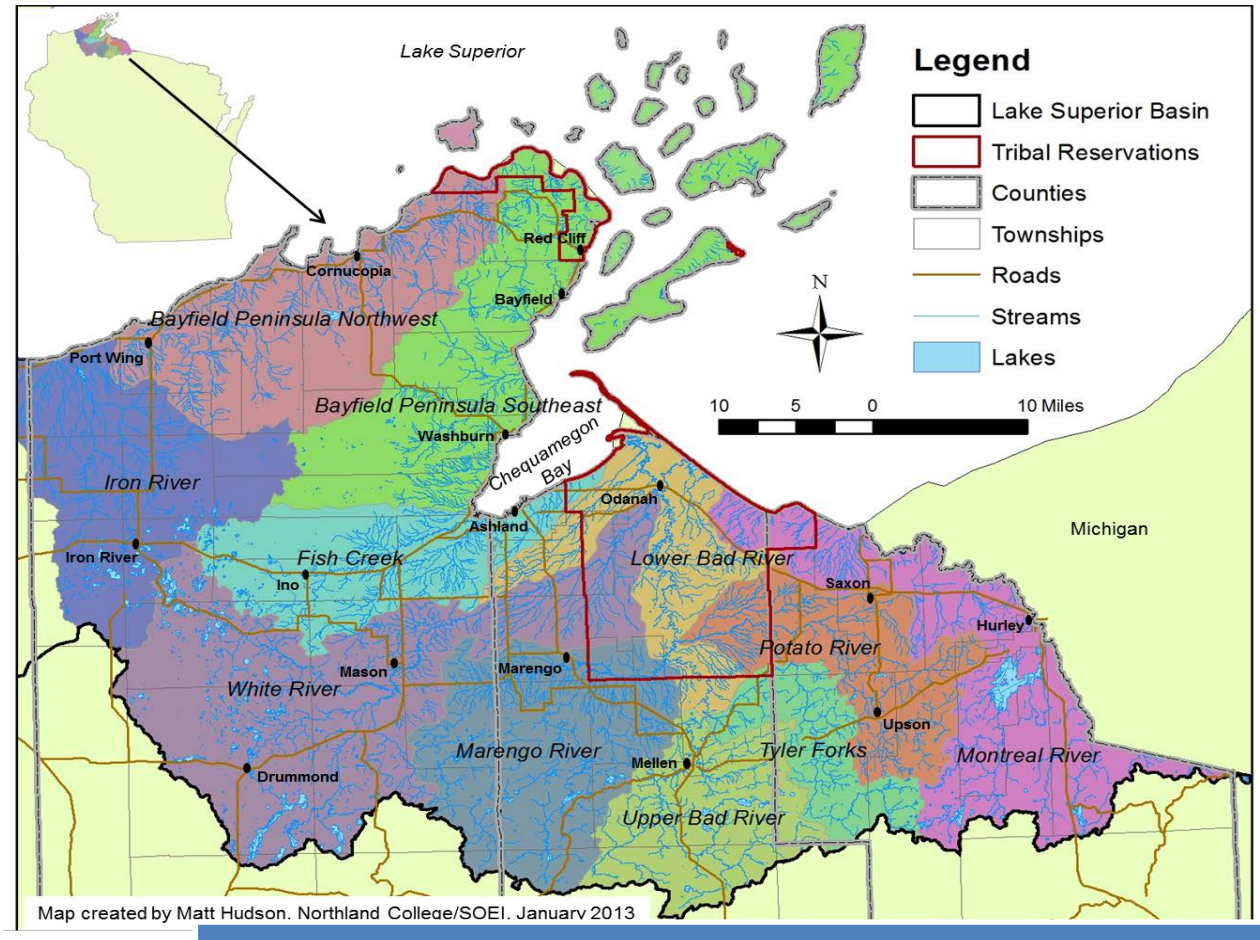

Figure 1. The Chequamegon Bay Area Partnership's geographic reach currently includes Ashland, Bayfield, and Iron counties within the Lake Superior Basin of Wisconsin.

Department of Natural Resources (WDNR) and/or the Bad River Band of the Lake Superior Tribe of Chippewa Indians (Bad River Tribe). These diverse ecosystems support a wide range of sensitive fish and wildlife species including coaster brook trout, piping plover, walleye, and one of only two self-sustaining lake sturgeon populations on the United States side of Lake Superior (Auer, 2003). The Kakagon and Bad River Sloughs complex has been designated as a Wetland of International Importance, or a Ramsar Site, and supports the largest intact wild rice beds throughout the Great Lakes.

The ecological significance of the Chequamegon Bay area has been highlighted and recognized as a high priority in a range of local, regional, national and international resource management plans. Similarly, because of their importance to the local economies and cultural identity, the protection and restoration of the natural resources of the Chequamegon Bay area has been highlighted as a key need in the majority of long-range community comprehensive plans throughout the region (e.g., the cities of Ashland, Washburn and Bayfield and counties of Ashland, Bayfield and Iron).

Despite the ecological, economic and social value of the Chequamegon Bay area ecosystems, the ongoing health and integrity of these resources is currently threatened by a wide range of historic stressors and emerging issues. Throughout the late 1800s and early 1900s, most of the forest cover was removed from the watersheds that drain into the coastal waters of Chequamegon Bay (referred to as the “cut-over”). Much of the nearshore and coastal habitat of the Bay was transformed by logging activities, as well as the mining and shipping of regional minerals that left a legacy of contaminated sediments. Since the 1940s, many of the Chequamegon Bay area ecosystems have gradually begun to recover, however the effects of this large-scale landscape disturbance and nearshore sediment contamination remain the two primary factors shaping the health of the surrounding coastal waters (Ebener, 2007). Within the Chequamegon Bay area, altered hydrology and corresponding watershed erosion and sedimentation have been identified as the key ecological stressors affecting the health of tributary and nearshore habitat (Figure 2).

To more efficiently and effectively manage the diverse ecosystems and complex stressors that often transcend political and jurisdictional boundaries throughout the Chequamegon Bay area, regional stakeholders coalesced in 2009 to form the Chequamegon Bay Area Partnership (CBAP).

Figure 2. Aerial shot of sediment flowing from Fish Creek to Chequamegon Bay after a rain event in June 2012.

II. The Chequamegon Bay Area Partnership

The CBAP is a coalition of agencies, governments, organizations, and institutions in the Chequamegon Bay area of northern Wisconsin whose guiding statement is "to improve the ecological, economic, and social fabric of the Chequamegon Bay area of Lake Superior through a collaborative natural resource decision-making and implementation team." The partnership's geographic reach currently includes Ashland, Bayfield, and Iron counties within the Lake Superior basin of Wisconsin.

The CBAP formed in 2009 in response to the U.S. Environmental Protection Agency's Great Lakes Restoration Initiative (GLRI). Representatives from municipalities, tribal governments, educational institutions, non-profit organizations, and county, state and federal agencies believed a team effort could improve the breadth and effectiveness of natural resources management efforts in the Chequamegon Bay area that could transcend political and jurisdictional boundaries. That collaboration would thereby attract funding to regional projects from a diverse range of funding opportunities.

As of February 2013, the CBAP had brought in nearly $1 million in GLRI funding for projects ranging from restoring native fish habitat through barrier removals and culvert replacements, to reducing sediment and nutrient pollution by implementing conservation practices with private landowners, to keeping area beaches clean and safe for recreation (see Section III for more details).

Currently, Northland College is the sponsoring organization and fiscal agent for the CBAP. Northland College's Sigurd Olson Environmental Institute (SOEI) coordinates the work and outreach activities of the CBAP. Examples of activities conducted by Northland College and the SOEI have included:

- Submitting grant proposals on behalf of the partnership;
- Grant administration and reporting for CBAP-sponsored projects;
- CBAP-related outreach to public;
- Organizing and leading CBAP meetings; and
- Facilitating communication among CBAP partners.

By leveraging the capacity and expertise of individual partners, CBAP is able to more effectively deliver conservation across a broad geographic area. For instance, leveraging the grant administration and reporting capacity of some partners and the outreach capacity of others, allows partners with expertise in engineering and project implementation to focus more time and energy on putting projects on the ground rather than finding and managing grant dollars.

Partners actively involved in grants have signed a Memorandum of Understanding or passed a resolution regarding their partnership with CBAP (indicated below). The remaining partners have been active in the formulation, planning and science of CBAP. As of February 2013, these partners include:

- Ashland County Land and Water Conservation Department (MOU);
- Bad River Band of the Lake Superior Tribe of Chippewa Indians (Resolution 1-13-10-152);
- Bad River Watershed Association (MOU);
- Bayfield County Land and Water Conservation Department;
- Bayfield Regional Conservancy;
- City of Ashland (MOU);
- City of Bayfield;
- Iron County Land and Water Conservation Department (MOU);
- Northland College and the Sigurd Olson Environmental Institute (*sponsoring organization/coordination/fiscal agent/outreach*);
- Northwoods Cooperative Weed Management Area (MOU);

- Red Cliff Band of Lake Superior Chippewa (MOU);
- United States Fish & Wildlife Service;
- United States Geological Survey;
- University of Wisconsin Extension-Basin Education; and
- Wisconsin Department of Natural Resources.

III. CBAP Project Accomplishments (2010-2013)

As of February 2013, the CBAP has focused its grant writing and project implementation on funding opportunities available through the GLRI and has brought in nearly $1 million in GLRI funding for priority natural resources management projects in the Chequamegon Bay area. In addition to projects implemented through the CBAP, many CBAP partners implement regional priority natural resource management projects through funding sources outside of GLRI on an ongoing basis or with GLRI funds obtained outside of the CBAP.

Projects sponsored by and implemented through the CBAP since 2009 include: 1) a series of Habitat Restoration Projects, 2) a Beach Sanitary Surveys Project, and 3) a Targeted Landowner Approach to Watershed Restoration project. The following is a summary of these collaborative projects.

A. Habitat Restoration Projects. This $251,414 GLRI grant (awarded in 2010) resulted in the restoration and protection of Lake Superior habitat through fish and other aquatic organism passage barrier removals, culvert replacements and projects to "slow the flow" of surface runoff (Figure 3).

Figure 3. MaryJo Gingras, Iron County Land and Water Conservation Department, stands atop a new culvert replaced with GLRI funds.

Improperly designed and/or installed culverts can block the passage of fish and other aquatic organisms to important habitat areas, cause erosion and sedimentation to aquatic resources, and may also pose maintenance issues for local governments with limited budgets. Rapid surface runoff from upland areas to watershed streams is responsible for many of the erosion and sedimentation issues in the Chequamegon Bay area.

In order to address these issues, the Iron County Land and Water Conservation Department (LWCD) was able to replace seven culverts that were erosion and sedimentation problems or fish passage barriers. The Iron County LWCD completed these projects under-budget and was able to transfer unused grant dollars to the Ashland and Bayfield County LWCD for culvert and habitat restoration projects.

Ashland County LWCD replaced three culverts that were erosion and sedimentation or fish and other aquatic organism passage issues and worked with two landowners in the Beartrap Creek watershed to improve riparian areas by restricting livestock access and reducing nutrient, bacteria, and sediment inputs to these streams. Future projects with these landowners are expected to bring additional benefits to these streams. As part of this collaborative project, the United States Geological Survey and Bad River Natural Resources Department monitored water quality and quantity in Beartrap Creek. Data collected may be used to evaluate the success of the conservation projects implemented upstream and to plan future projects to improve watershed health.

Bayfield County LWCD worked with private landowners to complete a wetland restoration and two stream crossing access roads and with the Town of Eileen to complete a critical grade stabilization project.

B. Beach Sanitary Surveys Project. This $192,115 GLRI grant (awarded in 2010) was designed to improve human health and recreational opportunities for residents and visitors to beaches around Chequamegon Bay through beach cleaning and sanitary surveys. Over a 2-year period, pathogen levels were monitored at four beaches by the Red Cliff Natural Resources Division and at five beaches by the Bad River Natural Resources Department. Northland College student teams monitored pathogen levels at 13 beaches and 10 storm water outfalls and cleaned and groomed 18 beaches around the Chequamegon Bay area to minimize human exposure to pathogens (Figure 4). Project coordinators are currently evaluating results to determine how effective the beach cleaning efforts were at reducing pathogen levels and how these efforts could be continued after the project is completed.

Figure 4. Students groom Maslowski Beach in Ashland, Wisconsin.

C. **Targeted Landowner Approach to Watershed Restoration.** This $300,000 GLRI grant (awarded in 2011) was designed to increase stakeholder involvement in watershed restoration in the Marengo and Fish Creek watersheds and increase the outreach and engagement capacity for the CBAP. The grant leverages the outreach and citizen engagement capacity of the Bad River Watershed Association (BRWA) and SOEI with the technical project implementation capacity of the Ashland and Bayfield County LWCDs. The grant was supplemented with an additional $10,000 from the Duluth Superior Area Community Foundation (awarded in 2012) to support the CBAP's work with landowners in the Chequamegon Bay area. To date, some of the project accomplishments include:

- In May 2012, Northland College hired a CBAP outreach coordinator, housed at the SOEI, to implement outreach and expand the collaborative capacity of the CBAP. This person has written and/or placed seven different stories into multiple media outlets for this region, developed a website presence, Facebook presence, and created five short films, highlighting the work of the CBAP partners. This position has also established a Fish Creek Outreach Committee to assist in guiding the direction of outreach for the Fish Creek portion of this project and has completed one project-specific newsletter to all residents of the Fish Creek watershed.
- Established in June 2012, a CBAP steering committee has provided guidance regarding outreach and expansion of the CBAP's work including, public relations

strategies, a logo for the CBAP, a survey of CBAP partners, and development of this strategic priorities document.

- A project ranking scheme was developed by project partners designed to help guide conservation project implementation decisions of the County LWCDs.
- Several outreach and engagement efforts were conducted by the BRWA in the Marengo River watershed including: hosting two Marengo River Watershed Partnership community events, conducting eight site visits with landowners, and completion of a *Marengo Riffles* newsletter sent to all watershed residents.
- A database of landowners with interests in implementing conservation projects on their property was developed and populated with landowners identified through project outreach efforts.
- The Ashland County LWCD used grant funds to complete all or portions of 19 conservation projects in 2012 that will help slow the flow of runoff and reduce erosion and sedimentation to streams within the Marengo River watershed. These included wetland restoration projects, constructing animal walkways and stream crossings, and installing fencing to protect sensitive riparian areas and water quality (Figure 5).
- Several conservation projects are being planned by the Ashland and/or Bayfield County LWCDs in the Marengo and Fish Creek watersheds with support from this grant in 2013.

Figure 5. Marengo River watershed landower Charlie Ylitalo installed ponds on his property to create wildlife habitat and slow the flow of runoff to the Marengo River.

IV. CBAP Strategic Priorities

Many of the CBAP partners have a long history of working together to discuss and prioritize natural resource concerns and solve natural resource management problems. Prior to, and since its inception, the CBAP partners have participated in several strategic planning initiatives to increase coordination among partners and identify unmet needs throughout the region. Two key priorities have emerged from strategic planning discussions that are widely supported by regional partners: 1) The development of a comprehensive regional management strategy and implementation plan for the CBAP, and 2) An expansion of the coordination, communication and implementation capacity for the CBAP.

Within each of these priority areas, CBAP partners have identified more specific resource management and organizational development priorities to guide the work of the partnership in the short-term.

A. Develop a regional natural resources management strategy and implementation plan. Work conducted by Wisconsin's Lake Superior Basin Partner Team, recent watershed planning efforts in the Fish Creek and Marengo River Watersheds, and a strategic planning effort led by the Sierra Club's Great Lakes Program have all helped to shape regional natural resource management priorities. The priorities identified in these efforts provide a starting point for implementing the work of the CBAP, but a more comprehensive effort specifically aimed at identifying broader regional natural resource management priorities is needed. For instance, priorities related to Chequamegon Bay itself and how to incorporate upland, rural, urban, and in-lake needs has not been explored.

In lieu of this broader discussion, the following broad areas of natural resource management and project implementation have been identified in previous strategic planning efforts and are considered current resource management priorities of the CBAP.

- ***Slow the Flow.*** The largest non-point pollution concern affecting the health of Chequamegon Bay area watersheds is excess sedimentation (Andrews *et al.*, 1976; Andrews *et al*., 1980; Robertson, 1997; Fitzpatrick *et al.*, 1999; LSBPT, 2007). The primary driver of excess sedimentation is unstable hydrologic conditions caused by land clearing and intensive agriculture practices near the turn of the 20th century (Fitzpatrick *et al.*, 1999). These conditions are often exacerbated by current human land use activities. The Lake Superior Basin Partner Team adopted a slogan called "slow the flow" to draw attention to the key non-point source issue affecting the health of streams in the Lake Superior Basin of Wisconsin. The concept recognizes that holding water back on the landscape and delaying its delivery to streams will protect stream channels, reduce sedimentation, improve habitat for aquatic species,

and lead to more stable hydrologic conditions that will be more resilient to climate change effects.

The CBAP partners are in broad agreement that implementation of natural resource management practices and activities that "slow the flow" of surface runoff to streams are priorities to improving the health of Chequamegon Bay area watersheds. Examples of management practices and activities that slow the flow include, but are not limited to: riparian and upland native tree planting, restore and/or protect wetlands, maintain and improve implementation of forestry best management practices, improve livestock management and drainage from agricultural areas, reduce hydrologic connectivity of drainage infrastructure (e.g. roads, storm sewers, ditches), restore floodplain connectivity, increase stream channel complexity, and explore upland agroforestry or other alternative agriculture production that could provide market-based solutions to slow the flow.

Further details on priority "slow the flow" management practices and management practices aimed at meeting the other priority watershed challenges are outlined within documents such as the Marengo River Watershed Action Plan (BRWA, 2011), the Fish Creek Restoration and Management Plan (Bro and Fratt, 2011), and Best Management Practice Guidelines for the Wisconsin Portion of the Lake Superior Basin (Schultz, 2003).

- ***Reduce Sedimentation.*** Work conducted in the Fish Creek and Marengo River watersheds identified bluff and streambank erosion as major contributors to the sediment loads carried by these streams. Similar conditions exist in other tributary streams in the Chequamgon Bay area because of similar geologic characteristics. As mentioned in the previous section, management practices that slow the flow of surface runoff are the key to reducing excess sedimentation. However, other practices such as stabilizing eroding bluffs and streambanks, and reducing sediment contributions from roads, other waterway crossings, and agriculture are all priorities to reduce sediment loads to streams and rivers in the Chequamegon Bay area.

- ***Identify and Protect Healthy Areas*.** Investing financial resources in identifying, protecting, and enhancing natural resources already in a healthy condition or close to being in a healthy condition are priorities. While the threats to the Chequamegon Bay area are real, much of the ecosystem remains intact and will require a smaller investment of resources to protect, restore, or enhance than other areas of the Great Lakes that have been significantly degraded. Along these lines, the Lake Superior Binational Program is currently conducting a biodiversity conservation assessment for Lake Superior that will identify a series of conservation targets and threats that

will be useful in identifying broad priorities and needs for localized areas that will benefit biodiversity conservation of the entire lake ecosystem.

In order to support protection, enhancement, and/or restoration of these areas, examples of priority activities include: improved baseline aquatic and terrestrial ecosystem monitoring, improved groundwater quality and quantity monitoring, data sharing and analysis to identify priority aquatic and terrestrial habitat areas for protection, conservation land purchases/easements, prevention of terrestrial and aquatic invasive species, enhancing stream habitat complexity, reintroduction of native terrestrial and aquatic species where appropriate, special designations, and strengthening zoning ordinances.

- ***Identify and Restore Degraded Terrestrial and Aquatic Habitats.*** In addition to protecting, enhancing, and/or restoring natural resources already in a healthy condition or close to being in a healthy condition, there are known locations within the Chequamegon Bay area that have been degraded and require restoration to improve ecosystem function. Identifying and prioritizing these areas is needed and implementing many of the management activities that will slow the flow, reduce sedimentation, and protect healthy areas, along with activities such as inventory and control of terrestrial and aquatic invasive species, controlling (or limiting) livestock access to streams, culvert restorations, restoring formerly industrialized shorelands, increasing stream habitat complexity, and dam inspections/removals are also needed to restore these degraded areas.

- ***Remediate Legacy Sites Contaminated With Toxic Substances.*** Neither of the two highly contaminated sites in the Chequamegon Bay area (Ashland lakefront site and Barksdale DuPont site) will qualify for Area of Concern-related funding through the GLRI, but will require large amounts of funding to remediate. Cleaning up these and other similar brownfield sites are priorities to improving the health of the Chequamegon Bay area.

- ***Reduce Elevated Pathogen and Nutrient Levels.*** Elevated bacteria levels have been a recent problem for some beaches along Chequamegon Bay. Recent beach cleaning and monitoring efforts have had positive results and these efforts should continue. Elevated bacteria and nutrient levels in streams have been a concern in some upland watershed areas. Human and livestock waste management can be improved and implementing best management practices in localized areas is needed.

- ***Promote Public Engagement and Involvement in Watershed Issues and Stewardship.*** Engaging and involving citizens of the Chequamegon Bay area is critical to achieving healthy watersheds. A variety of approaches to achieve this have been successful in the Marengo River Watershed Partnership project and are being expanded to other parts of the Chequamegon Bay area through the CBAP's "Targeted Landowner Approach to Watershed Restoration" GLRI grant. These activities are priorities to continue as watershed improvement efforts in the Chequamegon Bay area evolve.

- ***Promote Climate Change Mitigation and Adaptation Projects.*** Climate change is having varied impacts across Wisconsin and the broader Great Lakes region (WICCI, 2011; Swanston *et al*., 2011). Identifying and implementing mitigation and adaptation strategies specific to management of Chequamegon Bay area terrestrial, aquatic, and groundwater resources are priorities.

  Two efforts already underway include: 1) The City of Ashland recently participated in a Great Lakes-wide effort to do "A Self-Assessment to Address Climate Change Readiness in Your Community." and 2) The Shared Landscapes Initiative (SLI), coordinated by the United States Forest Service's Northern Institute of Applied Climate Science.

  The purpose of the climate change readiness self-assessment is to review a community's potential vulnerabilities to climate trends and to begin the conversation of how and when to incorporate these trends into future planning and projects.

  The SLI is a partnership effort that was launched in 2010 to provide a forum for the forestry community in northern Wisconsin to discuss climate change impacts on ecosystems, management responses, and cooperative activities across a variety of organizations. The SLI is intended to be a demonstration of climate change adaptation by providing real-world examples of forest management activities that enhance the ability of forests to cope with changing conditions, while meeting forest management goals.

B. Expansion of the coordination, communication and implementation capacity for the CBAP. Northland College recently hired a position through GLRI funds with primary responsibility to help with these tasks (see Section III). The CBAP outreach coordinator position is seen as a critical component to continuing and expanding the work of the CBAP. In addition, Northland College has committed administrative capacity to the work of the CBAP to handle activities like grant reporting and administration in order to allow partner agencies and groups to focus more attention on implementing project work.

CBAP partners met in November 2012 in part to identify priorities for the group to continue developing its structure and capacity over the next six months. These priorities include:

- **Develop CBAP organizational roles and processes:** As part of the ongoing work of building CBAP structure and function, priorities include establishing a process for selecting, developing, and submitting projects for funding through CBAP and determining levels of involvement and responsibilities for CBAP partners.
- **Identify funding to maintain and expand CBAP organizational capacity:** The CBAP recognizes that its future success depends on having capacity dedicated to supporting and coordinating the group's activities, including things like outreach, organizational development, and grant writing. Implementation of these activities will require additional capacity beyond what currently exists within the CBAP and among CBAP agencies, organizations, and groups.
- **Promote CBAP to potential partners:** Engaging other potential partners within the region about the benefits and opportunities of being actively involved in CBAP is a way to build a stronger and more effective coalition.

The CBAP will focus on implementing these strategic priorities in the coming months as it continues its collective work "to improve the ecological, economic, and social fabric of the Chequamegon Bay area of Lake Superior through a collaborative natural resource decision-making and implementation team."

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