



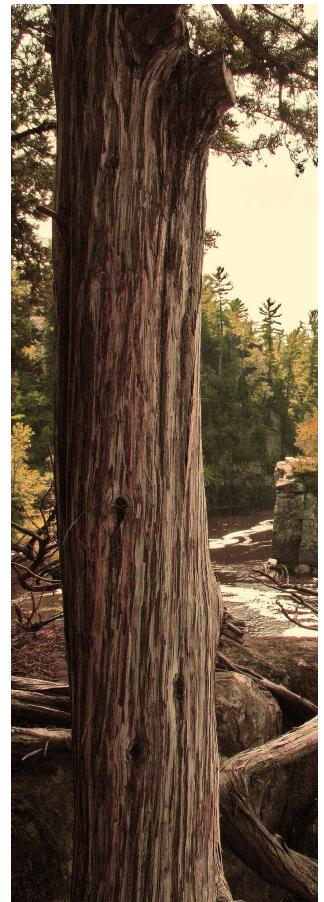
Strategic Plan

Updated February 2017

St. Croix Basin Water Resources Planning Team



Protecting the St. Croix



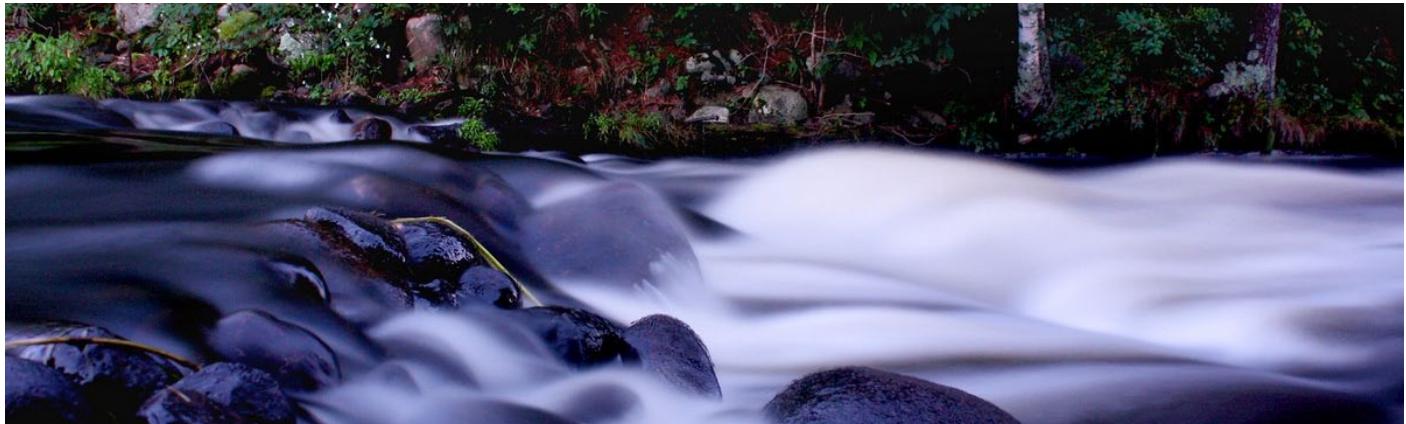


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About the photos used in this publication:

All of the photos were taken by the artists involved in the program "In a New Light". In a New Light harnesses the healing power of art and nature to bring hope and empowerment to the lives of at-risk youth at Northwest Passage, a residential treatment organization with facilities in Frederic, Spooner, and Webster, Wis. The project is a partnership between Northwest Passage and the St. Croix National Scenic Riverway, a unit of the National Park System, and was funded through an "America's Best Idea" grant from the National Park Foundation. To learn more about this inspiring program and see more photos visit <http://nwpltd.org/inanewlight/>



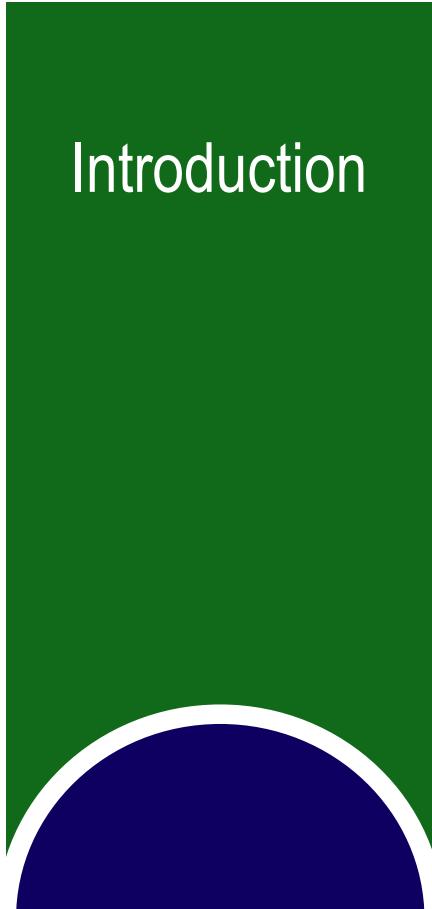


The St. Croix River and its surrounding basin cover large portions of east central Minnesota and northwest Wisconsin. It contains some of the upper midwest's premier natural resources. It is the home to federally threatened and endangered species, including native mussels found nowhere else in the world. The basin contains large tracts of woodlands, important agricultural production, beautiful lakes and many vibrant communities. It also faces pressures from the adjacent Twin Cities metropolitan area of over two million people.

The St. Croix Basin Water Resources Planning Team (Basin Team) is made up of dedicated water resource professionals from both Minnesota and Wisconsin who are united in the mission to "share science and policy to guide partners and citizens who restore, manage, and protect the land and water resources of the St. Croix Basin."

This update of the Strategic Plan helps guide and focus limited resources to maximize efforts to protect and restore the water resources of the St. Croix River and its basin. The passion, dedication and stewardship of the Basin Team is at the heart of this document.

*Jerry Spetzman
St. Croix Basin Team Chair*



Water is the most critical resource issue of our lifetime and our children's lifetime. The health of our waters is the principal measure of how we live on the land.

Luna Leopold





Member Organizations

St. Croix National Scenic Riverway – National Park Service
Minnesota Department of Natural Resources
Minnesota Pollution Control Agency
Wisconsin Department of Natural Resources
St. Croix Watershed Research Station – Science Museum of Minnesota
University of Wisconsin Extension
University of Wisconsin – River Falls
Wisconsin Department of Agriculture
Minnesota Department of Agriculture
The Nature Conservancy
East Metro Watershed Partners
Natural Resource Conservation Service
United States Geological Survey
Metropolitan Council Environmental Services
St. Croix River Association
Kinnickinnic River Land Trust
Wisconsin County Land and Water Resource Departments

- Barron Soil and Water Conservation Department
- Bayfield Land and Water Conservation Department
- Burnett Land and Water Conservation Department
- Douglas Land Conservation Department
- Pierce Land Conservation Department
- Polk County Land and Water Resources
- Sawyer Zoning and Conservation
- St. Croix Resource Management
- Washburn Land and Water Conservation Department

Minnesota Board of Soil and Water Resources and local member organizations

- Aitkin Soil and Water Conservation Department
- Anoka Conservation Department
- Brown's Creek Watershed District
- Carlton Soil and Water Conservation Department
- Carnelian - Marine - St. Croix Watershed District



Member Organizations continued

- Chisago County
- Chisago Soil and Water Conservation District
- Comfort Lake - Forest Lake Watershed District
- Conservation Corps MN & IA
- Isanti County
- Isanti Soil and Water Conservation Department
- Kanabec Soil and Water Conservation Department
- Middle St. Croix River Watershed Management Organization
- Mille Lacs Soil and Water Conservation Department
- Pine Soil and Water Conservation Department
- Ramsey County
- Snake River Watershed Management Board
- South Washington Watershed District
- St. Louis, North Soil and Water Conservation Department
- Valley Branch Watershed District
- Sunrise River Watershed Management Organization
- Washington Conservation District
- Washington County



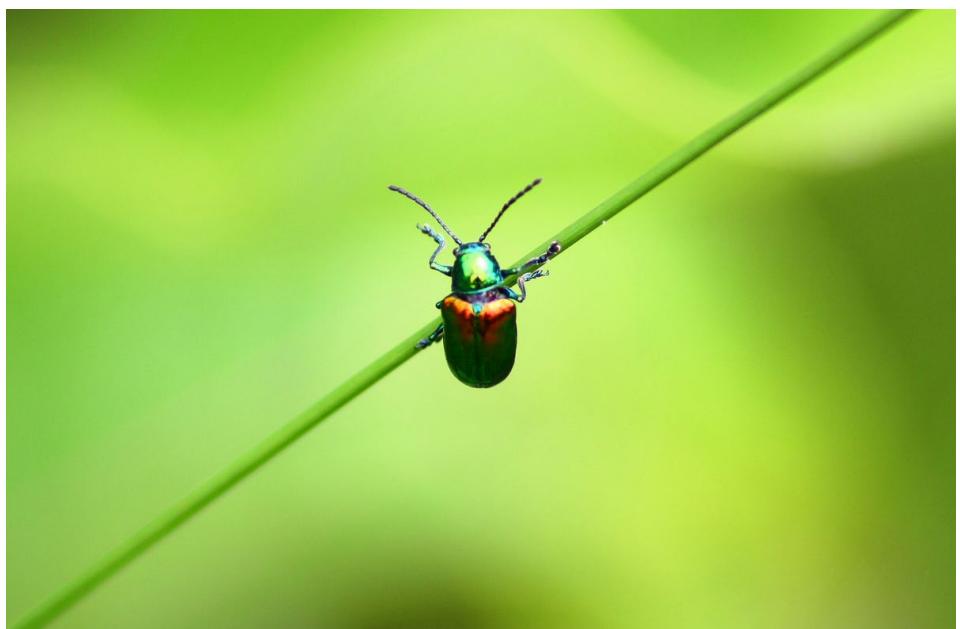


Abstract

The St. Croix River, a National Wild and Scenic River that threads between Wisconsin and Minnesota, has been showing signs of degradation. To protect this exceptional resource, agencies and associations within the Basin agreed that a basin-wide approach to water resource management was needed. In 1994, the St. Croix Basin Water Resources Planning Team (Basin Team) was created. Since then, the team has leveraged hundreds of thousands of dollars in funding for water quality standards. To support the Basin Team's work into the future, they developed a strategic plan in 2012 that continually unites their efforts under a shared vision, mission, and goals.

The plan identified five long-term goals:

1. Support ongoing Basin Team activities;
2. Monitor and assess the ecological health of the land and water resources of the basin;
3. Share science and policy with partners and citizens;
4. Reduce phosphorus loading to Lake St. Croix by 20% by the year 2020;
5. Identify threats and opportunities for the St. Croix watershed.



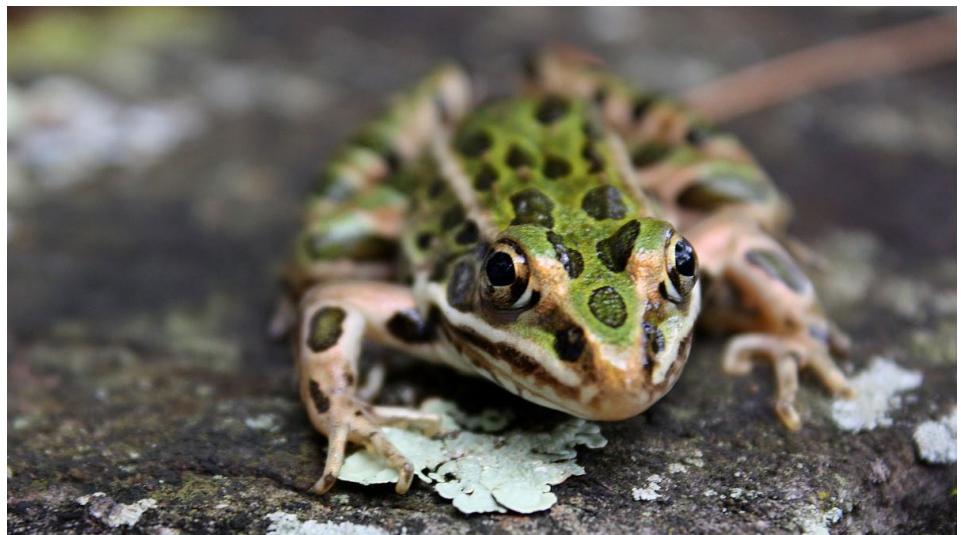


The St. Croix Basin Water Resources Planning Team was founded in 1994, when the Minnesota-Wisconsin Boundary Area Commission proposed a cooperative agreement for it, later signed by the four principal partners - Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, National Park Service and Wisconsin Department of Natural Resources. Many other federal, state, academic, scientific and local government agencies and organizations have also joined in the cooperative effort.

Since its inception, the Basin Team has been committed to protecting the St. Croix, based on consensus built from solid science. Eutrophication problems in Lake

St. Croix turned the spotlight to phosphorus concentrations in the lake. Through the late 1990's, Basin Team partners pursued studies into causes, and proposed a reasonable phosphorus reduction goal. After an interagency agreement in 2006, the regulatory agencies of Minnesota and Wisconsin both declared Lake St. Croix an impaired water body in 2008 and cooperated on an interstate phosphorus Total Maximum Daily Load (TMDL) and Implementation Plan (both approved by EPA in 2012 and 2015, respectively). In recent years, the Basin Team has been laying the groundwork for community-based implementation on a subwatershed basis.

Team Background



"What continues to amaze me about the St. Croix is the incredible diversity of life, in the river and along its shores. It takes good water quality from the entire watershed to support that biodiversity and we need to do all we can to protect and improve that quality."

*- Randy Ferrin
Volunteer and Former SCRA President*



Vision and Mission Statements

The Basin Team invites continued input on our Vision, Mission, Core Values and Goals, so they are relevant and targeted to our future work.

Our Vision:

The St. Croix River and its watersheds are healthy, cherished, and protected by law and by choice.

Our Mission:

Share science and policy to guide partners and citizens who restore, manage, and protect the land and water resources of the St. Croix Basin.

Core Values:

These core values were identified during the Basin Team's 2012 Strategic Planning effort. They are presented in ranked order based on the degree to which each value can be a driver for change (listed first) vs. an end goal or outcome of change.

Sustain a Healthy Ecosystem

We strive to protect the high quality and uniqueness of the St. Croix River Basin. The Basin Team considers this first core value as a North Star guiding light, from which we draw the passionate energy to fuel efforts toward our end-goals. The St. Croix and its tributary daughters are special to all of us. Collectively, they create a place of clear water, vibrant wildlife, and forests and wetlands that are much as they were found to be by the earliest Voyagers. We seek sustainable use of the basin's resources that will preserve that experience for future generations.

Commit to Collaboration

We choose to interact as a consensus-driven team, collaborating across any boundary that might divide us, committed to seeking ways to protect the river that unites us. This organization has always been an interstate, interagency collaborative open to a diverse membership, with respect to expertise and geographic area. In doing so, we enhance the net-working between interested agencies, synergistically expanding each other's circle of influence.



Focus on Ecological Assessment

We choose to focus on ecological health assessment of this complex and dynamic system, not just phosphorus and water quality. In addition to the physical and chemical water quality monitoring of St. Croix water resources, there is a need for continued basin-wide bioassessment at the subwatershed level.

Build Dynamic Relationships

We are committed to continuity tempered by flexibility, such that our team membership and the expertise of our partners may change with our needs. Many within the Basin Team membership have worked together for 20 years or more, engendering a sense of trust in the expertise of each other. However, we need additional expertise in: agriculture,



agricultural education, science education, forestry, wildlife, parks and recreation, and citizen and business engagement. Our organization has been most successful when we foster long-term relationships with those who are most passionate about preserving the St. Croix River. We need the same approach for a greater depth and breadth to our membership, forging bonds with educators and implementers. These relationships need to be built in advance, so that the expertise is available when we need it.

Use the Right Tools

We seek out the best tools for addressing the challenges faced by the St. Croix basin, employed within an adaptive management cycle. Problems are often solved in stages: identify, investigate, devise a plan, institute the plan, verify that the plan is working or make adjustments. These are the stages of an adaptive management cycle (Plan-Do-Study-Act). Each stage in the cycle requires the right tool. For the Basin Team, these tools include sustainable funding, limited and focused goals, scientific research, outreach education, and implementation.

Make it Easy for Decision-making Officials to Do the Right Thing

We provide decision-makers with focused local information, enabling and motivating them to make informed and reasoned decisions to protect the St. Croix. If public officials are provided with focused local information, they are empowered to protect the river. These efforts include providing good science and technical assistance, educating local officials, and garnering the funding needed for wider social acceptance of our conservation goals.

Change Public Behavior through Education and Outreach

We promote education, outreach, and active citizenship that inspire a sustainable long-term shift toward the behaviors, priorities, and policies that will restore, manage, and protect the land and water resources of the St. Croix Basin. The Basin Team perceives the need for a shift in public mindset: from citizens-as-users/consumers to citizens-as-stewards/decision-makers. This starts with data dissemination in common language, educating youth, officials, and the general public, using social-marketing tools and expanding outreach in as many media as possible. The message must be one of inclusive teamwork, celebrating successes and avoiding blame.



Near-Term Goals and Objectives

The full Basin Team and Committees reviewed the 2012 goals in 2016. The existing goals and committee structure were retained with updated objectives and next steps.

Support Basin Team Activities ***Assure effective operation of Basin Team, and communication of its mission and goals.***

Objectives

- Continue: Coordinator position funding
- Continue: Interagency communication on meetings, activities, and initiatives, maintaining quarterly Team meetings and more frequent, as needed Committee meetings.
- Continue: Annual Field Inspection
- Continue: Watch for funding opportunities for Basin Team and partner activities

Lead

- Funding Committee and Full Team

Next Steps

- Collaborate with the St. Croix River Association to produce a “State of the St. Croix” report.
- Seek continuing commitment from team members (formal or informal). Continue to broaden representation from groups interested in protecting the resources of the St. Croix Basin.
- Work for succession planning as agency and organizational representatives change or Chair terms end.
- Produce a fact sheet reporting progress on each goal objective.
- Maintain a fiscal agent for ongoing coordinator and project funds.



Continually Monitor and Assess the Ecological Health of the Land and Water Resources of the St. Croix River Basin

Develop, fund, and implement long-term monitoring and assessment.

Objectives

- Continue: Assess water quality data for status & trends
- Continue: Provide data access and analysis to partners
- Continue: Update monitoring plan to go beyond phosphorus and expand to efficient monitoring of holistic ecosystem health
- Continue: update and fully implement the Ideal Monitoring Network outlined in the Monitoring Plan (Hansen et al. 2006)
- Continue: Secure permanent funding for an annual assessment of water quality data collected on the St. Croix River and major tributaries

Lead

- Monitoring & Assessment Committee

Next Steps

- Continue: Determine interagency data pooling and accessibility needs.
- Continue: Maintain continuous funding for United States Geological Survey (USGS) flow gages.
- Continue: Perform a basin-wide assessment of St. Croix Basin water quality data on a 5-year recurring basis, keeping in mind that funding is needed to accomplish this goal.
- Document and expand biological monitoring and assessment in the Monitoring Plan.
- Repeat the paleological core analysis with updated techniques.
- New: Monitor trends in land use and outcomes in the basin.





Share Science and Policy with Partners and Citizens

Integrate science into key messages for local partners to share with target audiences.

Objectives

- Continue: Present the annual basin conference to share technical and citizen engagement information to a broad audience.
- New: Assess our needs and audiences for reporting progress and next steps needed. Examples include issue-specific information for the public (algae risks), the Total Maximum Daily Load (TMDL) Implementation Annual Report, an Annual Team progress report, and a more holistic State of the Basin report.
- Continue: Support local clean watershed efforts through data and analysis sharing, education tools, and development of social marketing strategies.
- Continue: Actively support civic engagement and enhanced public participation in watershed projects in the St. Croix Basin.

Lead

Education and Outreach Committee

Next Steps

- Organize and host the annual St. Croix basin conference.
- Maintain existing relationships and bring broader representation to Basin Team partnerships.
- Develop tools to support education and outreach of the Lower St. Croix Riverway land use programs. Support local zoning efforts across the basin as opportunities arise.
- Continue efforts to bring stewardship messages to community leaders, civic and outdoor groups, students, and citizens.

Reduce Phosphorus Loading to Lake St. Croix by 20% from 1990 Baseline Level

The TMDL refines the reduction goal to 27% to account for background loading.

Guided by environmental and human dimension monitoring, modeling, and assessment efforts, continue implementing the Lake St. Croix Total Maximum Daily Load (TMDL) through phosphorus reduction activities across the basin in all contributing sectors.

Objectives

- Lead the development of institutional and organizational resources to conduct human dimension assessments which provide the following information, and lead to practical and effective phosphorus reduction successes:
 - Who are the key individuals within each contributing sector who are trusted sources of information for their peers and others when making conservation decisions?
 - Which community organizations are well positioned to increase their outreach about specific actions that can lead to cleaner water within each contributing sector?
 - How would each contributing sector define the economic value of clean water in Lake St. Croix and their community, and what action(s) would they each be willing to do (and fund) to achieve a degree of improvement in overall water quality?
- Guided by the 2016 Soil and Water Assessment Tool (SWAT) model and human dimension assessment results, build trust and governing capacity between citizens and agency staff to reduce non-point source runoff across the basin.
- Research, evaluate, and promote the best measures available for all contributing sectors for reducing phosphorus inputs to our waterways.
- Develop a leadership structure within the Implementation Team which recognizes and leverages the implementation capacity, strategies and opportunities in the Minnesota and Wisconsin portions of the basin.
- Support local partners and partnership development in implementing phosphorus reduction strategies and efforts in all non-point source sectors: community stormwater,

*Note: the term “**human dimension**” is used to describe the ability and willingness of our citizens, communities, partners, and social systems to implement measures that will protect and improve the water resources of the St. Croix Basin.*



agricultural, shoreland, rural residential and commercial.

- Seek funding for success in team and partner implementation, outreach, and education activities.
- Provide strategic and targeted education and outreach on effective phosphorus reduction strategies for all audiences and sectors.
- Continue working with point sources to achieve the loading reductions required in the Lake St. Croix TMDL. Incorporate the TMDL-required mass limitations and state phosphorus and eutrophication standards in Wisconsin Pollutant Discharge Elimination System (WPDES) and Minnesota Pollutant Discharge Elimination System (NPDES) permits.
- Review and update watershed management strategies included in the Lake St. Croix Nutrient Total Maximum Daily Load (TMDL) Implementation Plan every two years. Include detailed descriptions of how water quality goals will be achieved in the Implementation plan.
- Monitor, track, and assess implementation actions and activities on a spatial basis (attitude and behavior change, funds spent, ordinances enacted, BMPs, Point Source Compliance) and environmental response in both tributaries and Lake St. Croix to determine progress toward achieving the phosphorus reduction goal.
- Compile an annual report by June each year on progress made toward phosphorus reduction goals, as required under the 2015 United States Environmental Protection Agency (EPA) approval conditions for the Lake St. Croix TMDL Implementation Plan. Include future action steps for each partner as a way to continually update the TMDL Implementation Plan.

Lead

- Implementation Committee

Barriers

- Representatives of local government, elected officials, human dimension assessment experts, agricultural extension experts and Natural Resource Conservation Service staff are needed as members of the Implementation Team.
- Human dimension assessment data is lacking in the St. Croix Basin, along with funding and expertise to conduct and apply this information.
- We need to build a connection with the agricultural community on water quality issues, especially the individual producers and the agricultural professionals who significantly influence decisions on crops raised and practices used.
- We currently have to rely on voluntary efforts to reduce non-point runoff in unregulated sectors (stormwater controls outside Municipal Separate Storm Sewer System (MS4) regulated areas and small farm and cropland runoff).
- There is a need for additional county and watershed technical staff to assist with implementing agricultural BMPs.





- We lack long-term, secure funding to provide staff, implement practices, provide outreach and education, coordinate fledgling farmer-led councils and similar efforts, and accurately measure and track reduction success.
- We lack a uniform phosphorus reduction assessment and tracking system across jurisdictions and partners.
- The St. Croix Basin Water Resources Planning Team has excellent collaboration from many partner agencies and organizations across both states dedicated to carrying out this work: citizen groups, county departments, universities, watershed organizations, and state

and federal agencies.

- The Basin Team has the input, support, and active participation from several educational and research scientists to guide our efforts: the USGS and National Park Service, the Science Museum of Minnesota's St. Croix Watershed Research Station, University of Wisconsin (UW)-Extension, UW-River Falls and UW-Stout. These experts and the abilities and dedication of all Basin and Implementation Team members help the Basin Team achieve our mission to "Share science and policy to guide partners and citizens who restore, manage, and protect the land and water resources of the St. Croix Basin."
- Both states have enacted phosphorus and eutrophication standards for surface waters since the Lake St. Croix TMDL was approved in 2012. These standards will, in some cases, require even stricter limitations on the phosphorus removal requirements at wastewater treatment facilities.

Next Steps

- The Wisconsin Department of Natural Resources and Minnesota Pollution Control Agency will develop strategies and expertise to assist the Basin Team to develop human dimension assessment methodologies which will lead to better understanding of the "HOW" of achieving water quality goals in the St. Croix Basin.
- Seek additional Implementation Committee members who have responsibilities and interests for phosphorus reduction activities and application of human dimension assessment and community capacity principles.
- Seek funding for a Basin Team phosphorus implementation coordinator to communicate between all partners and lead basin-wide planning, education, capacity-building, tracking, and reporting efforts.
- Support and participate in the annual St. Croix Summit to report on implementation progress and success, and to promote and inform a wide audience on new practices and further work needed.
- Continue to track point source compliance through WPDES/NPDES permits and annual review of mass loadings from each wastewater treatment facility included in the Lake St. Croix TMDL.
- Provide workshops, demonstrations, and education on soil health and other conservation practices as a way to meet non-point source reduction goals on cropland acreage.
- Continue support for Farmer-Led Councils for producers to cooperatively evaluate and improve practices in individual watersheds.

- Work with small communities and towns to improve stormwater ordinances and practices in areas outside MS4-regulation.
- Continue work with counties and lake groups on shoreland ordinances and practices to improve local lake, stream, and river health and contribute to the basin-wide phosphorus reduction efforts.
- Identify more accurate ways to measure actual phosphorus reductions achieved for practices installed or measures employed. Develop a mechanism for gathering complete and accurate information from all partners on measures implemented each year for the annual progress report.

*"It is life, I think, to watch
the water. A man can learn
so many things."*
— Nicholas Sparks, *The
Notebook*





Identify Threats and Opportunities for the St. Croix Watershed

Watch for change factors: demographics, invasive species, land use, lack of enforcement, policy/funding changes, etc.

Objectives

- Continue: Submit formal comments from the Basin Team on proposed projects or changes in management that could positively or negatively influence the health of the basin.
- Continue: Inventory and assess emerging threats and opportunities.
- Continue: Annually update the list of Emerging Threats and Opportunities for the St. Croix Basin and present to the Basin Team.
- Continue: Invite knowledgeable speakers to educate the Basin Team on emerging threats and opportunities.
- New: Develop an “alert network” between partners and appropriate agencies on concerns or permit applications for projects or issues within the basin.

Lead

Emerging Threats and Opportunities Committee and Full Team

Next Steps

Host a Resource Management Statement Scoping Workshop to help guide resource management at the St. Croix National Scenic Riverway.



Literature Cited

St. Croix Basin Water Resources Planning Team

Strategic Planning Outcomes

Report on the Vision, Mission, and Near-Term Goals that arose from the 2011 Strategic Planning Process

April 2012

Prepared by Suzanne Magdalene, Ph.D, St. Croix Watershed Research Station, Science Museum of Minnesota

<https://www.pca.state.mn.us/sites/default/files/wq-b6-15.pdf>



If there is magic on this planet, it is contained in water. ~Loren Eiseley

