



Lake Wausau Capacity Study

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Introduction

This report is part of a larger watershed planning process to protect and improve Lake Wausau, a vital community and recreational resource in Central Wisconsin. The Lake Wausau Association, City of Wausau, towns of Rib Mountain and Wausau, the Wisconsin Department of Natural Resources, the University of Wisconsin – Stevens Point Center for Watershed Science and Education and Center for Land Use Education partnered to assist in developing an information base to provide direction for management decisions in the watershed.

To develop effective management structures for Lake Wausau it is necessary to understand the physical system, stakeholders, existing organizations involved in managing the lake and how they are related, policies impacting the lake, and how well strategies for protecting and improving Lake Wausau and other water resources are working. This report will provide insight about the organizations, policies, and stakeholder perceptions of how Lake Wausau and water in general are managed in Wisconsin. Five questions addressing principles of water governance (developed by the Citizens League in Minnesota, 2009) are answered in this report.

1. *Transparency* – Who is in charge of developing and implementing the policies governing actions that could impact Lake Wausau, and is the system of water governance understandable?
2. *Effectiveness* – How well are policies and programs achieving their intended purpose, and can they be adapted to new science and circumstances?
3. *Equity* – Are all stakeholders (individuals, entities, sectors) sharing the responsibility for ensuring equitable access to safe water?
4. *Accountability* – Are water users held accountable for their impacts on water, and is it clear which agencies are responsible for outcomes? Measurable goals, funding, staff, and resources should match policy goals.
5. *Appropriate Scale* – Are programs and policies flexible enough to accommodate local conditions, and are they based on watershed rather than political boundaries?

Water governance is complex, and the Lake Wausau watershed consists of nested and overlapping governmental boundaries that are comprised of the laws, rules, people, and organizations involved in managing the lake. The state of Wisconsin, Marathon County, city of Wausau, Schofield, Rib Mountain, Rothschild, and town of Wausau all have policies impacting the lake. The data for this report come from: interviews conducted with those knowledgeable about Lake Wausau, water quality, and land management; a content analysis of policies and plans impacting Lake Wausau; a mail survey of Lake Wausau residents; and a web survey of individuals knowledgeable about organizations involved in watershed management in Wisconsin.

Methods

Content Analysis

To examine transparency, equity, accountability, and scale, a content analysis of plans and policies impacting Lake Wausau was conducted. The analysis identified the actors/entities (e.g. lakeshore owners, producers, municipalities) and actions (e.g. activities that can potential harm the lake's resources) addressed, who is accountable for meeting the policy's goals, and at what scale the policy applies. Plans and policies were identified through interviews with those responsible for managing land and water resources in Marathon County and through web searches for ordinances, plans, and policies in Wisconsin and each of the cities, towns, and villages in the watershed that pertain to nonpoint source pollution.

Interviews

A series of interviews were conducted with individuals involved in water/watershed management, local government agencies and non-governmental organizations, lake association members, and others who were identified as potentially having meaningful knowledge that would be useful for understanding the management of Lake Wausau. The interviews were designed to elicit feedback about interaction among those responsible for developing or implementing policy (transparency), perceptions of policies, programs, and resources available (effectiveness, equity) and perceptions of stakeholders (accountability). The questions can be found in Table 1.

Table xx. Interview Questions

- Q1. Tell me a little about your organization.**
- Q2. How long have you been involved with this organization?**
- Q3. Are you involved in any other organizations that might also impact or be impacted by (water policies in Wisconsin/the Lake Wausau management plan)?**
- Q4. What is the primary role your organization plays, and how is that related to (water policies in Wisconsin/the Lake Wausau management plan)?**
- Q5. What role do you play in your organization?**
- Q6. What policies or plans that shape the role you and your organization play in (water management in Wisconsin/for Lake Wausau)?**
- Q7. What policies or plans help or hinder successful watershed management in (Wisconsin/Lake Wausau)?**
- Q8. To whom or what do you see your organization as most accountable?**
- Q9. What types of resources (financial, technical, and others) do you and your organization use to help achieve your goals?**
- Q10. Which do you rely upon most often?**
- Q11. How frequently do you work directly with other organizations – either governmental or not - in (Wisconsin/ the Lake Wausau watershed), and how would you characterize that work? (Probes – is there cooperation? Conflict?)**
- Q12. What is unique to the local population in the Lake Wausau watershed that affects your ability achieve your goals?**
- Q13. What unique natural resource features in the area simplify or complicate your ability to achieve your goals?**
- Q14. What is unique about your position that can enhance Lake Wausau management?**
- Q15. What unique resources (programs, funding, technical, etc...) do you know of that are available to you to work on Lake Wausau issues?**
- Q16. Please describe how well you think our agencies, policies and programs are working to protect (water quality in Wisconsin/ Lake Wausau).**

- Q17. Which do you think are the *most* effective at improving or protecting (water quality in Wisconsin/ Lake Wausau)?
- Q18. Which do you think are the *least* effective at improving or protecting (water quality in Wisconsin/ Lake Wausau)?
- Q19. Are there stakeholders (people, agencies, groups, etc....) who you see as having too *much* influence on attempts to protect (water quality in Wisconsin/ Lake Wausau)?
- Q20. Are there stakeholders (people, agencies, groups, etc....) who you see as having too *little* influence on attempts to protect (water quality in Wisconsin/ Lake Wausau)?
- Q21. What changes would you make to the resources you currently have available to improve your ability to protect (water quality in Wisconsin/ Lake Wausau)?
- Q22. What trends – environmentally, politically, technologically, and so forth – do you see as having the most impact on your ability to protect (water quality in Wisconsin/ Lake Wausau)?
- Q23. Is there anything you'd like to add?
- Q24. Is there anyone you think I should interview to help us understand the capacity to improve (water quality in Wisconsin/ Lake Wausau)?

The interviews were digitally recorded and transcribed for analysis.

Mail Survey

A mail survey of Lake Wausau residents was conducted in 2013. The methods and results from that survey were previously reported and can be found within that survey report. Several questions were included on the survey addressing governance, and those results are reported herein.

Web Survey

After analysis of interview transcripts, the researcher developed a series of questions (based on Smith, 2002) about specific agencies and organizations that had been mentioned by interviewees in order to garner additional information about transparency, effectiveness, accountability, and scale. The sample for the web survey was not random. Instead, interview participants and several others involved in watershed management in Lake Wausau and Wisconsin were emailed the survey and asked if they would complete it. They were also encouraged to forward the survey to anyone in their organization whom they felt could provide useful feedback.

The survey collected information about 11 agencies/organizations: US Environmental Protection Agency; Wisconsin Department of Natural Resources; Wisconsin Department of Agriculture, Trade, and Consumer Protection; local cities/towns/villages; County Department of Conservation, Planning, and Zoning; Natural Resources Conservation Service; River Alliance of Wisconsin; Lake Wausau Association; North Central Stormwater Coalition; Wisconsin Association of Lakes (Wisconsin Lakes); and UW-Extension. The same set of questions was asked for each agency, and assessed people's perceptions of the scale, power, support for, and effectiveness of each organization with regard to nonpoint source pollution. The survey questions are found in Table 2.

Table 2. Web Survey Questions

1. Are you familiar with [organization]? (*yes, no*)
2. How would you characterize [organization] in terms of its functional scale? Functional scale means the variety of issues the organization addresses. (*narrow, medium, broad*)
3. How would you characterize the [organization] in terms of its spatial scale? Spatial scale

means the geographic area to which the organization's policies apply. (*narrow, medium, broad*)

4. How would you characterize the authority the organization has over decisions impacting water quality? (*weak, moderate, strong*)
5. How would you characterize the power the organization has to change people's behavior to improve water quality? (*weak, moderate, strong*)
6. How would you characterize the ideological support, or public and political support for actions, the organization has to achieve water quality goals? (*minimal, fair, optimal*)
7. How would you characterize the financial support, or willingness for the public to invest in actions to improve water quality, for the organization? (*minimal, fair, optimal*)
8. In general, how effective do you think the organization's programs and policies are for improving water quality? (*very effective, somewhat effective, neither, somewhat ineffective, very ineffective*)

Results

Policies and Plans Impacting Lake Wausau

The ability for Lake Wausau to act as an exceptional recreational and community resource is impacted by a variety of other activities that take place in the watershed. In general, plans and policies in the watershed are implemented to protect surface, ground, and drinking water quality; wetlands and shorelands, floodplains, aquatic life and habitat, and to reduce soil loss. In addition, many of the plans and policies mentioned enhancing natural beauty and aesthetics as benefits to protecting other resources.

There were 37 documents analyzed, and categorized according to their policy level (Federal=1, State=18, County=7, and City/village/town=11). At the county level, three documents were general plans (groundwater protection guide, land and water plan, comprehensive plan) and the remainder were county ordinances. At the City/village/town level, five were comprehensive plans and the remainder were ordinances. Tables 3-5 provide information for each policy about the resources protected, stakeholders impacted, actions that are addressed, parties responsible for implementing and enforcing, and the number of interviewees who mentioned the policy as being part of their responsibilities.

The language of the plans and policies differed greatly in the degree to which certain actions were required, encouraged, or forbidden. Local and county comprehensive plan language is largely voluntary in nature, and consists of statements such as "strive for", "attempt", and "encourage". Because comprehensive plans are not regulatory documents, state administrative rule and local/county ordinance language was much stronger, and included statements such as "must", "must not", "is/are required", and "will".

Adopting a comprehensive plan does not ensure that the actions detailed within the plan will be carried out or that resources that are identified by the plan as important will be protected. Local ordinances need to be developed to achieve the goals of the comprehensive plans, and ordinances enacted or amended after 1/1/2010 and addressing general zoning, official mapping, subdivision, and shorelands/wetlands need to be consistent with the comprehensive plan. An additional layer of

complexity was introduced by 2013 Wisconsin Act 80, which repealed the requirement that county shoreland zoning ordinances apply to shorelands annexed to or incorporated as part of cities or villages. Effectively, this means that a city or village ordinance can be less restrictive than the county ordinance that applied prior to Act 80.

Most of the policies and plans identified by the research team were not mentioned by the people interviewed for the study, and instead were found within the text of those that were mentioned or were deemed by the research team to potentially impact Lake Wausau quality. However, there were several policies that were mentioned by at least one interviewee, and those are: NR 151, NR 216, NR 243, ATCP 50, and Marathon County Chapters 11 and 13. Each of these will be explained below. The remainder of the policies are found in tables xx through xx, and detail what resources are protected by the plan or policy, what stakeholder groups need to carry out actions to protect the resources, the types of actions they are required or encouraged to take, and the agency responsible for ensuring goals are attained. This information is helpful in assessing the transparency, equity, and accountability of the system of water governance for Lake Wausau.

State Administrative Rules

Several state administrative rules were mentioned by interviewees as important to their positions. Administrative rules are the means by which the DNR implements statutes enacted by the Legislature. Some rules provide performance or technical standards. A performance standard provides expectations for water quality, but does not dictate how the standard must be met. Technical standards detail the methods for achieving the performance standard. Administrative rules impacting natural resources are prefaced with the letters “NR”, representing the Department of Natural Resources. While 14 NR rules were identified by the research team for analysis, only three were mentioned by interviewees.

NR 151

This rule is intended to establish performance standards for nonpoint source pollution and guidance for developing technical standards for implementation. It impacts agriculture, construction, transportation, municipalities, and those with more than 5 acres of turf/garden. In the Lake Wausau watershed, NR 151 was mentioned with regard to agricultural producers (crops, livestock, dairy) rather than the non-agricultural intended audiences.

NR 216

This rule details the requirements for what stormwater discharges require Wisconsin Pollution Discharge and Elimination System (WPDES) permits and criteria for meeting the performance standards of NR 151. This rule applies to stormwater running off from industrial facilities, construction sites, and municipal separate storm sewer systems (MS4). Municipal separate storm sewer systems are systems of sewers, ditches, pipes, and so forth that collect stormwater and discharge it to surface waters. Marathon County, Rib Mountain, Rothschild, Schofield, and the city of Wausau each have an MS4 and stormwater permits from the DNR. Each also participate in the North Central Wisconsin Stormwater Coalition with several other entities.

NR 243

This rule applies to animal feeding operations which either discharge waste to surface waters or meet criteria that determine whether they are a concentrated animal feeding operation (CAFO). The rule provides technical standards for meeting the goals of NR 151. Concentrated animal feeding operations are required to have WPDES permits and must have nutrient management plans. There are currently nine CAFOs permitted in Marathon County.

Table 3. State Policies

Policy	Resources Protected	Stakeholders Impacted	Actions (suggested or required)	Accountable
<i>ATCP 50 – Soil and Water Resource Management</i>	Soil, water quality	Farmers	Nutrient management plans	CPZ, DATCP, DNR
<i>ATCP 51- Livestock Facility Siting</i>	Water quality, odor	Local governments, livestock operators	Procedures for new or expanded facility siting	DATCP, Livestock Facility Siting Review Board
<i>NR 102 – Water Quality Standards for Wisconsin Surface Waters</i>	Overarching water quality, public health, water supplies, aquatic life, recreation, animals	Everyone in Wisconsin	Establishes standards for surface waters	DNR
<i>NR 109 – Aquatic Plants: Introduction, Manual Removal, and Mechanical Control</i>	Native populations of aquatic plants, water quality, habitat, aquatic life	Individuals, lake organizations LOUs	Removal or introduction of aquatic plants	DNR
<i>NR 115 – Shoreland Protection</i>	Water quality	Property owners, counties	Shoreland development (impervious surfaces)	CPZ, DNR
<i>NR 116 – Floodplain Management</i>	People, property, economic value	Communities with floodplains mapped by FEMA	Floodplain development – communities must develop ordinances to be eligible for NFIP	Communities, DNR
<i>NR 117 – City and Village Shoreland – Wetland Protection Program</i>		Cities, villages	Required to have zoning ordinances meeting minimum state standards	
<i>NR 151 – Runoff Management</i>	Water quality	Crop, livestock, dairy producers; municipalities	Performance standards for phosphorus, erosion, livestock/manure, construction, urban stormwater, transportation	Municipalities, DNR, DATCP (through related programs)
<i>NR 153 – Targeted Runoff Management</i>	Water quality	Grants for urban and agricultural runoff	Strategy for achieving NR 151 through supporting	DNR

<i>NR 154 – Best Management Practices and Cost Share Conditions</i>	Water quality	Recipients of NR 153 and 155 funds	BMPs and planning Acceptable BMPs, standards, and funding conditions	DNR, DATCP
<i>NR 155 – Urban Nonpoint Source Pollution Abatement and Storm Water Management Grant Program</i>	Water quality, floodplains, groundwater	Grants for local governments, UW System	Strategy for achieving NR 151 through supporting non-agricultural BMPs, planning, and administration	DNR
<i>NR 190 – Lake Management Planning Grants</i>	Lake resources	Cities, towns villages, tribes, lake associations, local governments, school districts	Provides funds for lake planning, information and education	
<i>NR 198 – Aquatic Invasive Species Prevention and Control Grants</i>	Control invasives, restore natives	Counties, cities, towns, villages, tribes, lake protection districts, local governments, schools, nonprofits, agencies	Cost-sharing for preventing and controlling AIS	DNR
<i>NR 216 – Storm Water Discharge Permits</i>	Water quality	Municipalities, industries, construction sites	Permitting system to achieve water quality standards	DNR
<i>NR 217 – Effluent Standards and Limitations for Phosphorus</i>	Water quality			
<i>NR 243 – Animal Feeding Operations</i>	Water quality	CAFO operators	Design standards, management practices, and permit requirements for CAFOs	CPZ, DNR

Table 4. County Policies

<i>County Policy/Plan</i>	Resources Protected	Stakeholders Impacted	Actions (suggested or required)	Accountable
Chapter 11 – Animal Waste Storage and Nutrient Management	Aquatic life, groundwater, water quality	Waste storage operators	Nutrient management plans, permits required	CPZ
Chapter 13 – Livestock Facilities Licensing	Public health and safety	Livestock facility operators	Licensing for new and expanded livestock facilities (ATCP 51)	CPZ, ATCP
Chapter 17 – Zoning Code	Shorelands, aquatic life, floodplains, natural beauty, natural resources, water quality, wetlands	Cities, villages, towns, county, developers, builders, property owners, livestock facilities, shoreland owners	Development, building, forestry practices, livestock practices	CPZ
Chapter 21 – Nonmetallic Mining Reclamation	Ground and surface water quality, wetlands	Mining site operators	Mining site reclamation standards	DNR, CPZ
Comprehensive Plan (natural resources section)	Groundwater, surface water, wetlands, shorelands	All in Marathon County	Guidance for protecting natural resources	County, towns, villages, cities
Groundwater Protection Guide				
Land and Water Resource Plan	Groundwater quality and quantity, forestry, invasives, soil erosion, lakes, surface water quality, wellheads, wetlands	Everyone, farmers, livestock operators, property owners, waste storage operators	Goals and objectives for implementing NR 151 strategies in addition to a variety of other actions to protect resources identified in plan	CPZ, DNR

Table 5. City/Village/Town Policies

City/Village/Town Policy/Plan	Resources Protected	Stakeholders impacted	Actions (suggested or required)	Accountable
Rib Mountain, Schofield Stormwater Code	Aquatic life, natural beauty, water quality	Developers, builders, everyone	Prevent erosion from construction sites, prevent illicit discharge and connection; comply with MS4 permit (WPDES)	Rib Mountain, DNR
Rib Mountain Chapter 17 – Zoning Ordinance	Floodplains, groundwater quality and quantity, natural beauty, shorelands, surface waters, wetlands	Developers, builders, everyone, property owners	Codifies where/what type of development can occur	Rib Mountain, Marathon County
Rib Mountain Comprehensive Plan	Shorelands, water quality, wetlands, protection from invasives, woodlands	Developers, builders, property owners, Big Rib River riparian owners, woodland owners	Rib Mountain will work with Marathon County and DNR to enforce regulations, provide information to residents	Rib Mountain, DNR, Marathon County
Rib Mountain Wellhead Recharge Ordinance	Groundwater quality	Anyone engaging in actions potentially contaminating groundwater that is a source for municipal wells	Codifies forbidden activities in the wellhead recharge zone.	Rib Mountain
Rothschild 535-16 – Wastewater Discharge	Water quality, health and safety	Everyone	Discharges into sanitary sewers, wastewater discharges (types and amounts of pollutants)	Rothschild
Rothschild Comprehensive Plan	Wetlands, floodplain, natural character, threatened and endangered species	Developers, builders, Rothschild residents	Work with Marathon County and DNR to enforce regulations, provide information to property owners	Rothschild, Marathon County, DNR
Schofield Chapter 45 – Shoreland – Wetland Zoning	Water quality, wildlife habitat,	Developers, builders, property owners	Establishes wetland district that codifies the conditions	Schofield

	natural beauty, wetlands		under which new, modified, and replaced structures can be built in a wetland district	
Schofield Comprehensive Plan	Floodplains, wetlands, shorelands	Developers, builders, property owners	Work with Marathon County and DNR to protect wetlands and shorelines; update floodplain maps, provide information to residents, work with Marathon County and DNR to enforce regulations and protect wetlands from development, distribute information about wetland protection	Schofield, WDNR, Marathon County
Town of Wausau Comprehensive Plan	Water quantity, wetlands, shorelands, well water safety, surface water, woodlands, wildlife, farmland protection,	Farmers, property owners, shoreland owners, residents	Work with Marathon County and DNR to protect wetlands, provide information to residents, serve as liaison among parties for MFL/woodland programs, amend zoning ordinances to protect surface water and control soil erosion, help farmers develop markets, consider purchase of development rights program	Town of Wausau, Marathon County, DNR

Interviews

Eight people participated in interviews prior to June, 2014. Additional interviews were conducted in summer 2014 that are not yet included in this report. This section reports interviewee perceptions of the effectiveness of policies and programs to control nonpoint source pollution, to whom or what the interviewee sees themselves as accountable, factors negatively or positively impacting water quality, the types of resources those responsible for implementing policies and programs need and use, and an assessment of stakeholder power.

Effectiveness of Policies and Programs

The agricultural performance standards (NR 151) were noted as having the potential to positively impact Lake Wausau water quality, but, as one individual stated, they don't, "...go far enough to protect water quality", due to producers not needing to change practices unless cost-share funding is available.

The municipal separate storm sewer system (MS4) program was also seen as having positive impact on water quality. In addition, the North Central Wisconsin Stormwater Coalition was seen by several participants as being positive asset and driver of change in the Lake Wausau watershed.

One individual discussed the Water Resources Act and Comprehensive Planning law as impacting water quality. S/he said that, "If your goal is water quality protection, both of them are insufficient. They take steps in the right direction, but they certainly aren't strong enough because they're a political compromise. So they're not strong enough to protect water quality."

Cooperation and Institutional Change

Cooperation among state agencies was noted by several interviewees as being necessary for improving Lake Wausau. One participant noted that a disconnect exists between the Department of Natural Resources – which is charged with improving water quality - and the Department of Agriculture, Trade, and Consumer Protection - which also oversees many landscape level production activities that impact water quality. The participant noted, "So you've got the DNR here trying to enforce this and make the water quality better. And you've got the Department of Agriculture over here saying, 'well, I don't think so because that's going to put a burden on our guys [farmers].'" Another individual noted that:

...the Department of Ag has their hand in the environmental regulation, which seems to me that that should really be the Department of Natural Resources that regulates that industry. It used to be that the DNR had the funding and that was eventually taken away from the DNR and given to the Department of Ag, so that's where this requirement to provide cost sharing before you can make anybody do something comes into play for farmers. I don't understand why someone in the U.S. should have to pay for poor management or because they did not take the steps needed to look to the future, for example, to put in a manure storage facility to get them through the winter months without spreading it on snow-covered ground. So I think just put the DNR back in charge of regulating or protecting water quality.

Resources

Having the resources necessary to develop, implement, and enforce policies and plans was described as important by all participants. Having appropriate staff and funding for implementation and monitoring

were noted as being barriers to protecting water quality. One individual noted an issue with the MS4 permits is that, “Yeah, it’s a great idea. But to turn around and put the burden on the incorporated entities and not everyone that may have an impact on the river, I don’t think it’s fair.”

One person noted with regard to monitoring that, “They’re talking about making the treatment plants reduce their phosphorus...and it’s supposed to cost millions of dollars. And we haven’t even hardly touched on some of the agricultural runoff things so I think the monitoring is important.”

Funding for municipal and agricultural practices - in addition to activities such as weed removal - to improve water quality was repeatedly mentioned as being vital and currently insufficient. One person noted, “The DNR, they set the standards that we have to follow and other than quantity, we are typically not more restrictive. We are not because it boils down to money. It costs a lot of money to be in compliance with DNR rules and regulations, so we do our best to be in compliance.”

Stakeholder Power

Interviewees were asked to assess the level of power stakeholders had with regard to water quality in Lake Wausau. “The people who enjoy the lake”, were noted as not being involved in decision making. Wastewater dischargers (specifically the Municipal Environmental Group) was seen as having some degree of power to make policy changes that could impact Lake Wausau water quality. One person said that “tree huggers” have unfairly influenced policy by attending meetings and being a vocal minority with regard to stormwater and runoff. Agribusiness, CAFOs, and farmers were repeatedly mentioned as having too much power and influence over actions that impact water quality. One person noted, “The involvement of big ag in this area, they are structured in a way that can prevent a lot of water quality improvement.” Another said, “Farmers have, as I understand it, much more impact on the waters of the state than municipalities, and more control. But the farmers are untouchable, as I understand it.” Several participants noted it isn’t the individual farmers, but the agricultural lobby “down in Madison” and “whoever is representing the farmer at the state level” that have the power and influence. Another said, “I think the farming organizations have too much lobbying power down in Madison and at the national level...Dairy Business Association, Wisconsin Corn Growers, and all those different organizations, I think they have too much power.”

Factors Facilitating or Posing Barriers to Improved Water Quality

Aside from what is perceived as unfair practices with regard to agricultural operations, other barriers to improving Lake Wausau ranged from the ecological ramifications of changing weather patterns to the disconnection among the various users of the Wisconsin River. One person noted that, “the biggest problem is that we people in Lake Wausau tend to look at the weeds and the algae growth in terms of, ‘here’s our local problem,’” instead of seeing the various land uses in the Wisconsin River watershed as impacting the Lake.

Factors noted as positively impacting water quality included education, the positive economic impact that recreational events can have on Lake Wausau and the surrounding communities, pride in the City of Wausau, and the support of County Board members. The technical skills that those have been working in the area long-term were seen as having the potential to help improve water quality, as was the

increase in monitoring as a result of the Wisconsin River TMDL. Several participants noted that grazing, organic farming, “minimalist agriculture,” and innovative practices on smaller farms were also improving water quality.

One person noted that:

Well you've got a fragmented approach. You've got different regulations in different municipalities and you've got different thought processes relative to the value and the role of that governmental unit in protecting quality and I think that the hope of the lake association was there would be some opportunities to approach it holistically with all the governmental units.

This comment speaks to the theme that ran through many of the interviews regarding the opportunity that additional cooperation among the various stakeholders of Lake Wausau could provide for improving it as a community resource, but that disconnection among stakeholders and governance hinders this opportunity.

Mail Survey

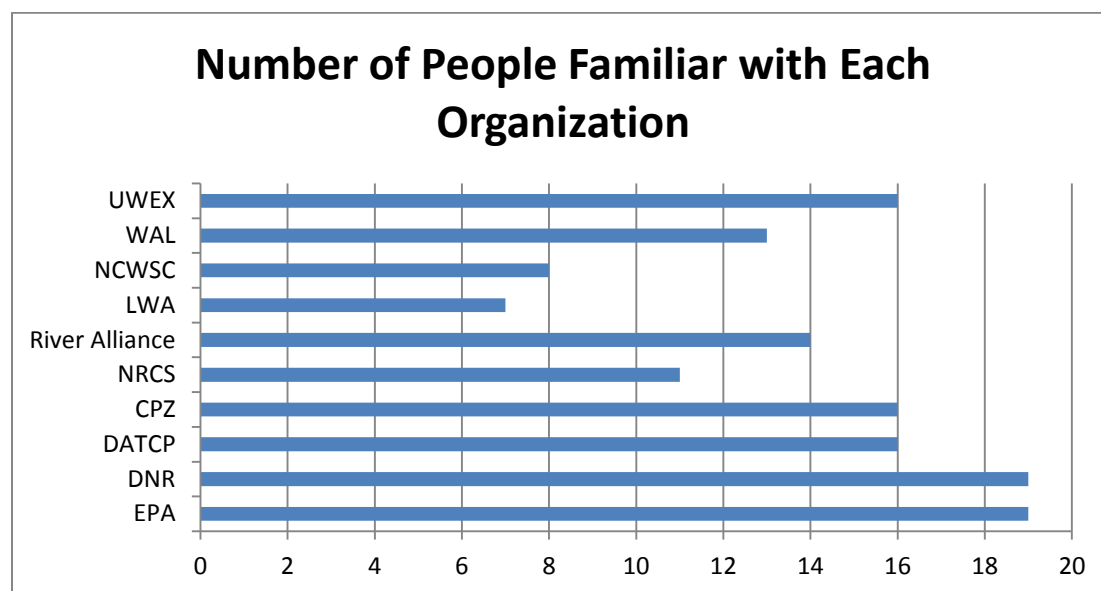
Respondents were asked how important and how familiar they were with five policies important to Lake Wausau – NR 40, NR 115, NR 151, Community Planning and Zoning Regulations, and the Clean Water Act. The number of respondents to each question ranged from 368 to 373. Most people indicated that they were not very familiar with the policies, but they perceived the policies as being important or very important for improving water quality (Table 6.).

Table 6.

	Very Unfamiliar	Very Unimportant	Unfamiliar	Unimportant	Neutral (familiarity)	Neutral (importance)	Familiar	Important	Very Familiar	Very Important	Don't know (familiarity)	Don't know (importance)
NR 115 - a.k.a. Shoreland Zoning	15%	2.20%	20.40%	1.90%	8.60%	9.50%	23.60%	30.20%	4%	17.10%	28.40%	39.10%
NR 151 a.k.a. Phosphorus Rule	14.50%	2.20%	24.10%	1.10%	9.90%	7.50%	20.10%	22.90%	4.80%	24.50%	26.50%	40.90%
NR 40 a.k.a. Invasive Species Rule	5.90%	1.60%	12.10%	0.50%	9.10%	3.80%	38.20%	27.50%	15.30%	42.10%	19.40%	24.50%
U.S. Clean Water Act	5.50%	1.40%	10.11%	1.10%	15.60%	8.40%	39.90%	26.00%	12.00%	41.20%	16.90%	22%
Your Community Planning and Zoning Regulations	16.80%	1.60%	20.50%	3.00%	18.30%	11.60%	22.10%	27.00%	5.10%	20.30%	23.20%	36.50%

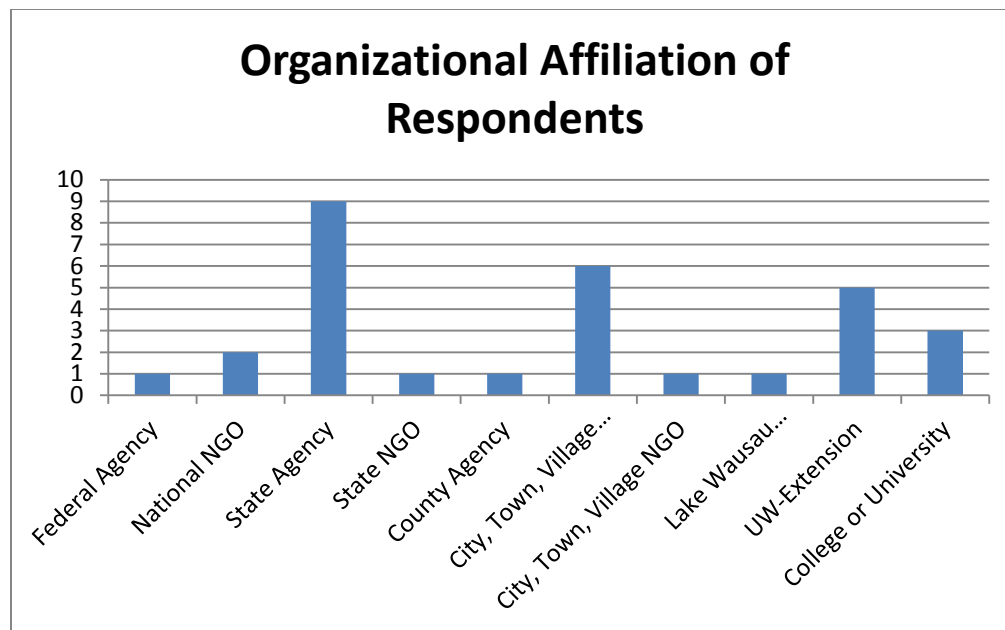
Web Survey

Nineteen individuals responded to the web survey. For each organization, respondents were initially asked if they were familiar with the organization. If they answered no, they were piped to the next organization. Thus, the total number of individuals answering any given question may not always add up to 19 (Table xx).



The results will be presented so that comparisons can be made across agencies/organizations for each question, rather than all of the questions about a specific organization at once.

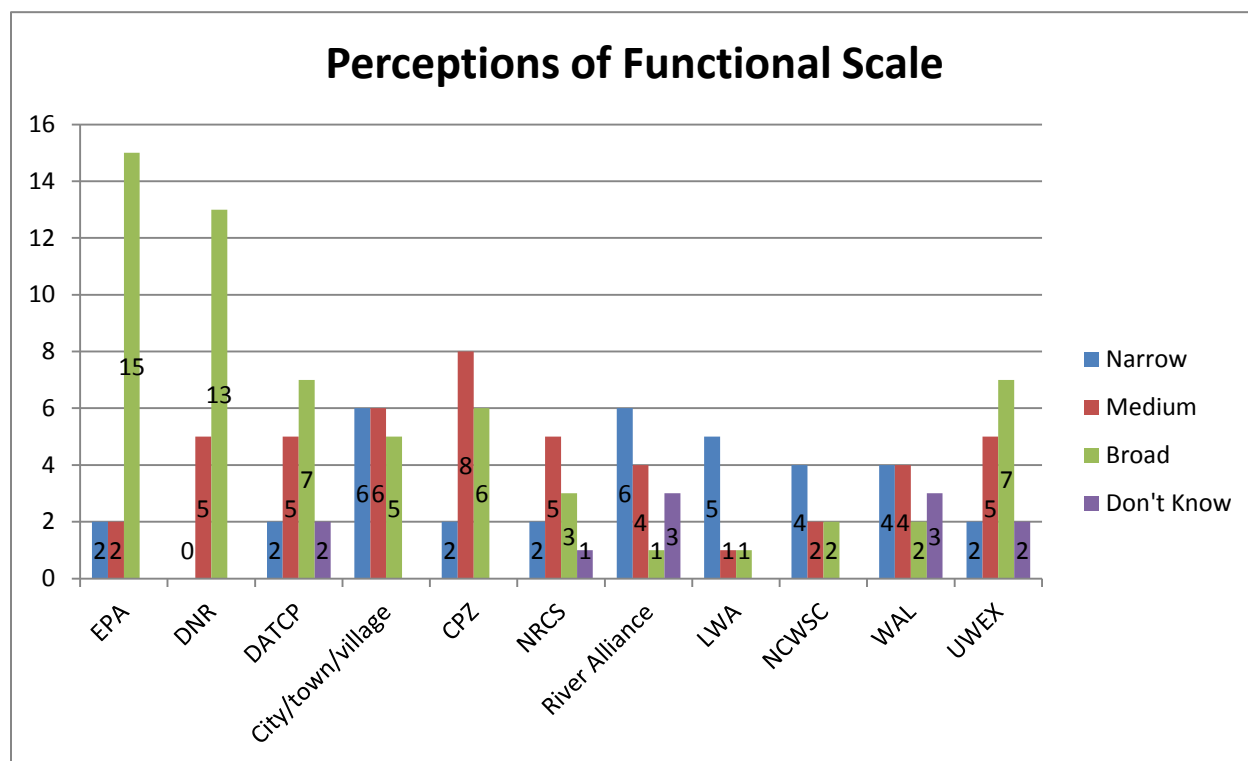
Most respondents were from state agencies (n=9), followed by City, Town, or Village government (n=6, Figure 1).



Functional Scale of Organizations

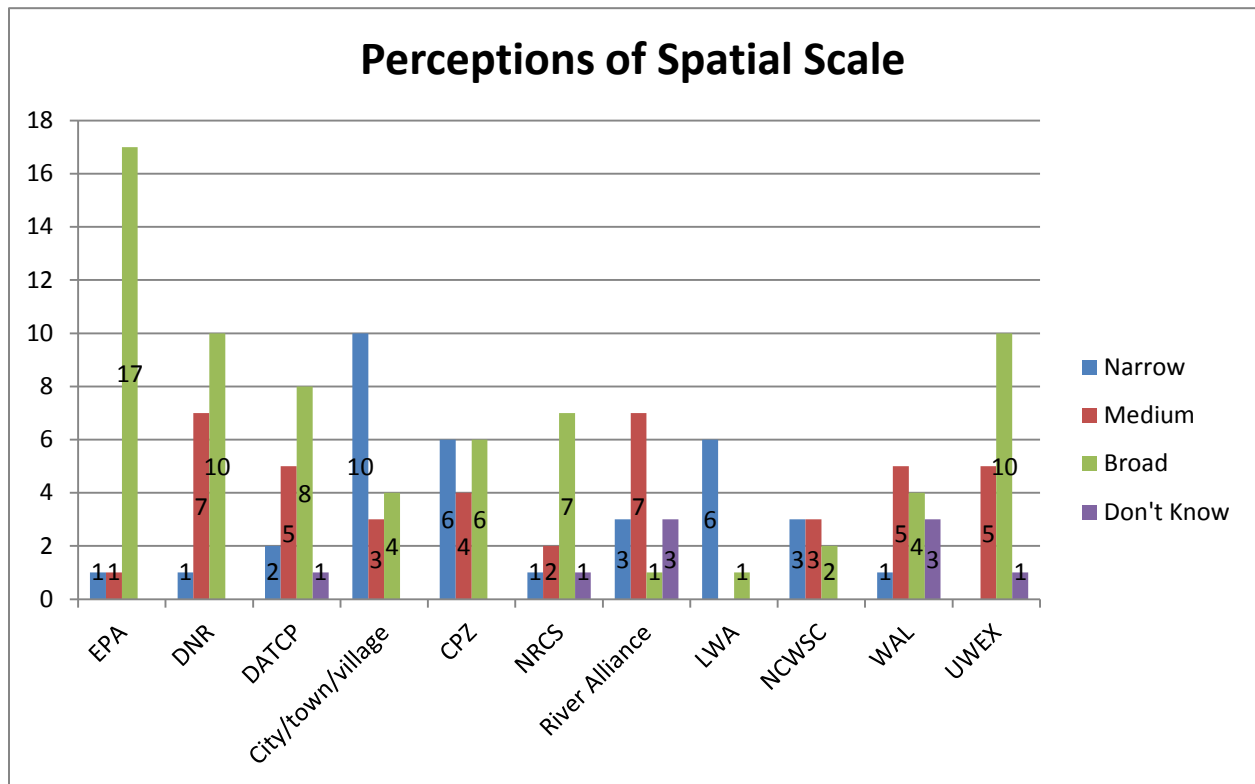
Respondents perceived organizations differently in terms of the variety of issues the organization addresses. Clearly, most people felt that the EPA and DNR had broad functional scales (n=15, n=13, respectively). Opinions were mixed with regard to DATCP, where two people felt they had narrow, five medium, and seven broad functional scales, and two didn't know. Similarly, with regard to city/town/village functional scale, both narrow and medium scale received six responses, and broad five. People most often perceived CPZ as having medium or broad scale, the NRCS as having medium scale, and the River Alliance as narrow. Of the seven people indicating they are familiar with the LWA, five perceived they had narrow functional scale. Four people indicated the NCWSC had narrow scale, two medium, and two broad. The WAL were rated as having narrow (n=4), medium (n=4), and broad (n=2) scale, and 3 people didn't know. University of Wisconsin Extension was rated by five people as having medium and seven people broad functional scale, while two people each responded broad scale and don't know.

These are important results, as it may be that people are not clear with regard to the functions of several of the organizations, most notably DATCP, WAL, NCWSC, and UWEX.



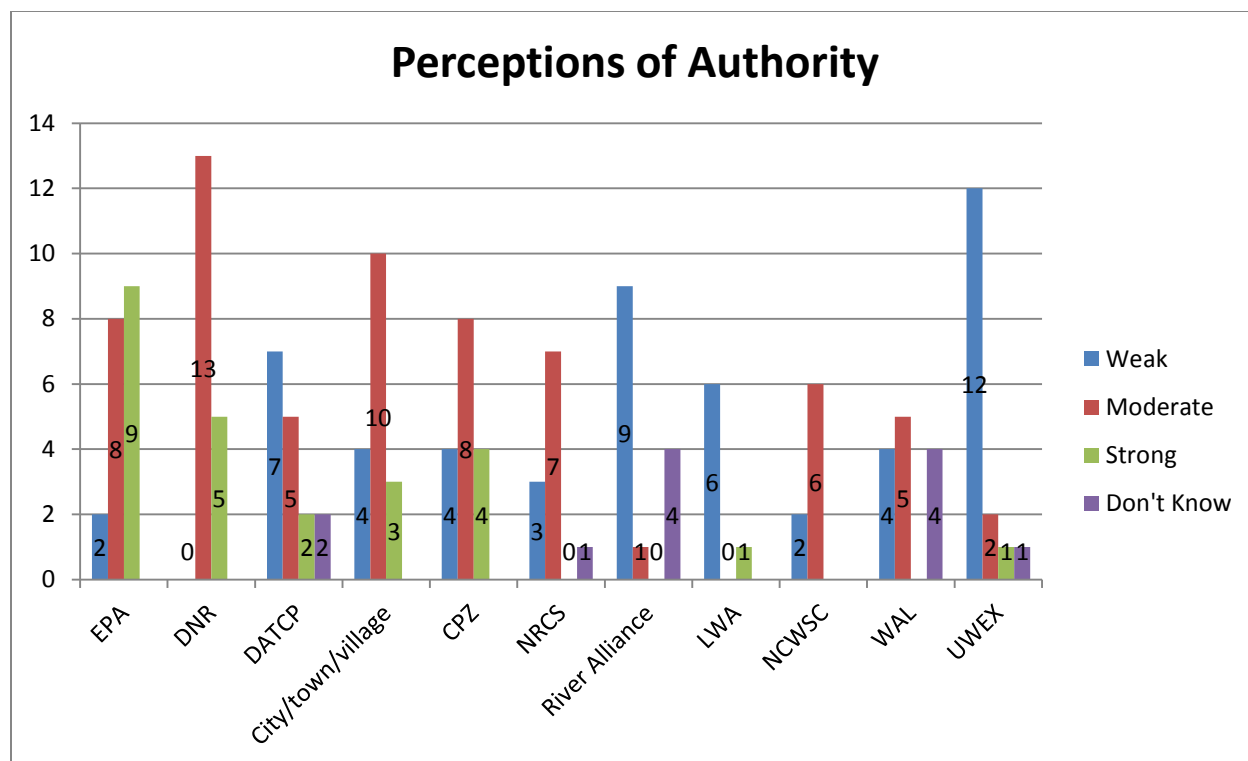
Spatial Scale

Respondents seemed somewhat more familiar with the spatial scales addressed by the organizations. Again, EPA was ranked as having broad scale (n=17) by most respondents to the question, but DNR was ranked as having both medium (n=7) and broad (n=10) spatial scale. This, however, may be due to interpretation of spatial scale: if people were thinking national as broad spatial scale, then they may have seen state level as medium. This possibility should be kept in mind when drawing conclusions from this set of responses. Clearly, city/town/village was seen as having narrow scale by most respondents to the question (n=10), while CPZ had mixed results with six people responding they had narrow, four medium, and six broad spatial scales. Seven of the 14 respondents indicated River Alliance has medium scale, with three people answering narrow and don't know each. The LWA was ranked by six of the seven people responding that it has narrow spatial scale, and one person perceived they had broad scale. The NCWSC also had an interesting dispersion, with three each answering narrow and medium, and two broad. The WAL was rated as having narrow (n=1), medium (n=5) and broad (n=4) spatial scales, with three people indicating don't know. Ten people answered UWEX has broad scale, followed by medium (n=5) and don't know (n=1).



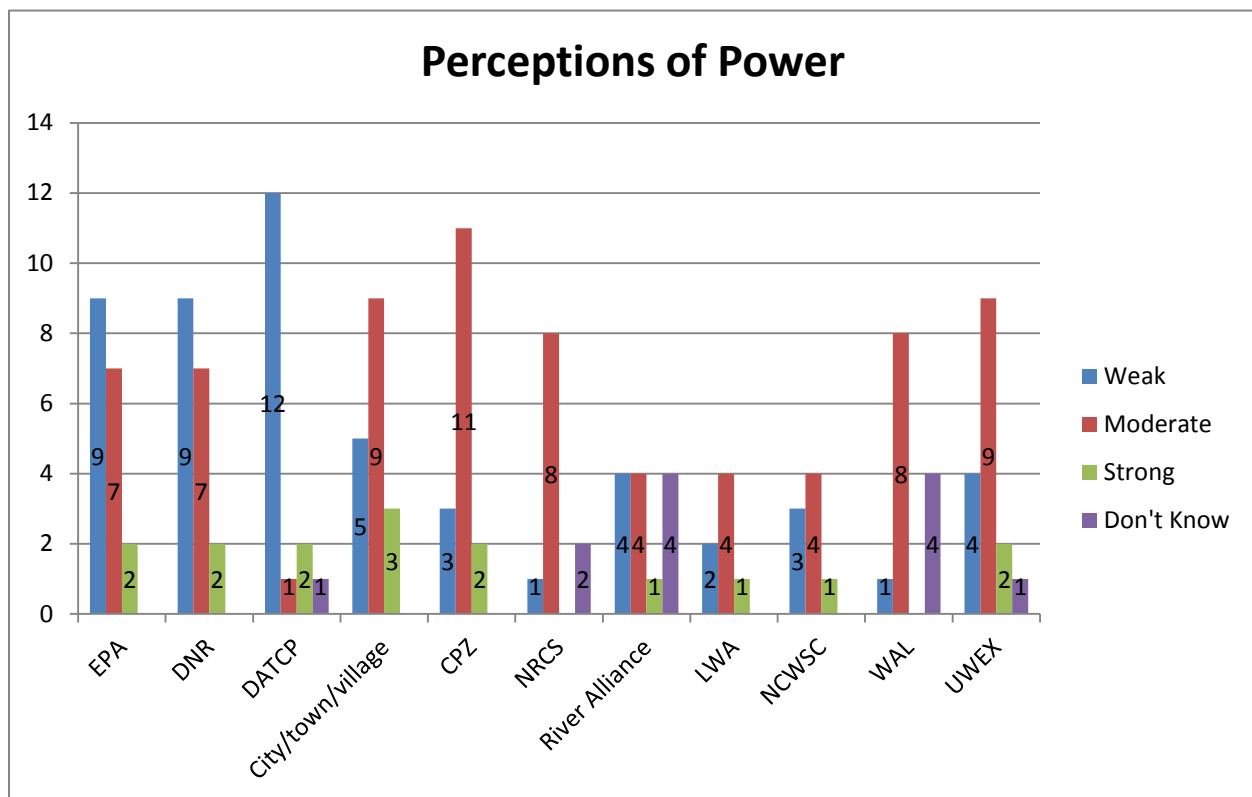
Perceptions of Authority

For most organizations, there was no one clear answer given by respondents with regard to the authority organizations have to make decisions impacting water quality, though there are several notable exceptions. Extension, the LWA, and River Alliance were ranked by most as having weak authority. The Department of Natural Resources, CPZ, city/town/village, WAL, NRCS, and NCWSC were ranked most often as having moderate authority. Nine people ranked the EPA as having strong authority (seven ranked them as moderate). Seven people ranked DATCP as having weak, four moderate, and two strong authority.



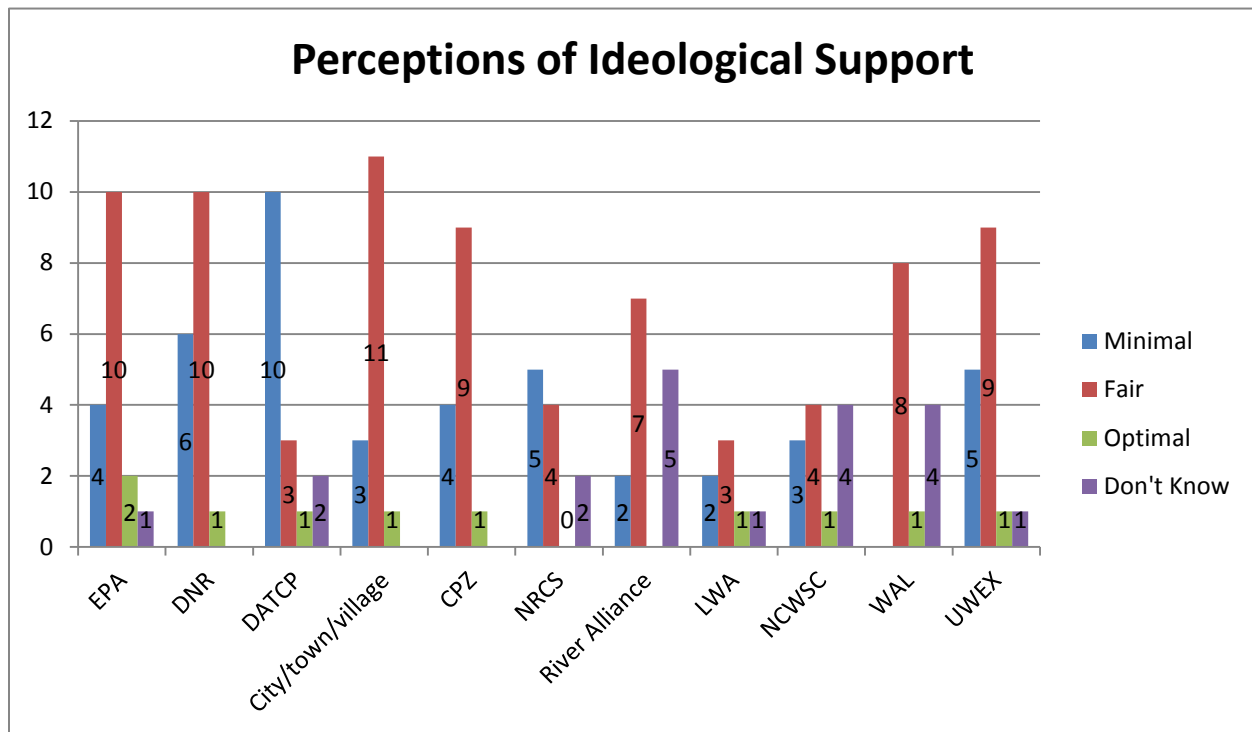
Perceptions of Power to Change Behavior

When asked the power each organization had to change people's behavior to improve water quality, the results indicate that no organization is overwhelmingly viewed as having this power. Most were ranked as having weak or moderate power, though DATCP was ranked by 12 of the 15 people responding as having weak power to change behavior. The organizations with more people perceiving them as having moderate power than weak power were CPZ (n=11, NRCS (n=8), River Alliance (n=4), city/town/village (n=9), LWA (n=4), NCWSC (n=4) WAL (n=8) and UWEX (n=9).



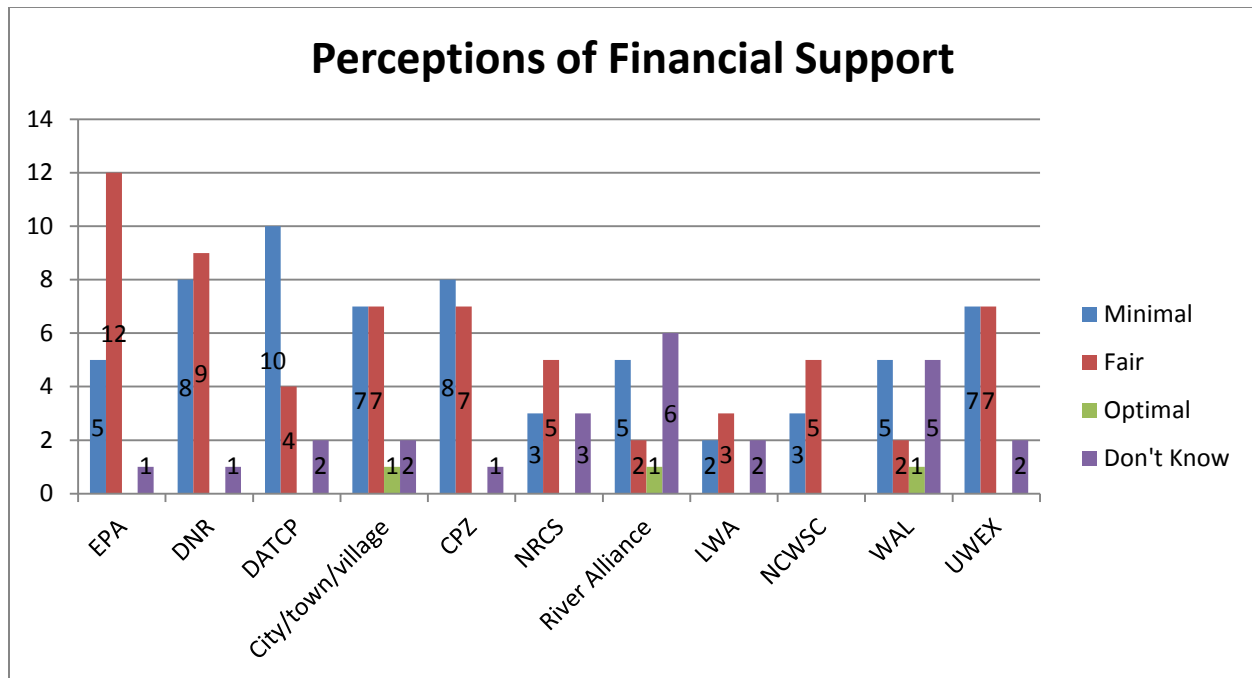
Perceptions of Ideological Support

None of the organizations was most often rated as having optimal ideological support. Only one organization, DATCP, was rated most often as having minimal ideological support (n=10). This is very interesting, given the power DATCP was perceived to hold by those participating in interviews. Most organizations were perceived as having fair ideological support, though the proportion of fair to minimal support varied with each organization. The NCWSC and WAL also had several people indicate they did not know the status of ideological support.



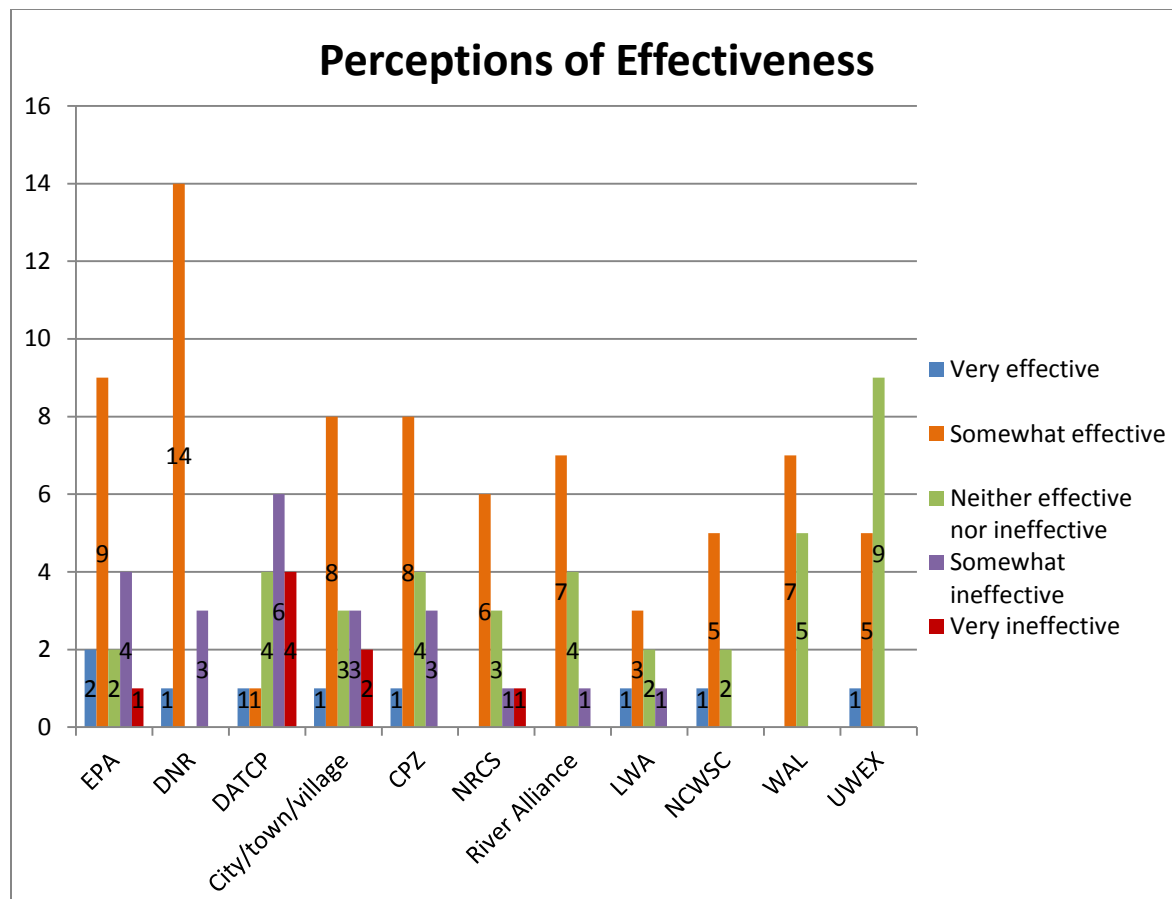
Perceptions of Financial Support

Respondents overwhelmingly avoided answering that any organization had optimal financial support. Again, only DATCP was ranked as having minimal support most often (n=10), while CPZ was ranked as both minimal (n=8) and fair (n=7). All other organizations were rated as having fair financial support, though for most minimal was rated only slightly lower. Most people responding to the question did not know the financial support associated with River Alliance and WAL.



Perceptions of Effectiveness

When asked how effective each organization is with regard to improving water quality, most organizations were ranked most often as being somewhat effective, though UWEX was ranked as being neither effective nor ineffective, and DATCP was most often ranked as being somewhat ineffective followed closely by very ineffective.



Synthesis and Recommendations

Transparency

Water governance for Lake Wausau (and in general) is not very transparent. There are a variety of administrative rules, local and county ordinances, and plans that potentially impact Lake Wausau. Very few of these plans and policies were mentioned by interviewees as being important to their work.

While those who are responsible for the implementation of specific programs and policies may know the goals of a policy and to whom it applies, it is difficult to understand who is ultimately responsible for achieving outcomes and how policies are inter-related. In addition, there is some disagreement about the functional and spatial scales of the agencies and organizations forming and implementing policies

impacting water quality. Of the policies included on the mail survey of residents, people did not consider themselves knowledgeable about the policies, but perceived them as important, once again indicating that water governance is not very transparent. It is hoped that this document provides some insight as to the state, county, and local policies and plans that play a role in the governance of Lake Wausau.

Effectiveness

In general, policies and programs of the agencies and organizations impacting Lake Wausau were not seen as being very effective at improving water quality, though many were seen as being somewhat effective. The Department of Agriculture, Trade, and Consumer Protection was only viewed by two respondents (n=16) as effective at all. These results indicate that, of people responsible for developing or implementing policies impacting water quality in Wisconsin who participated in this non-representative survey, there is some disagreement about whether our policies and programs, regardless of what agency is responsible for them, are positively impacting water quality. Taken with the perceptions individuals had about the agencies' ability to impact behavior regarding water quality, the institutional structure for water governance is seen, at most, as only mildly effective.

Two policies were mentioned as being effective by interviewees – the MS4 permitting program (NR 216) and agricultural performance standards (NR 151, ATP 50). One participant noted that the performance standard “doesn’t go far enough to protect water quality... it gets us a little bit closer, but not quite where we need to be.” With regard to MS4 permits, an interview stated that a goal was to educate people about stormwater discharging directly to the river, and that, “a lot of people for some reason don’t think that happened.” Both statements indicate that even policies viewed as effective have issues with implementation and outcome achievement.

Equity

Unreasonable burdens are perceived by several interviewees as being placed on municipalities to reduce phosphorus contributions rather than other land uses that are negatively impacting water quality, most notably agriculture. In addition, some stakeholders (the “average joe” as one participant put it) are not being involved in the decision making processes around water quality. It is likely that many people do not understand these processes or are even aware they occur, once again speaking to the lack of transparency in water governance in general.

Accountability

Individuals involved in implementing state and local policies saw themselves as accountable both to agencies hierarchically above them (like DNR) and to local citizens. One person said that, “I am most accountable to the residents of the county. They tell their representatives what they would like to see, issues they have, and that’s passed down to me. If I’m not doing my job they go to their representatives and I find out about it.” In terms of who is being held accountable for nonpoint source pollution that can impact Lake Wausau, the policies and plans are mostly aimed toward agriculture and development. Residents who are not agricultural producers are largely not addressed in regulatory policy. Even the MS4 permits, regulating municipal stormwater runoff, are issued to the local government, who are then responsible for ensuring that individuals are not discharging to the system. In spite of this, agri-business and those who represent them (“big ag”, lobbyists, Dairy Business Association) were viewed as having

too much influence and power with regard to water policy. One interviewee stated that the DNR needs to be “back in charge of regulating or protecting water quality” instead of DATCP. Interestingly, DATCAP, more than any other organization, was viewed as having minimal support financially or ideologically and weak authority to make decisions and impact behavior regarding water quality. Again, this speaks to the lack of transparency and understandability of the policy making process and organizations involved.

Another component of accountability is that those who are responsible for meeting goals have the resources necessary to do so. Several interviewees noted that this is not the case. Staff shortages, lack of resource commitment for implementation and monitoring, and funding being removed from programs (DNR programs) and funneled toward others were all mentioned.

Scale

Scale was the most difficult principle to assess, as scale fluctuates depending on the resource in question. It was noted that some people see the issue as weeds in Lake Wausau, which indicates that the scale at which people view impacts on the lake may not be appropriate. In addition, the greatest number of regulations that require action and enforcement are at the state, rather than local, level. While a great number of policies and plans exist at the local level, they are mainly voluntary in nature. Ideally, the state policies are both specific and broad enough to protect water quality and be applied locally, respectively. However, perceptions of interview participants did not see most of the policies as being effective.

Recommendations

Institutional Design

Currently, polluted runoff from urbanized and agricultural areas have separate systems of administrative rules, county and local ordinances and plans, and entities responsible for attaining water quality goals. Effective institutional design is one of the most important tools we have to improve water quality. Approaches to managing stormwater in nearby areas have included creating a stormwater utility fee to engage in management actions that reduce nutrient and other pollutant loading from stormwater. It would be useful for the Lake Wausau project partners to investigate the potential of creating a watershed utility fee or fees that would contribute toward supporting changes in land management practices. As funding was seen as one of the main barriers to successfully improving water quality in Lake Wausau, a steady source of money with institutional support would be significant. A watershed utility fee that uses a land parcel size and use metric for determining each property owner’s fee could be developed and be an equitable means of funding the protection of water quality.

Partners and Cooperation

Clearly, the Lake Wausau management strategies will be more successful if ties are formed with all of the stakeholder groups that impact the lake, including the farmers who may not be able to enjoy the resource at all or to the extent to which other residents in the watershed are able.

Many farmers do not have the time to enjoy the Lake’s resources during the summer months, when farming takes up the majority of their time. As many of those interviewed perceived production activities as negatively impacting water quality in Lake Wausau, inviting farmers to have a role in

managing the lake and enjoying its benefits could provide opportunities for all Lake stakeholders to meet and interact with each other, thereby increasing the probability of cooperation. The Lake Wausau Association and other current project partners could host a Farmer Appreciation Dinner or other event held at a Lake Wausau park or restaurant. Expanding planning activities beyond the current partners to other organizations, including agricultural organizations, would also be useful.

The North Central Wisconsin Stormwater Coalition was mentioned several times as being an effective organization for reducing runoff from urban sources. Marathon County, Rib Mountain, Rothschild, Schofield, and the city of Wausau each have municipal separate storm sewer systems (MS4) and stormwater permits from the DNR. The NCWSC is a partnership among these and other local governments to collaboratively fulfill the education and outreach requirements of their permits.

Of the eleven agencies and organizations identified in interviews and examined through the web survey, many were seen as being somewhat effective in improving water quality and fair ideological support. It would be useful to understand which organizations Lake Wausau residents view as most effective and which they support. However, a good starting point would be to include representatives from some of the organizations in planning meetings in order for relationships to be built among stakeholder groups. The Department of Agriculture, Trade, and Consumer Protection was not viewed positively in this small web survey, but it is possible that they are viewed positively by agricultural producers. Conversations with farmers by current project partners can aid in understanding the best channels for building support in the farming community.

Local Policies and Plans

Most local plans were voluntary in nature, and did not require the actions they prescribed. With the exceptions of ordinances and county code, this was true across plans. In the absence of regulatory structures governing individual behaviors, improvement in water quality will be based on voluntary changes in behavior. Through the interviews and content analysis, it is clear that the tool being relied upon most often in the Lake Wausau watershed for changing behavior is education, including methods such as newsletters, brochures, utility bill inserts, and websites. Unfortunately, these methods are largely unsuccessful in changing behaviors, and thus the Lake Wausau management plan will be most successful if trusted information sources and messages that resonate with the populations most impacting water quality are used. Research in Eastern Marathon County revealed that neighbors and peers were the most trusted source of information, and that result is supported by much of the research conducted in Wisconsin. Plans should focus on building these networks, using social marketing strategies such as norm building and commitment, and extending influence through social networks to change behavior.