

Partnering for Shoreline Protection

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Partnering for Shoreline Protection in Wisconsin's Burnett County Lakes: What Roles for Lake Associations?

Background

Burnett County, located in northwest Wisconsin within a few hours of the Twin-Cities metropolitan region, is home to over 500 lakes (see Figure 1).

Heavy development pressures and a strong local identity with the lakes have fueled interest in protecting their health and aesthetic appeal. The county enjoys a long history of partnerships for lake management that includes county agencies, local organizations and lake associations, Wisconsin Department of Natural Resources, University of Wisconsin-Extension, and others. In recent years, partners have had a specific interest in getting lakeshore property owners to protect and restore the natural vegetation along their shorelines.

In addition to hosting meetings and a variety of educational offerings, Burnett County began an innovative incentive program that provides lakeshore property owners an annual tax credit (\$250 the first year and \$50 each year after) for maintaining a 35-foot strip of natural vegetation along the shoreline. This effort, the Burnett County Natural Shorelines Program, allows property owners to keep some of the shoreline open for lake

access and a viewing corridor, and it offers additional technical and financial assistance for restoring degraded areas. Although the incentive is relatively small compared to prices for lakeshore homes and lots, more than 500 people have enrolled in the program, protecting or restoring more than 40 miles (or roughly 4 percent) of Burnett County shoreline.

While the program has been a helpful tool, local partners recognize

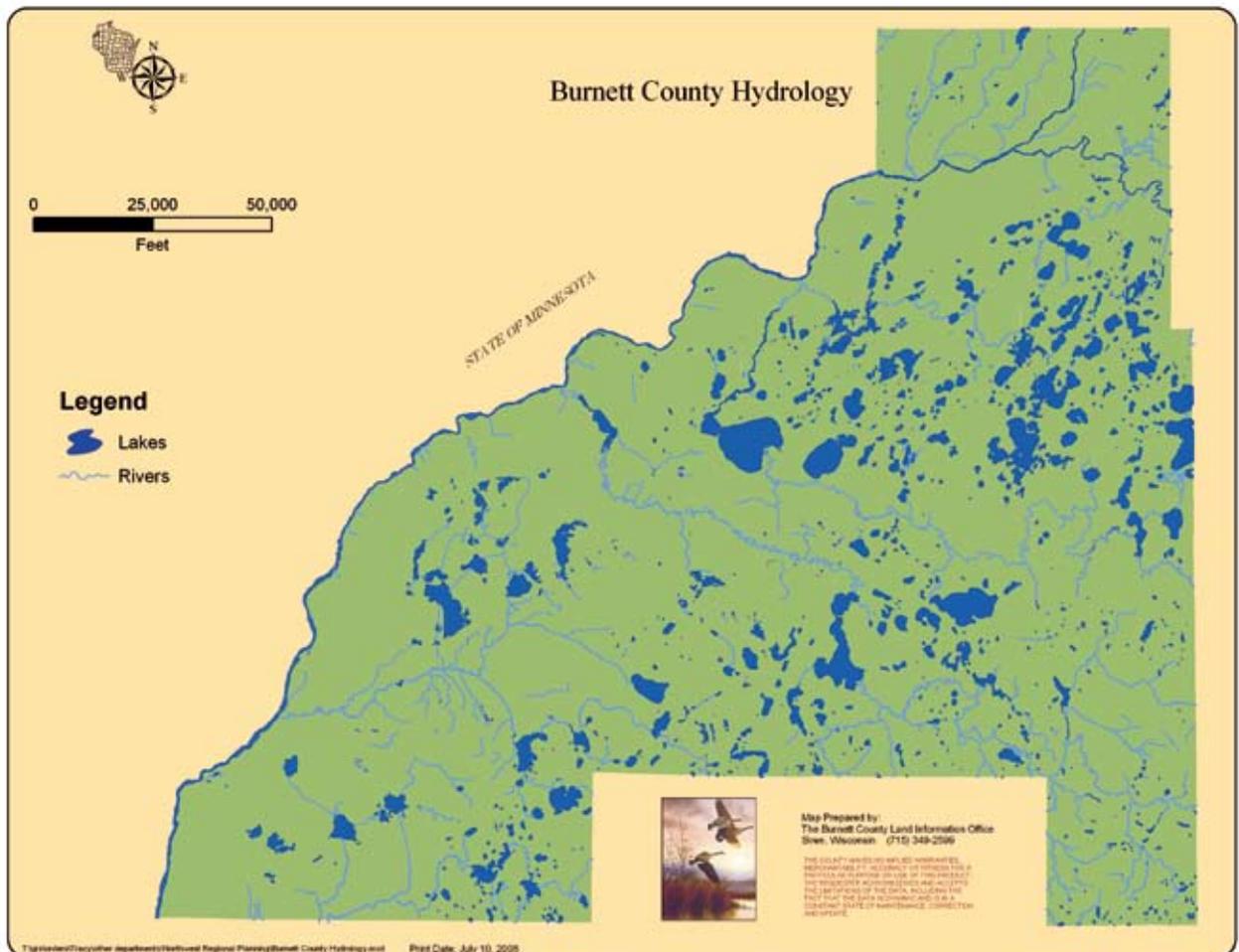


Figure 1. Map of Lakes in Burnett County, Wisconsin. Photo: Burnett County Land Information Office.



Figure 2. New lakeshore development that changes natural shoreline. Photo: John Haack.



Figure 3. A lakeshore home with lake access and natural shoreline. Photo: Mike Kornmann.

the need for more approaches and expanded partnerships. One idea was to focus energies on creating more lake associations. As they have worked together through the years, partners active in Burnett County lake management shared a general assumption that lakeshore owners on lakes with associations were more involved in lake

management and shoreland management than those in lakes without associations. Lake associations are incorporated non-governmental organizations, generally comprised of a voluntary membership base of lake property owners. Their activities can vary from membership meetings and social events to initiatives addressing water safety, zoning, lake

health, and more. With 40 active lake associations in the county, partners are interested in better understanding their roles. Are lake associations addressing the outreach and technical needs of their lakes? Should conservation partners be working with associations to build their organizational capacities? Should they keep working to create new ones?

A study conducted in winter 2005-2006 explored influences of lake associations on knowledge and actions of lakeshore property owners in order to shed light on potential roles for lake associations in shoreline protection and other lake management initiatives (Biedermann, Blasczyk, and Genkow 2006). The effort reflects a local recognition of the need to incorporate social data along with scientific data into the development of lake management programs. This article highlights the study of lake associations, and describes how focusing on the social dimensions of lake management helped shape additional projects and partner actions.

Use of Social Data

The study used a survey of lakeshore residents and interviews with lake association leaders to explore how lake associations influence awareness of conditions impacting lakes and the adoption of lake-related management practices. It compared property owners from lakes with and without associations on their awareness of lake-health issues, use of available information sources, and use of property-level management practices supporting lake health. It also compared lake association members and non-members on these same factors.

The study involved a sample of 11 lakes with associations and ten lakes without associations, all within Burnett County. Lakes were selected for similarities in size and type. The sample of lakes with associations included one small lake (less than 50 acres), seven medium lakes (50 to 249 acres), and three large lakes (250 or more acres). Ten lakes without associations were then randomly selected from a set of similar lakes to match those with associations, in terms of lake size and similar vulnerability to impacts from development. Factors influencing vulnerability included lake area, depth, lake type, watershed area,

housing density, and shoreline irregularity (for more information on vulnerability factors, Google™ “Burnett County Lake and River Classification Plan”). Seven medium and three large lakes without associations (no small) were randomly selected from their size category and with matched vulnerability.

Once the 21 lakes were identified, 30 to 36 residents per lake were randomly selected using information from tax rolls. Those selected for the study received a mailed survey that addressed six major topics: residential characteristics, property land management practices, lake conservation knowledge, opinions, information sources, and member evaluations of lake associations’ effectiveness. The total sample included 712 property owners on 21 lakes. The overall response rate was 69 percent (499 responses), and the responses per lake ranged from 56 to 81 percent. Fifty-three (53) percent of responses are from lakes with associations, and 47 percent are from lakes without associations. Responses were compared, first based on whether a respondent lived on a lake with an association, and second, for those on lakes with associations, based on whether or not respondents are members of the lake association. Analysis consisted primarily of cross-tabulations and the use of Pearson’s chi-square coefficients to assess relationships. Leaders of ten of the 11 lake associations were also interviewed.

Levels of knowledge and awareness. The study suggests that residents on lakes with associations and/or their members consistently reported higher knowledge levels on eight lake conservation topics compared to their counterparts. Table 1 identifies the conservation topics and statistically significant differences in reported levels of knowledge. The most marked differences in levels of knowledge were on managing *recreational lake use* and the *science of lakes*. Residents on lakes with associations and members in the corresponding lake associations are more knowledgeable on these two topics than their counterparts. Knowledge of *preserving the natural shoreline* significantly correlated only with lake association membership.

Residents on lakes with associations also express greater awareness of Burnett



Figure 4. A lakeshore home, hidden from view, with natural shoreline. Photo: Mike Kormmann.

County’s shoreline zoning ordinances. Forty-one (41) percent indicated “very aware” compared to 27 percent of those on lakes without an association. Members also show slightly greater awareness than non-members, although this is not a statistically significant difference.

Affiliation with lake associations is correlated with involvement in an activity to learn more about lake conservation. Forty-six (46) percent of residents on lakes with associations have done something in the last two years to learn more, compared with 19 percent of residents on lakes without associations. Likewise, 52 percent of members participated in some activity compared to 31 percent of non-members. Some activities listed by both groups include reading/research and online research. Residents on lakes with associations and their members also listed workshops and meetings and expert visits sponsored by lake associations.

Individual actions and behaviors.

The study found that lake association membership is less of a factor shaping the individual property management behaviors of residents. Residents were asked if they had altered the shoreland (area where land and water meet) in six possible ways since ownership, if any changes were made in the 35-foot shoreland zone, if methods were used for

filtering or retaining water from the house roof or property, and if they had a lawn and its care. What lake residents reported doing in these four areas proved to be weakly correlated with residing on lakes with or without associations, as well as membership in a lake association (Table 2).

Noticeably high percentages of all respondents indicated that they basically left the shoreline in the same condition as when they acquired the property. When alterations were made, each specific alteration was not necessarily correlated with lake association variables. Similarly, analysis showed that what residents did since owning their property to the land between the water’s edge and 35 feet toward the house (the shoreland buffer area) did not differ that much according to living on a lake with or without an association or membership in an association.

Researchers also studied factors that residents considered important when making decisions about caring for, improving or changing their land, home, or boathouse, piers, and docks. Ten factors (Table 3) were presented and respondents ranked the importance of each from “not important” to “very important.” Four were classified as *collective motivation* and six as *individual motivations*.

Table 1. Knowledge of Conservation Topics.

Conservation Topic	Significant difference for lakes with lake associations	Significant difference for lake association members
Aquatic invasive species	ns	+
Aquatic plants	+	ns
Preserving natural shoreline	ns	+
Controlling rain water runoff	+	ns
Studying the science of lakes	+	+
Ways to manage recreational use of lakes	+	+
Maintaining fish/wildlife habitats	ns	ns
Effects of fertilizers/pesticides on lakes	ns	ns

“+” or “-” means significant difference at $p < 0.05$ in favor (+) or against (-) associations; “ns” means differences are not statistically significant

Table 2. Shoreline Conditions Consistent with Conservation Recommendations.

Shoreline Conditions	Significant difference for lakes with lake associations	Significant difference for lake association members
Natural shoreline/native vegetation	ns	ns
Plants growing out of the water	ns	ns
Dead trees in or below the water	ns	-
Retaining wall	ns	ns
Rock/rip-rap	ns	ns
Manmade beach	-	ns

“+” or “-” means significant difference at $p < 0.05$ in favor (+) or against (-) associations; “ns” means differences are not statistically significant

Table 3. Motivations to Change Shoreline.

Motivational Issue	Significant difference for lakes with lake associations	Significant difference for lake association members
Effects on other lake properties	ns	+
Effects on water quality	ns	ns
Effects on fish and wildlife	ns	ns
Effects on natural areas	ns	+
Updating and modernizing	ns	ns
Improve safety/remove hazards	ns	ns
Improve appearance	ns	ns
Improve overall enjoyment	ns	+
Increase return on investment	ns	ns
Effects on property value	ns	ns

“+” or “-” means significant difference at $p < 0.05$ in favor (+) or against (-) associations; “ns” means differences are not statistically significant

Perspectives on lake associations.

Surveys and interviews with association leaders asked about perceptions of lake associations including their effectiveness. Members of associations (192 total) assessed the effectiveness or ineffectiveness of their associations.

Members are generally quite positive about lake associations and their benefits, and many offer very constructive suggestions and strategies to increase their association’s effectiveness. Between 70 to 80 percent rated their association as being effective on *promoting member*

communication, educating members on lake health, and *conducting projects* that protect the lake. More than 50 percent rated their associations effective at *acquisition of funds* for projects, *promoting lake policies*, and *expressing member views* during government meetings, and *encouraging conservation practices*.

Notably, more association members favored zoning ordinances to preserve shorelands (81 percent compared to 59 percent of non-members). More members view favorably organized efforts aimed at citizens to adopt lake healthy practices (87 percent compared to 67 percent on non-members). Agreement with the necessity of preserving shoreline vegetation for improved lake water also differed (74 percent of members agree, compared with 53 percent of non-members).

The study reinforces assumptions that lake associations fill an important niche for social networks and communication and awareness building. Both members and non-members responding to the survey have more positive perceptions of associations than negative. Both residents on lakes with and without associations point to the advantage of having a collective group already established when problems arise. Operational and political dimensions of volunteer organizations, such as a few doing most of the work and issues with leadership, were cited as challenges that lake associations face.

Insights and Further Steps

Data from the study have helped local partners better understand lakeshore property owners and provided insights on potential roles for lake associations as avenues for reaching them with lake management messages. The study affirmed that lake associations can be strong partners, but may also need capacity-building to initiate and sustain efforts. Roles highlighted in these associations are communication with lakeshore property owners and association members and hosts/conveners for meetings for interactions with educators and resource managers. The study also affirmed that the local “delivery system” for lake management is unique for each lake.

Assisting lake associations with organizational development may enhance

their abilities to strengthen networks and communicate effectively. It was not clear from the study that providing additional support and organizational capacity building for lake associations would affect their influence on behaviors of lakeshore property owners. While taking advantage of those social networks will continue to be a part of the strategy, partners also drew the conclusion that changing behaviors related to shoreland restoration and protection would require development of new complementary tools and approaches.

Along those lines, study results led local partners to pursue a new project testing a social marketing approach for shoreline protection and restoration. The project will focus on two Burnett County Lakes and will develop specific activities based on information about property owners' awareness of issues, behaviors, attitudes, and constraints (barriers) collected through focus groups and mailed surveys. To test the effectiveness of those activities, exhaustive pre- and post-project inventories of shoreline property

on the lakes will serve as measures of management behavior. Both lakes have associations that are partners in the efforts, and the broader set of county lake management partners is hoping the experience sheds yet more light on potential roles and involvement of lake associations.

References

Biedermann, J., J. Blasczyk and K. Genskow. 2006. A Study of lake Association Influence on Lakeshore Property Owners in Wisconsin's Burnett County. University of Wisconsin-Cooperative Extension, Environmental Resources Center. Madison, WI.

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