Survey results

*Survey results included in previous grant summary

*Results gathered from CBSM grant program included herein.

*Results gathered from the “Learn About Your Lakes” series grant program included herein.

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Burnett County University of Wisconsin Extension
7410 County Road K, #107
Siren, WI 54872-9043

Bulk Rate
U.S. POSTAGE
PAID
Siren, Wisconsin
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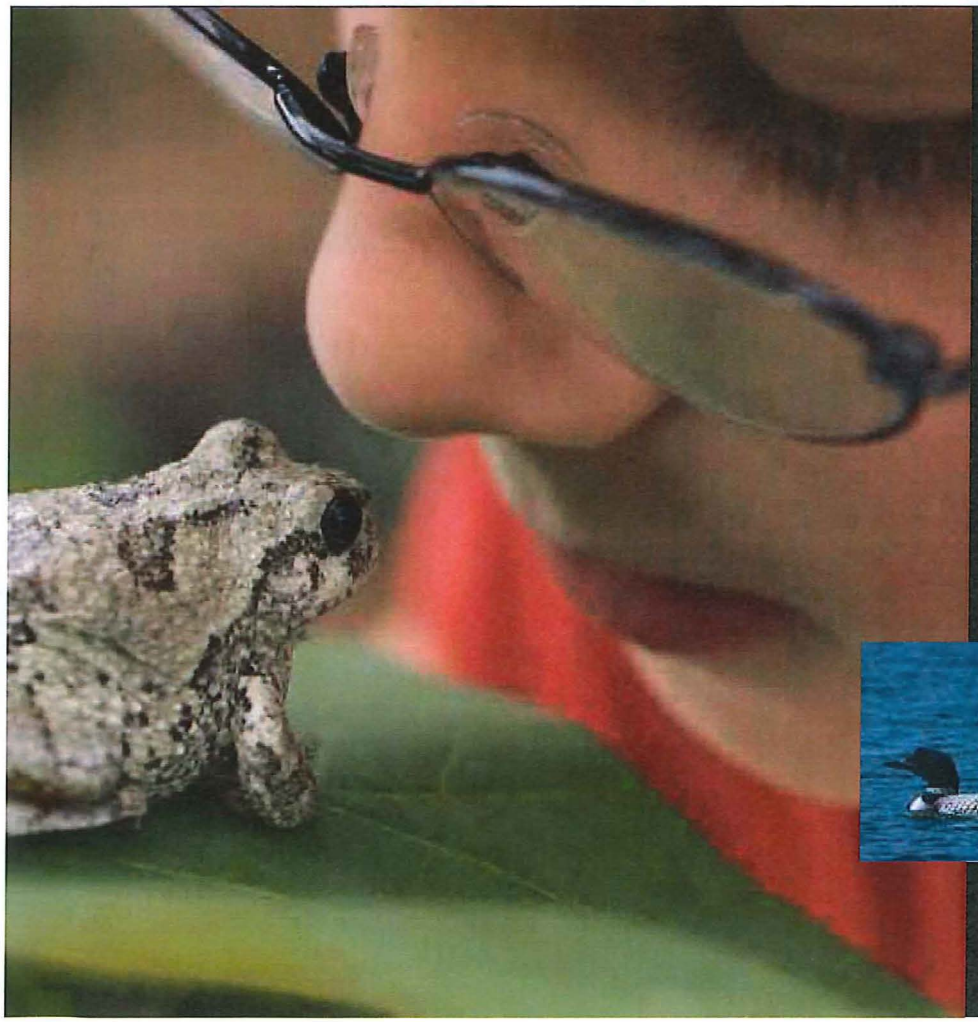


Learn About Your Lakes

Join us for one or more "FREE"
Learn About Your Lakes programs

Burnett County's Learn About Your Lakes Series

Join us for one or more "FREE" LEARN ABOUT YOUR LAKES programs. Please join us - no registration required.
Questions? - Call John Haack at UW Extension 715-635-7406

Bears, Beavers, Bunnies and Birds (with live critters)
Chris Cold, Wildlife Educator , Wisconsin DNR

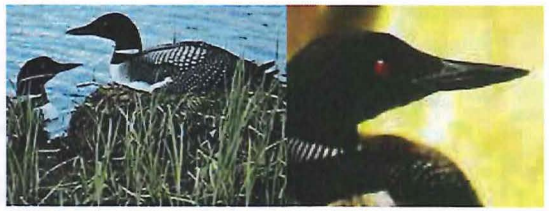
Learn about the fun, fascinating and occasionally nuisance animals that inhabit our lakes and shorelands. Meet live critters and get tips about caring for shoreland wildlife.

1. Swiss Town Hall – June 23rd, 9am -10am
2. Webb Lake Town Hall – June 23rd, 11 am- Noon
3. Scott Town Hall – July 21st, 9am-10am
4. Webster Community Center - July 21st, 11am - Noon

Landscaping for Widlife In & Around Your Lake
Crex Meadows, Wildlife Biologist, Wisconsin DNR

Learn tips about attracting birds and other wildlife to your lakeshore property. View and handle furs of some of our local shoreland visitors.

1. Swiss Town Hall - July 7th, 9am-10am
2. Webb Lake Town Hall - July 7th, 11am- Noon
3. Scott Town Hall - July 28th, 9am-10am
4. Webster Community Center - July 28th 11am-Noon



Loonie About Loons
Erica LeMoine, Northland College Loon Watch Coordinator

Learn about loon migration, nesting, calling and other fascinating loon facts. Get a free loon poster and learn what you can do to help loons.

1. Swiss Town Hall - June 16th, 9am-10am
2. Webb Lake Town Hall - June 16th , 11am - Noon
3. Scott Town Hall - July 14th, 9am- 10am
4. Webster Community Center - July 14th, 11am- Noon

Program Locations:

Webb Lake Town Hall
12 miles east of Hwy 35 on Hwy 77 at 31000 Namekagon Trail , Webb Lake

Swiss Town Hall
6 blks west of Hwy 35 on Hwy 77 at 7551 Main Street, Danbury

Scott Town Hall
1 blk south of the juntion of County Highways A & H at 28390 County Road H

Webster Community Center
1 blk west of Hwy 35 on Main Street at 7421 Main Street West, Webster

Sponsors

University of Wisconsin Extension

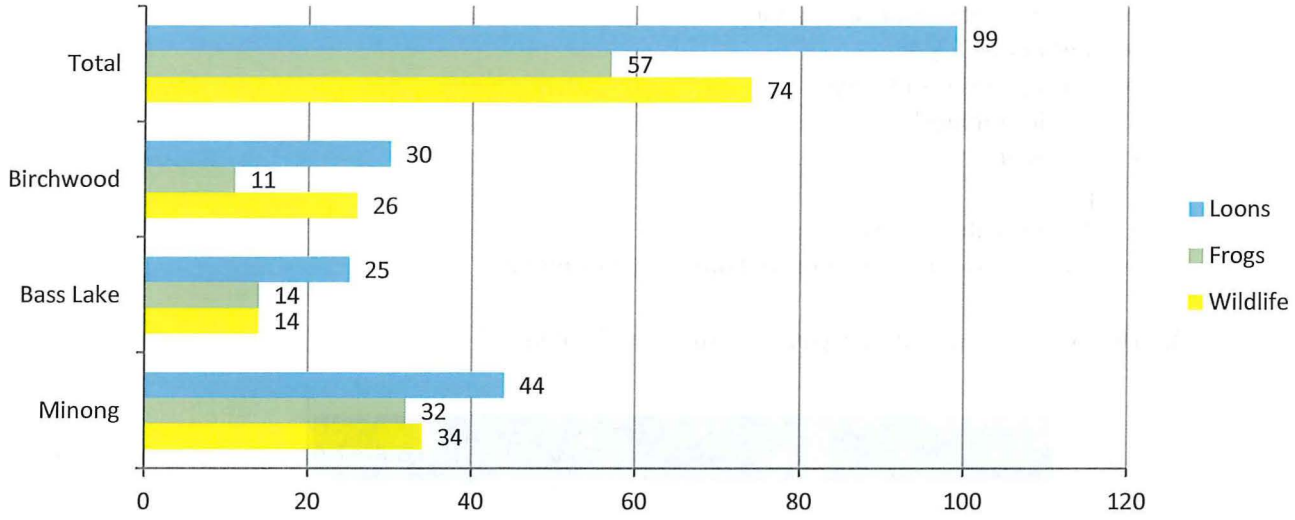
Burnett County Land & Water Conservation Dpt.

With support from:

Burnett County Lakes & Rivers Association

Learn About Your Lakes Series 2011

A total of 230 people attended all of the sessions. Overall the loon program brought in the largest audience and the Minong sessions consistently brought in the largest numbers.

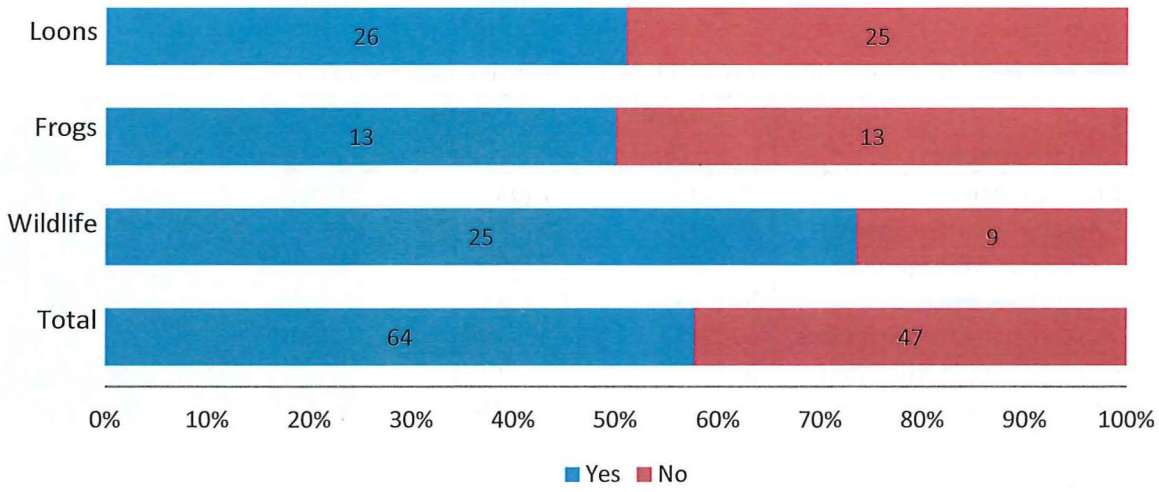


There was a total of 119 evaluations were filled out (51% return). For each topic: Wildlife – 37 returned, Frogs – 28 returned, and Loons – 54 returned. Please note: some evaluations were filled out as a family and we had a number of people that came to multiple presentations and filled out an evaluation at each.

1. Would you recommend this program to another lake property?

   Didn't have to graph this one out 100% of all 119 respondents said **YES**.

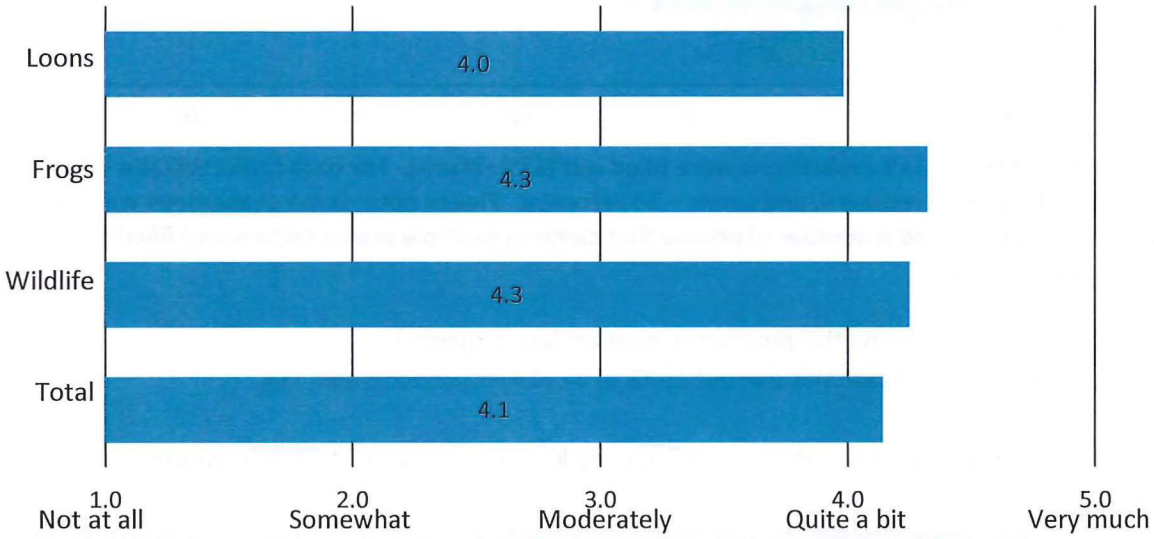
2. Would you have attended this session if it were longer – such as a 2 to 3 hour program?



Comments:

- 1 hour is pretty good, especially for a weekend program
- If we're here that particular weekend
- I like 1 hour
- possibly attend longer session
- but not with kids
- but appreciate 1 hr time
- Not in Summer!
- less likely
- possibly
- 1 hour is about right
- enjoy shorter presentation and question and answer

3. Did this session encourage you to learn more about lakes?



4. If we were to offer more programs which of the following topics would you like covered?

	Total	Animals	Frogs	Loons
Total Responses	*295*	*77*	*82*	*136*
Rain gardens	38 (13%)	7 (9%)	9 (11%)	22 (16%)
Aquatic Invasive Species	40 (14%)	9 (12%)	16 (20%)	15 (11%)
Fisheries Management	30 (10%)	7 (9%)	8 (10%)	15 (11%)
Basic Lake Science	53 (18%)	13 (17%)	15 (18%)	25 (18%)
Lakescaping for Song Birds	62 (21%)	18 (23%)	15 (18%)	29 (21%)
Lake Plant Identification	52 (18%)	15 (19%)	15 (18%)	22 (16%)
Other Topics	20 (7%)	8 (10%)	4 (5%)	8 (6%)

Other Topics:

Animals

- Bird watching education
- Woodpeckers

- Toads/turtles/flying squirrels
- Turtles - Frogs
- Info about animals by lakes
- Mammals that live around the lake
- Bats
- Information about bats/importance to the ecosystem
- Bat monitoring, information about wolves and cougars
- Providing nesting areas for ducks
- How to make your yard a thriving wildlife habitat
- Habitat for land animals
- landscaping for wildlife habitat

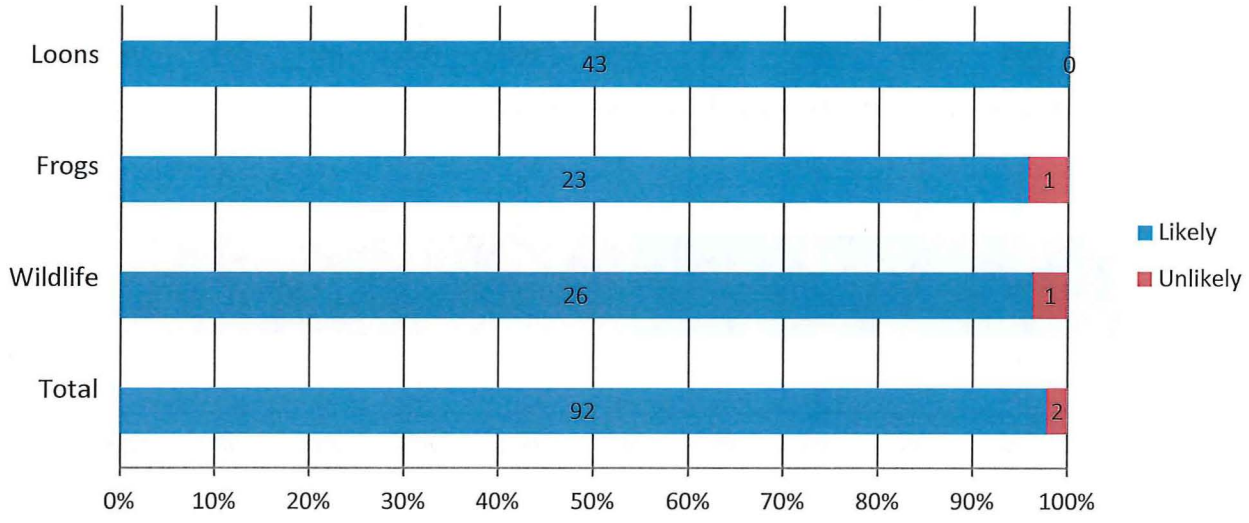
Landscaping

- Plant Session
- Specifics on shore management
- Lakeshore Restoration
- more on shoreline habitat (word?)planning, and wildlife (word?)
- Effects of shoreline development or a "How to restore your shore" workshop
- Wetland restoration, storm water management
- Reforestation

Other

- history of the area

5. If we offer more "Learn About Your Lake Classes" covering different topics, would it be likely to unlikely that you would attend?



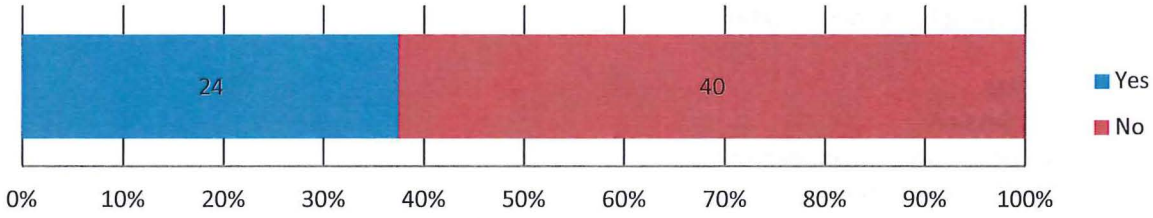
Other Comments:

- Thank you so much. This series has been so informative, fun and educational. Please continue these sessions.
- I am a city gal, visiting here

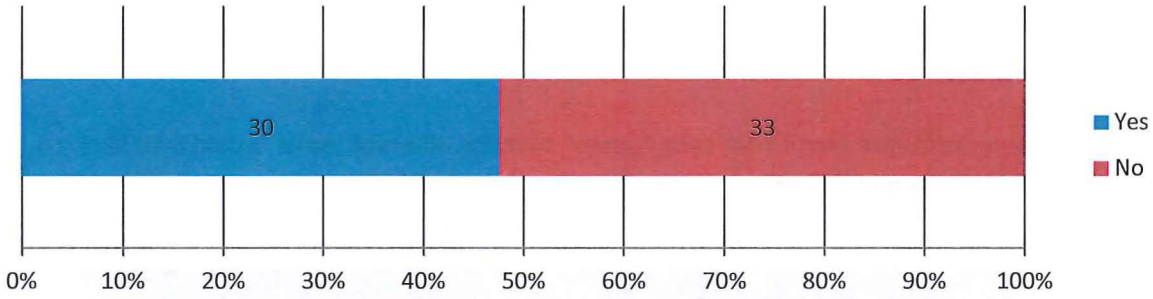
- Very interesting and knowledgeable speaker
- Thank you

Registration Summary

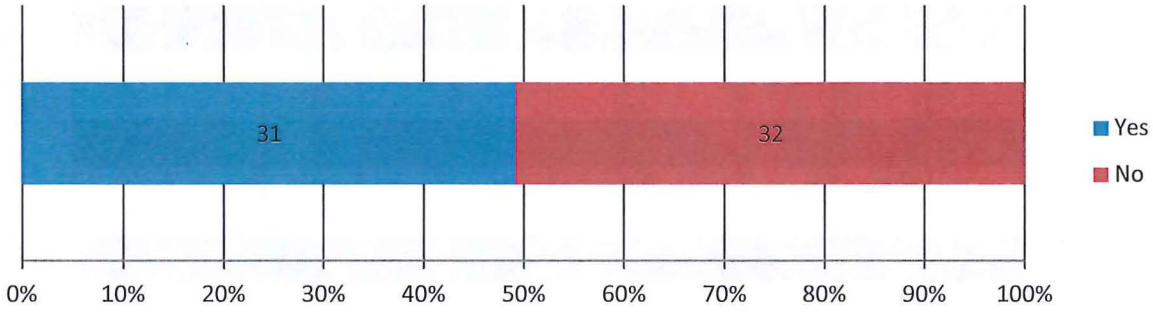
1. Prior to attending this program have you previously attended a lake conference or lake education program (not including "Learn About Your Lakes" sessions)?



2. Prior to attending this program have you previously attended a lake association or lake district meeting?



3. Do you belong to a lake association or lake district?



Learn About Your Lakes Follow-up Impact Survey

Prepared for John Haack, Natural Resource Educator
by Andy Meyers, Evaluation Associate, Environmental Resources Center

In the fall of 2013, a survey was administered to attendees of any of the Learn About Your Lake sessions held in Burnett County in 2012. The primary goal of this survey was to learn if participants were now doing any lake conservation activities taught in the sessions. Other information regarding participant characteristics and their likelihood to attend more sessions was also collected.

On October 31st, 2012, 72 surveys were sent to households who attended a Learn About Your Lake session. When administration closed at the start of 2014, 58 completed surveys were returned. Accounting for bad addresses and refusals, these 58 surveys yielded an 87% response rate. In this report the notation of (n=) indicates the number of respondents to that specific question. Findings from the survey are now presented.

Participant Characteristics

The mean age of participants completing the survey was 67 years old with a range of 37 to 86 (n=58). Respondents were almost evenly split between their shoreline property being the location of their primary residence and residing elsewhere. Fifty-six percent reside on their shoreline property (n=57). Regarding the 44% who live elsewhere, they live on average 174 miles from the shoreline property (n=25). This distance ranged from 93 to 1000 miles.

Sessions Attended

Loony About Loons had the highest attendance with 37 participants, followed by *Landscapes for Wildlife in and Around Your Lake* with 25, and finally *Bears, Beavers, Bunnies and Birds* with 17.

Most respondents (67%) attended one session while just over a quarter (28%) went to two. Only 5% attended all three Learn About Your Lake sessions.

Impacts of Learn About Your Lake Sessions

Respondents were given seven activities that were taught during the sessions and asked if they had started doing the activity as a result of attending the session. Results are shown in Table 1. Roughly four of the activities were done by each respondent on average. Majorities did the passive activities that allow the shoreline to develop naturally, as well as activities such as mowing the grass around the lakeshore and reducing fertilizer use. Fewer respondents (although still close to half) planted new trees or shrubs around their property.

Table 1: Activities Completed as a Result of Attending Class

	Frequency	Percent
Allowed some water plants to grow in the lake or on the edge of the lake (n=52)	43	83%
Allowed some portion of the upland area adjacent to the lake to grow naturally (n=54)	41	76%
Left dead trees in place for wildlife habitat on your lakeshore property (n=53)	39	74%
Mowed less grass along some portion of your lakeshore (n=48)	35	73%
Reduced fertilizer use on the lawn areas of your lakeshore property (n=48)	31	65%
Planted trees on your lakeshore property (n=51)	24	47%
Planted native shrubs or plants on your lakeshore property (n=53)	23	43%

Other Impacts

Respondents could write in other impacts that weren't specifically listed in Table 1. Six comments mentioned actions that involved doing little and leaving the shoreline natural. Three said they had contacted the speaker at their session and had him or her present at another lake association meeting or habitat community club. The remaining comments are as follows:

- Transplanted wild flowers. Some, like butterfly weed, do not survive.
- I have not done anything in the last year, but I'm going to plant some native plants on the slope going down to the water to stabilize it.
- We constructed a loon nesting platform which we put out each year. Last year the loons had two babies from it. This year they laid two eggs but abandoned them – it was so cold.
- 1) Brought in a loon specialist to address our lake association. 2) Applied for and received a grant to learn how to protect our lake and make everyone aware of AIS threats. 3) Tested the soils all around the lake and advised property owners on recommended phosphorous levels (part of the grant).

Future Learn About Your Lake Classes and Outreach

Most of the respondents had positive feelings towards the program as indicated by 90% (n=58) saying they would attend future Learn About Your Lake classes on new topics. Three percent (3%) were unsure and 7% would not attend.

Ten participants gave suggestions for future classes, listed below:

- Would like any info on BEARS!
- Repeat the area ones you've had in case people missed them.
- Love the programs! Want to see Loony About Loons. It is all about attracting the audience. Time at the lake is precious for those of us who are weekenders. It seems the key is to present at times/locations possibly 8:00 or 9:00 am so most of the morning and day is left. (Have presentations last 1 hour.) Webster, WI locations could be Yellow Lake Lodge, The Fort, the Quiznos of Wayne's Foods, downtown coffee shop, etc. Make it so we can do 2 things with 1 location (i.e. presentation then grab some groceries at Wayne's OR eat breakfast while listening at the Yellow Lake Lodge). Just my thoughts.
- We feel you need to try to attract the attention/interest of people who do damage to the lakes – to help them understand how their actions disturb/destroy nature. Jetskiers speedboats – Minnesotans owning property also in WI throwing chemicals on their shoreline to kill weeds in beach areas. Maybe DVDs would attract their attention or more online info. Not sure how to educate these people.
- More locations! They were great!
- We have a natural marsh/frog pond near the river, would love to learn more about how to manage that area.
- Effective ways to prevent shoreline erosion following 'ice out' on Big Yellow Lake each year.
- Since we are on Yellow Lake we are very interested in controlling invasive plant species and H20 quality through our association.
- Please offer more classes that people can attend. I learned so much! It was great to see birds first hand.
- Landscaping with native plants. How to keep trees healthy. Building structures for wildlife (i.e. bat houses, nest boxes, etc.)

Other potential outreach methods were listed to see which ones respondents prefer the most, as can be seen in Table 2. Most would prefer direct mailed newsletters while more than half would like short online videos or emailed newsletters/articles.

Table 2: Preferred Alternative Outreach Methods

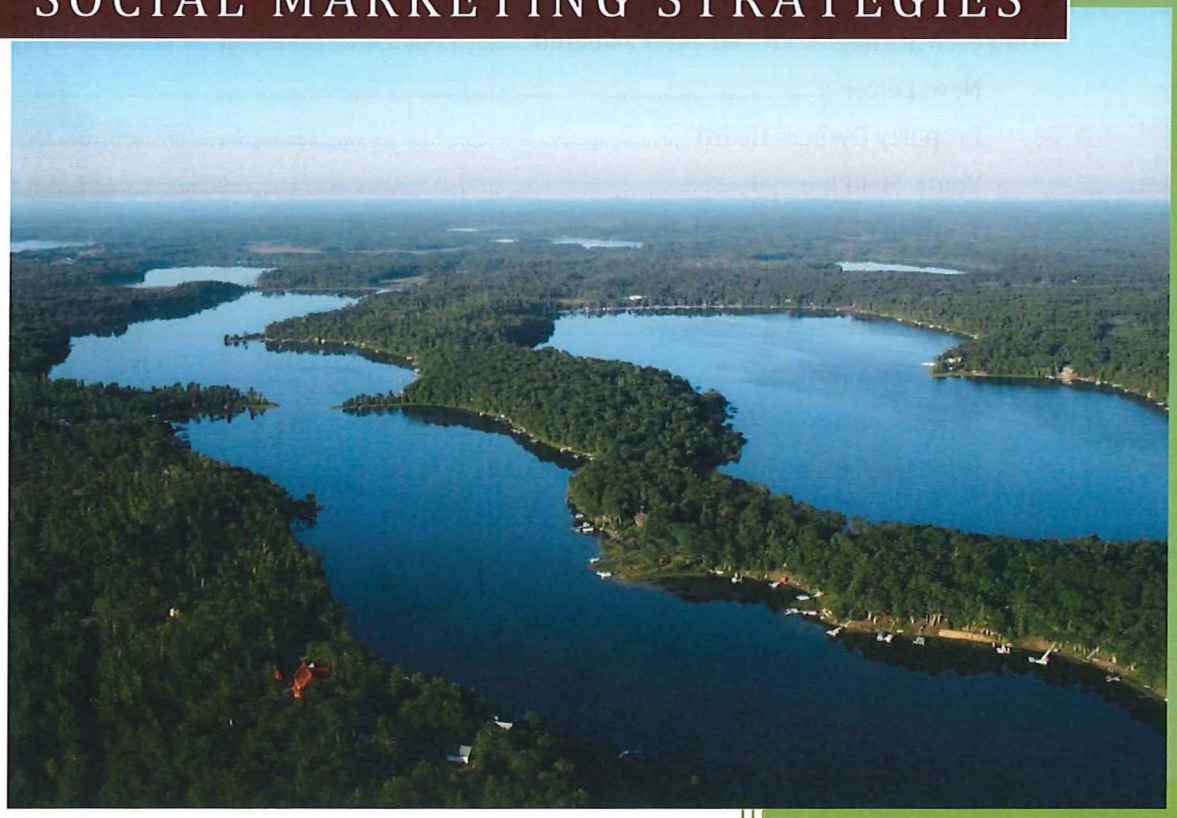
	Frequency	Percent
Direct mailed newsletters (n=45)	45	87%
Short online videos (n=28)	28	61%
E-mailed newsletters/articles (n=28)	28	60%
Interactive Digital Video Disk (DVD) (n=18)	18	40%
Online Course (n=11)	11	26%
Live online webinar (n=6)	6	15%

Additional Comments

Nineteen respondents gave additional comments regarding the classes, 15 of which were praise towards the program such as, "Keep up the good work. Loved the workshops" or "Loved the *Loony about Loons* session. Several people have asked us to let them know if you do it again – they would like to attend."

Another three mentioned that classes reinforced practices that they had already been implementing on their land. Only one negative comment was received, indicating that they thought *Loony About Loons* would be more about loons and less about protecting wildlife habitat on lakeshore property.

SHORELAND HABITAT PROTECTION SOCIAL MARKETING STRATEGIES



Summary of Burnett County Research: Suggestions for Developing and Implementing Shoreland Habitat Education Campaigns

SHARE YOUR SHORE

FOR CLEAN WATER & LAKESHORE HABITAT

John Haack and Bret Shaw, University of Wisconsin-Extension

Prepared for the Wisconsin Department of Natural Resources December 2013

This project was funded by a Lake Protection Grant from the Wisconsin Department of Natural Resources Grant #LPT-320-08

TABLE OF CONTENTS

INTRODUCTION

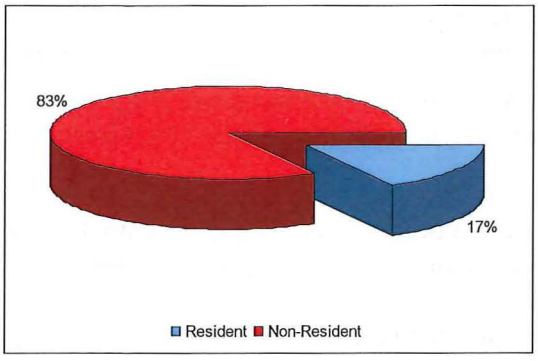
During the past few years, UW-Extension in cooperation with Burnett County and other local partners conducted research with lake property owners in Burnett County regarding their knowledge of and adoption of shoreland management practices to protect lakes. This report synthesizes the major findings from that research in the hopes these findings will benefit others. The outreach strategies developed were tested through a final project survey. It is hoped that this report can be used to assist others with educational programs that aim to promote more natural shoreland habitats among lakeshore property owners.

This report provides the following:

- Target Audience: Summary of the lakeshore property owners targeted in this study.
- General Awareness: What lake property owners know about shoreland buffers and their function.
- Current Behaviors: A summary of the behaviors of lake residents identified at the beginning of the project.
- Desired Behaviors: The desired behaviors identified by project partners during this project.
- Barriers: Barriers identified that may interfere with lake owners adopting more natural shorelands.
- Benefits: Benefits identified that may encourage lake property owners to adopt or maintain more natural shorelands.
- Messengers: Information identified on who the best messenger would be to provide information.
- Outreach Strategies Piloted and Evaluated:

TARGET AUDIENCE

This study focused on 212 lakeshore property owners on two adjoining lakes, Long and Des Moines, located in northwest Burnett County. One lake had an active lake association and the other had a struggling lake association, conditions that are representative of the many lake groups in the region. The majority, 83% of the lake property owners, had seasonal homes or cabins and did not live on either lake year around. The mean age of survey respondents was 59, and on average, they owned their property 16 years.



Property Ownership on Long and Des Moines lakes

Aerial photo of study lakes in northwest Burnett County

GENERAL AWARENESS

Most lake property owners were aware of the importance of shoreline habitat. While landowners understood the importance of shoreline habitat, there was a discrepancy between what they do on their shoreland and the cumulative impacts these actions have on the lake. Regardless of the condition of their own shoreline, property owners felt the most important benefits of allowing more natural vegetation on their shoreline areas were:

1. Maintaining good water quality
2. Improving fish and wildlife habitat
3. Reducing runoff water and eroded soil from entering the lake

Lake Property Owner Self-Reported Knowledge as Compared to Shoreland Conditions on Their Parcel

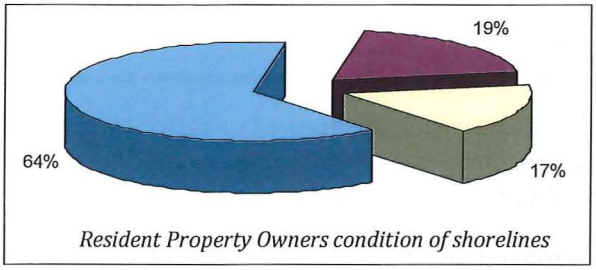
Property Owners Self-Reported Knowledge	Shoreland Condition		
	Least Natural*	Moderately Natural*	Most Natural*
How I maintain my shoreline property affects how much wildlife is around the lake.	3.96	4.30	4.00
How I maintain my shoreline property affects how many fish are in the lake.	3.70	3.97	3.83
Shallow waters near the shoreline are important spawning and breeding areas for fish.	4.12	4.33	4.48
How I maintain my shoreline property affects water quality in the lake.	4.14	4.56	4.38
Natural vegetation near the lakeshore helps prevent erosion.	4.30	4.56	4.51
Natural vegetation near the lakeshore infiltrates storm water and prevents excess nutrients from entering the lake that contribute to algae and plant growth.	4.11	4.33	4.37

Reported importance of shoreline conditions and property owners averaged response scores. (1=Strongly disagree and 5=Strongly agree) *Shoreline categories were based on property survey completed by John Haack – Least disturbed is defined as $\leq$ 1,050 square feet of disturbed area within the 35' buffer zone per parcel. Most disturbed is defined as $\geq$ 1,925 square feet of disturbed area within the 35' shoreland buffer zone.

CURRENT BEHAVIORS

The general condition of the shoreline area (the upland area 35 feet in width adjacent to the edge of the lake) on each property was inventoried prior to conducting focus groups, phone interviews and surveys.

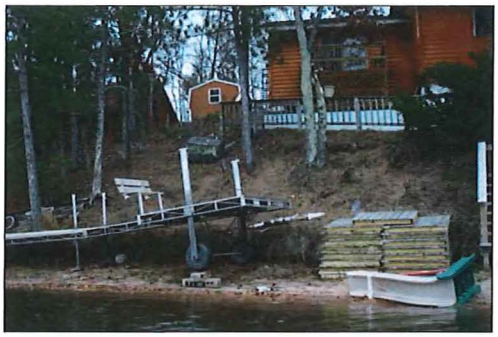
- Shoreline conditions of both resident and non-resident properties were similar with 19% of resident property owners and 25% of non-resident owners maintaining mostly natural conditions (of the 212 parcels surveyed, 83% were owned by non-residents).
- More than half the properties were rated as least natural with property owners maintaining beach areas and mowing or removing natural vegetation along the shoreline.
- Docks, swimming access areas and recreational watercraft storage along the shoreline frequently consumed much of the shoreline area, especially on smaller lakeshore lots.



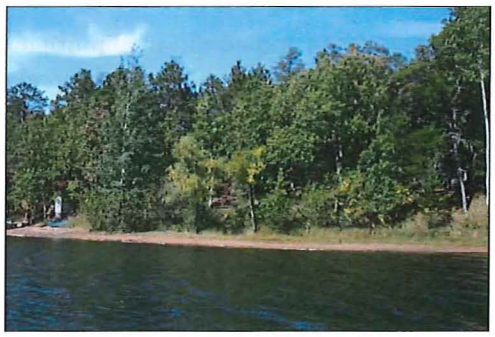
Resident Property Owners condition of shorelines

Non-resident Property Owners condition of shorelines

Most Disturbed
Moderately Disturbed
Least Disturbed

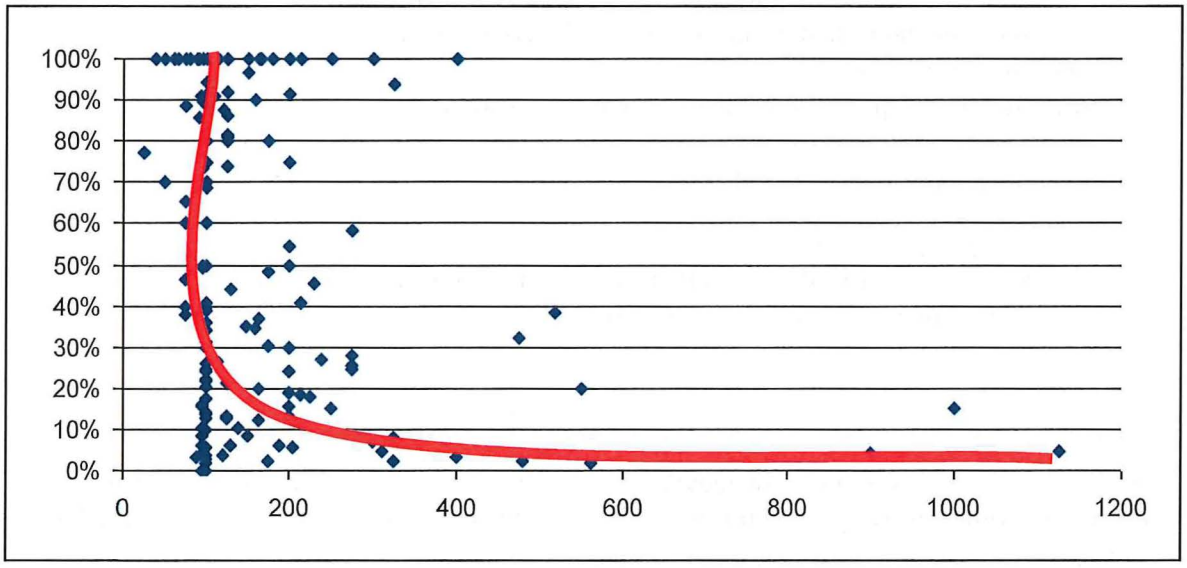


Highly altered shorelines were categorized as most disturbed sites



Mostly intact shorelines were rated as least disturbed

Lake properties with more lakeshore footage had a lower percentage of the most disturbed shoreline condition. As lot sizes decreased, much of the shoreline was used for access, recreation and storage thereby reduced opportunities for more natural shoreline habitat.



Comparison of feet of shoreline owned and % most disturbed shoreline rating

DESIRED BEHAVIORS

Project partners and local resource managers determined that increasing the amount of natural shorelines around the lakes was the single most beneficial thing property owners could do to maintain and improve water quality and fish and wildlife habitat.

The targeted behavior for this project was to encourage shoreland owners to adopt and maintain more natural shoreline areas by:

- Planting native tree, shrub and ground cover
- Reducing mowed areas and allowing vegetation to recover naturally

Changing behaviors and adoption of more natural shorelines often happen incrementally as a part of a process of change rather than one particular event, realization or a single decision. Understanding the process of the stages of behavior can be useful for developing strategies to better encourage adoption of more natural lakeshores (Shaw, Radler & Haack 2011).

BARRIERS

A number of things prevent property owners from allowing more natural vegetation on their shoreline. Reported barriers were greater for those with most disturbed compared to properties with the least disturbed shorelines.

Property owners rated the following as the most significant:

- Obstructed view of the lake reduces enjoyment of the view and not being able to watch children or grandchildren while they are playing in or near the water
- Increased prevalence of nuisance insects such as ticks and mosquitos
- Reduced access to the lake
- Prevented the property from having a sandy beach area

Other less significant barriers included:

- More messy appearance
- Increased habitat for snakes and other undesirable animals
- Less ideal for playing games along the lake shore

BENEFITS

Property owners rated the benefits of allowing more natural vegetation on the shoreland areas of their property. Differences between those with most disturbed shorelines verses least disturbed were fairly minor.

Most important benefits in order of importance:

- Maintaining good water quality
- Improving fish and wildlife habitat

    - Land owners most enjoyed viewing eagles, loons and songbirds but also enjoyed seeing herons, frogs, ducks and turtles.
    - Preventing Canada geese from feeding and defecating on their property. Most did appreciate viewing Canada geese but did not like them defecating on their property.
- Reducing runoff water and reducing soil erosion from entering the lake
- Increased opportunity to see fish and wildlife on my property

Note: The Burnett County Shoreland Incentive program provides a $250 enrollment payment and a $50 annual tax rebate to property owners for restoring and preserving shorelands. The tax credit did not appear to be an important reason for maintaining more natural shorelands on Long and Des Moines Lakes. Those with more natural shorelands were slightly more likely to view this program as a benefit of maintaining more natural shorelands. On a scale of 1 to 5, with 1 being not at all important and 5 as very important, property owners with least natural properties average rating was 3.52 and the most natural properties owner average rating was 3.78.

Property Owners Reported Benefits of More Natural Vegetation	Average score
Maintaining good water quality	4.54
Improving fish and wildlife habitat	4.28
Reducing runoff water and reducing soil erosion from entering the lake	4.21
Increased opportunity to see fish and wildlife on my property	4.13
Enhanced privacy between my property and my neighbors'	3.45
Property tax credits from the county for allowing my shoreland area to exist in a more natural state	3.36

Reported benefits of allowing more natural vegetation on shoreland areas. (1-Not at all important; 5= Very Important)

MESSENGERS

Lakeshore owners were most receptive to receiving information from a variety of local and government sources. Gaining the attention of lakeshore property owners through sources rated as the most receptive messengers to deliver messages and tools can more effectively encourage the adoption of more natural shorelines.

Property Owners rating of Information Sources	Shoreland Condition		
	Least natural	Moderately Natural	Most Natural
Des Moines or Long Lake Associations	3.66	3.98	3.79
Department of Natural Resources (DNR)	3.27	3.54	3.53
Burnett County Lakes and Rivers Association	3.19	3.65	3.32
Burnett County Land and Water Conservation Office	3.17	3.49	3.47
UW Extension	3.05	3.21	3.37
Burnett County Zoning Office	2.99	3.26	3.25
Neighbor or friend	2.84	3.15	3.21

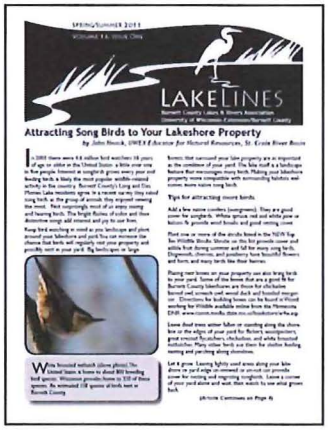
How receptive property owners were to various sources of information (1-Not at all; 5= Extremely)

OUTREACH STRATEGIES PILOTED AND EVALUATED

Lake property owners received multiple materials and promotions developed in response to what we learned from them regarding barriers and benefits of more natural shoreline conditions on their property. Collectively these strategies and materials were effective at raising awareness about the benefits of natural shorelines, reducing the significance of barriers and increasing the desirability of a more natural aesthetic. The mix of information and social marketing strategies contained in the different materials and sequenced over time likely contributed to the shift in preferences toward more natural shorelines and reduced perceived barriers to having more natural shorelines.

The following materials and promotions were delivered directly to property owners and evaluated:

NEWSLETTER


LAKELINES

Attracting Song Birds to Your Lakeshore Property

Based on our qualitative and quantitative research, messages tailored to property owners' concerns were featured in the Lake Lines Newsletter. Lake property owners preferred newsletters and brochures as sources of information and rated this specific newsletter most favorably. Landowners also stated it was effective for sharing information. The passive nature of newsletters often raises question about their value in social marketing programs, however interviews, focus groups and surveys of lakeshore owners indicated this was a trusted and well used source of information for this audience.

The newsletter was in existence prior to this project and was sent to all lake property owners on lakes that belong to the county-wide lake association (including Long and Des Moines Lakes). This project updated the newsletter's appearance and developed focused messages based on behavior change theories addressing property owners perceived barriers and benefits related to adopting more natural shorelines.

During the project period, various messages about native vegetation and financial incentive to purchase native plants were featured in Lake Lines. The following are examples:

- Free – no strings attached shoreland property site evaluations
- Top Ten Native Plants brochures and $5 off native plant coupons
- Top Ten Wildlife Shrubs brochures and $5 off native shrub coupons
- Attracting more song birds and other desirable wildlife to your property
- Avoiding nuisance animals like geese and ticks
- Lakeshore restoration choices (provided a variety of restoration options from wild looking to a more manicured look)
- Tips for successful tree and shrub planting

PROPERTY OWNERS HEARD

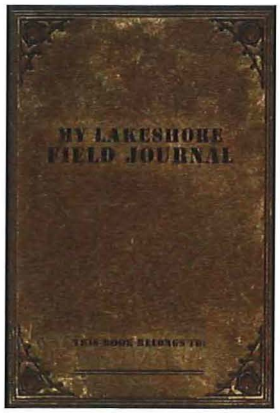

PROPERTY OWNERS HEARD:
PROTECTING LONG AND DES MOINES LAKE
By John Hauck and Bret Shaw
LAKES EDUCATION PROGRAM GETS INSIGHTS FROM YOU
SHARE THE SHORE
TAX INCENTIVES FOR WATER QUALITY, FISH AND WILDLIFE
WATCHING RIDE SWIM

"Property Owners Heard" explicitly addresses the concerns identified in our research. Each property owner received a copy in the mail following the completion of the focus groups, interviews and surveys.

It explained the overall project and why lakeshore owners on Long and Des Moines lakes were asked to participate in the survey, focus groups and interviews. It also shared some of the research findings including what their fellow property owners' perceived as the important benefits of having a more natural shorelines and their most common barriers and benefits were addressed.

YOUTH FIELD JOURNAL

The project developed and distributed copies of My Lakeshore Field Journal, a rustic-looking 27-page activity journal that engages youth to explore lakeshore life including frogs, turtles, plants and dragonflies while they are spending time at the lake. Lake owners responded favorably to the journal and felt it was very effective at sharing information and agreed that it encouraged them to manage for a more natural shoreline. Grandparents and parents in our focus groups and phone interviews reported that they viewed their lake property as a family legacy and a way to spend time with their grandchildren and children.



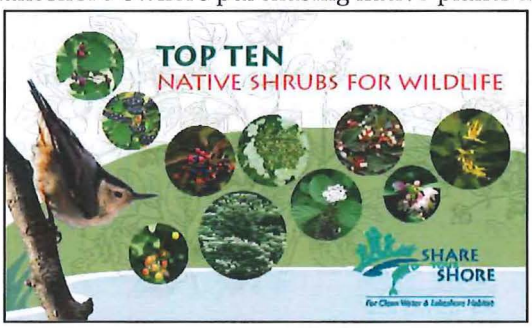
Burnett County subsequently purchased several hundred of the booklets and coordinated local sales though the Burnett County Lakes and Rivers Association. Numerous counties, UW-Extension Learning Store, UW-Extension Lakes, Wisconsin Association of Lakes, the UW Arboretum as well as other groups purchased a total of nearly 4,000 copies of the journals. Journals are available on line at:
http://learningstore.uwex.edu/Search.aspx?k=My+lakeshore+field+journal

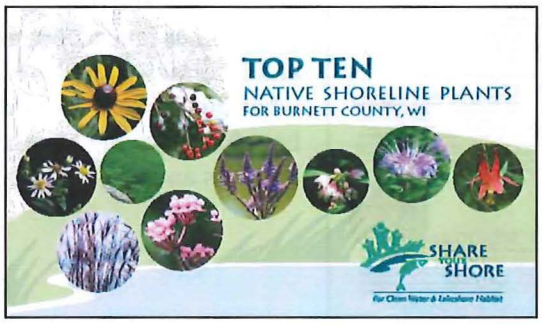
TOP TEN PLANT AND SHRUB PROMOTIONS

A $7 off or free shrub and $5 off or free plants coupon were mailed to lakeshore owners. The Top Ten Native Shoreline Plants and Top Ten Native Shrubs for Wildlife brochures combined with on site store promotional posters and direct mailings were effective at increasing coupon redemption rates to nearly double the national average.

Shoreland owners liked the Top Ten Native Shoreline Plants and the Top Ten Native Shrubs for Wildlife brochures. The point of sale posters, promotional focus and local native plant selection were well received by the four participating nurseries in Burnett County. Some of the nurseries asked to be included in the program in future years. In addition to the direct mailing of the brochures and coupons to the Long and Des Moines lake property owners, the Burnett County Land and Water Conservation Department purchased and mailed 4,000 additional brochures and coupons with the countywide lakes newsletter "Lake Lines."

The coupon, newsletter articles and point-of-sale promotion posters increased the number of lakeshore owners purchasing native plants and shrubs.





WISCONSIN LAKES TRIVIA GAME

The Wisconsin Lakes Trivia game was well received and viewed as an effective way to share information. Property owners stated an interest in providing youth with activities while they were at the lake. The game gave families something to do together while learning about natural shorelines. Unlike many brochures and fact sheets, the game is durable and likely to be kept at the cabin and used repeatedly.

The UW-Extension Learning Store, more than six counties, Wisconsin Department of Public Instruction and other groups purchased nearly 2000 copies of the game to sell and distribute. The game won the Wisconsin Extension Environmental and Community Development Association 2013 Quality of Communication award. Games are available online at: http://learningstore.uwex.edu/Wisconsin-Lakes-Trivia-Game--P1581.aspx

SHORELAND SELF ASSESSMENT

The shoreland self-assessment score sheet was implemented to help shoreline owners objectively rate the health of their shoreline. Our survey data found that land owners typically overrate the naturalness of their own property when compared to the ratings by a trained biologist. The assessment was rated very favorably, a helpful way to share information and reported to be somewhat effective at encouraging a more natural shoreline.

BOOKMARK PROMPT

Attractive *Share Your Shore* wooden bookmarks were provided as prompts to encourage property owners to think about the values of natural shorelands. They included brief messages regarding the importance of natural shorelines and a link to Burnett County's shoreline web site, which provides additional information. It rated the lowest of all the materials and few lakeshore property owners recall receiving it, suggesting it is not a recommended strategy.

Prompts, generally should be noticeable, self-explanitory and presented in as close proximity as possible to the action to be taken. In this case, we intended the bookmark to be used at the lake property to remind property owner about the benefits of more natural shorelands.

NEIGHBOR-TO-NEIGHBOR PROMOTION FOR FREE PLANTS AND A SITE VISIT

Encouraging property owners to schedule a 'no strings attached' site visit by a shoreland landscaping expert including an offer for $25 worth of free plants had limited success. Increasing the offer if the property owner and their neighbor both asked for site visits encouraged a bit more participation and encouraged peer-to-peer communication and learning. In addition to increasing participation, the goal was to increase the social norms of more natural shorelines by having neighbors talking with neighbors about natural shorelines.

ADDITIONAL ELEMENTS DEVELOPED BUT NOT EVALUATED

The multiple components of this project likely increased the number of times lake property owners heard similar messages about the value of natural shorelines. Successful integrated marketing campaigns frequently employ multiple strategies and techniques. Below a few additional elements piloted during this project are described:

- YouTube clips: Both of these videos received considerable attention in Wisconsin and other states as well and show promise for reaching broad audiences with very little cost.

Larry the All-American Bullfrog - A talking frog (voiced by Wisconsin Public Radio's Larry Meiller) promotes natural shorelines from the perspective of a frog that depends on healthy lake edge in a short YouTube video. The focus groups indicated that frogs are like "canaries in the coal mine" and recalled a time when they viewed and heard more frogs along the lakeshore. The YouTube video can be viewed at http://www.youtube.com/watch?v=Ret_2agvDzg or at the UW-Extension video channel.

Sebastian the Goose - An animated Canada goose jokes about feasting on all the green grasses while providing suggestions about shoreland habitat features that discourage geese in a short YouTube video. Focus group participants noted that they liked seeing geese flying overhead, but they did not like having them poop on their beach or lawn. The You Tube video can be viewed at http://www.youtube.com/watch?v=uhKIGxXgrLg or at the UW-Extension video channel.

- *Shoreland Demonstration Projects* - Three shoreland restoration / re-vegetation demonstrations were installed by agency and citizen volunteers on Long Lake. Restorations were very visible from the lake and were promoted though newsletter articles and evening open houses held at two sites. Open houses allowed other shoreline owners to view the restorations, talk with the landowners and get information about natural shoreline options. These efforts were fairly expensive and very labor intensive, and the evening open houses provided minimal follow up requests for assistance.

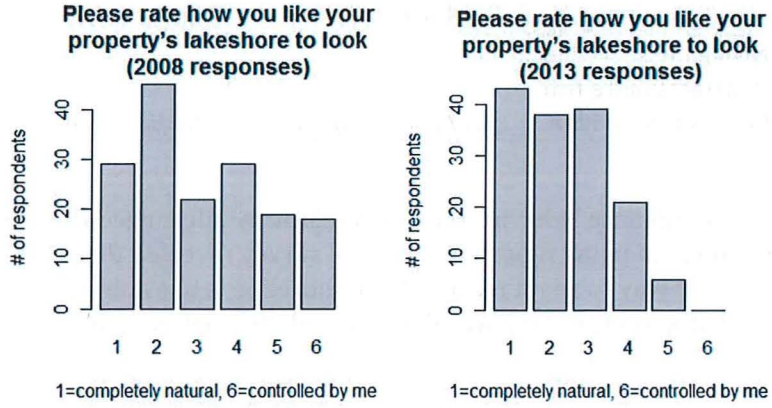
- *Share Your Shore Logo* - This logo was developed, reviewed by the planning team and used on all the materials to provide a uniform and recognizable brand or theme to the materials. It provided an easy to remember, unique visual reference that united the various elements of the educational campaign.

OUTCOMES

In December 2012-January 2013, we conducted a post-test survey along with a shoreland assessment in late fall of 2013 to understand changes in attitudes and landscapes that may have resulted over the course of this project.

POST-TEST SURVEY EVALUATIONS

Survey respondents reported a considerable shift in their aesthetic preferences during the study period, with respondents reporting a stronger preference for their shoreland to look natural ($t(292) = 4.56$, $p < 0.0001$). Mean response on the scale below shifted by almost a full point from 3.11(sd = 1.63) in 2008 to 2.38 (sd = 1.17) in 2013.



The importance of several barriers to allowing a more natural shoreline decreased during the project period as indicated below.

How important are each of the following barriers to allowing more natural vegetation on the shoreland areas of your property when you make landscaping decisions? (1 = not at all, 5 = very important)		
	2008	**2013**
Obstructed view of the lake from my house	3.47	3.03
More ticks, mosquitoes and other nuisance insects	3.43	3.12
Increased habitat for snakes and other undesirable animals	3.10	2.74
Reduced access to the lake	3.31	3.06
More "messy" appearance	2.88	2.83
Prevents property from having a sandy beach	3.40	3.14
Less space for social gatherings	2.74	2.58
Less ideal for playing games along the lakeshore	2.70	2.42
Less able to see my children or grandchildren while they are in or near the water	3.38	3.27
Preference for a more manicured and open yard	2.13	2.11

Lake property owners were also more likely to believe their friends, family and neighbors desired that they maintain a more natural shoreline as indicated in three questions below.

	2008 (1=not at all, 5 = extremely)	**2013** (1=strongly disagree, 5 = strongly agree)	**t-test p value**
My neighbors think leaving the shoreland area of my property in a natural, uncut state is a good idea.	2.96 *(sd = 1.12)*	3.27 *(sd =0.92)*	t(233) = 2.34 p = 0.019
My neighbors think leaving my shoreline property in a tidy, manicured state such as a mowed lawn or sandy beach is a good idea.	2.55 *(sd =1.26)*	2.96 *(sd =0.94)*	t(220) = 2.87 p < 0.01
My neighbors think leaving my shoreline property in a way that attracts more fish and wildlife is a good idea.	3.17 *(sd = 1.09)*	3.65 *(sd =0.86)*	t(235) = 3.82 p < 0.001

Self-reported shoreland maintenance behavior remained relatively unchanged from 2008 through 2013 with a slight reduction in mowing reported. The final survey revealed that 41% of respondents believed the best way to adapt more natural shoreline is to establish it by planting, compared to 29% who felt stopping mowing was the best, and 29% believing both methods were equally good.

LANDSCAPE CHANGES

Final property inspections were conducted in November of 2013, five years after the initial property inspections.

To examine changes on shoreland buffers (the area 35 feet above the ordinary high water mark), we reviewed the original data collected and recorded on data sheets along with photographs taken at the time of the original inspections on Long Lake. Lot-by-lot observations indicated that recreational use patterns and vegetation management and cover remained similar on many of the properties. Numerous large white and red pines as well as red oak trees were pushed over during an extreme windstorm event on July 1, 2011. Many property owners cut and removed these downed trees, while others allowed one or more trees to remain in the lake and along the edge of their properties. One property had numerous new trees planted in the shoreland zone, and three properties conducted shoreland restoration planting as part of this social marketing campaign as models to show others what this might look like. Natural shoreland vegetation on approximately 18% of the 154 parcels examined had additional square feet of unmowed or untrimmed vegetation in the 35 foot shoreland buffer area. Shoreland buffer vegetation on these parcels increased an average of 660 square feet per parcel, ranging from 100 to 1,600 square feet per parcel for a cumulative grand total of 17,921 square feet on Long Lake.

These more vegetated areas appeared to be the result of less mowing and trimming of shrubs and tree branches during the past five years. Several properties had a decline in natural shoreland vegetation associated with newly developed homes or replacement homes being built on the parcel,

or associated with expanded stairways and stairway landings and wooden decks. Two parcels removed retaining walls within the 35 foot shoreland zone and stabilized the shoreline with a combination of vegetated soil and rock rip rap. While the changes are modest, similar behavior change rates in national campaigns such as smoking cessation see incremental declines over time eventually adding up to significant success.

Along the shallow water zone, the increased water levels inundated areas that were exposed five years ago resulting in fewer exposed, manicured beach areas. Approximately one third of the properties had significantly more emergent vegetation such as bulrushes and sedges suggesting that some property owners did not disturb the exposed lake bed where these plants were able to re-establish and are now providing good habitat in shallow water areas.

2007 Lower water level/exposed lake bed

2013 Higher water more emergent vegetation

JOURNAL ARTICLES, REPORTS AND PRESENTATIONS

The preliminary research findings and progress of this project were broadly shared in publications, articles and presentations with a number groups and audiences.

JOURNAL ARTICLES

- *Exploring the utility of the stages of change model to promote natural shorelines.*
  The stages of change model (SCM) suggest that shoreline property owners adopt more natural shorelines over time as they move through several stages of change (precontemplation, contemplation, preparation, action, maintenance, and relapse). The purpose of this study was to examine whether these stages of change may be useful in identifying lakeshore property owners' attitudes and intent toward adopting more natural shorelines. Results provide preliminary support that the SCM may represent a useful framework for understanding property owners' propensities toward adopting more natural shorelines. The authors suggest additional research will improve the external reliability of the SCM as adopted in an environmental context

Citation: Shaw BR, Radler BT, & Haack J. 2011. Exploring the utility of the stages of change model to promote natural shorelines. Lake and Reservoir Management, 27:310–320.

- *Comparing two direct mail strategies to sell native plants in a campaign to promote natural shorelines.*
  The message strategy tested builds on the "zero-price effect," which suggests that when faced with a choice between two product options, one of which is free, people respond more readily to the free offer as if the zero price not only implies a low cost of buying a product but also increases its perceived valuation simply in its being characterized as free. Households received a coupon that read "Free pack or $5 off" with the "free pack" as the visually dominant element or a coupon that read "$5 off or free pack" with the "$5 off" designed as the visually dominant element. Otherwise, the coupons were identical. Half of the households randomly received the first coupon and the other half received the second. Coupons could be redeemed at one of five participating nurseries. As hypothesized, results indicated the "free pack" coupon offer was more attractive to recipients with almost twice as many redemptions.

Citation: Shaw, BR, Radler BT, & Haack, J. 2012. Comparing two direct mail strategies to sell native plants in a campaign to promote natural shorelines. Social Marketing Quarterly, 18: 274-280.

- *The challenge of self-enhancement bias for educational programs designed to encourage natural shorelines*
  This study proposed and found support for a potential barrier to successful implementation of programs designed to promote natural shorelines along residential property. This study explored how the phenomenon of self-enhancement bias may cause property owners to over-estimate the natural state of their shorelines, preventing remedial action they otherwise might take if a more accurate self-assessment were available. Results revealed that residents evaluated their own shorelines significantly more natural than did the biologists. This pattern is consistent with the hypothesis that self-enhancement bias may be a barrier to educational programs designed to encourage more natural shorelines among lakeshore property owners. Based on these findings, the authors offer recommendations for lake and water resource managers to potentially improve the efficacy of such programs.

Citation: Amato MS, Shaw BR, Haack J. 2012. The challenge of self-enhancement bias for educational programs designed to encourage natural shorelines. Lake and Reservoir Management, 28:206–211.

PRESENTATIONS

2008 Extension Association of Natural Resource Professionals- Madison, WI

2009 Northwest Lakes Conference – Cable, WI

2009 Advanced Lake Leaders – Moon Lake, WI

2010 Wisconsin Lakes Conference – Green Bay, WI

2010 Lake Leaders – UW-Kemp Station

2010 UW-Extension Community and Natural Resource Development Symposium

2011 Advanced Lake Leaders – UW-Kemp Station

2013 Lakes Meeting – UW- Madison Trout Lake Station

2013 Share findings and proposed research at Advanced Lake Leaders – Green Lake, WI

NEWSLETTER ARTICLES

The Lakes Connection Newsletter – 2008 Volume 17, No.4

Association of Natural Resource Extension Professionals Newsletter – 2009

Environmental Communication and Social Marketing Newsletter-Vol 2 Issue 1 Spring/Summer – 2009

Lake Tides Newsletter – 2010

Country Today Newspaper – 2010

UW Madison College of Agricultural and Life Sciences, eCALs – 2010
http://ecals.cals.wisc.edu/highlights/2010/05/28/grossing-out-for-a-good-cause-sebastian-the-talking-goose/

Great Lakes Echo – 2013
http://greatlakesecho.org/2012/01/16/video-this-talking-goose-loves-a-mowed-lawn/

United States Environmental Protection Agency – 2013 Lake Shoreland Protection Resources Clearinghouse for Information on Lakeshore Protection and Restoration
http://water.epa.gov/type/lakes/shoreland.cfm#CP_JUMP_480580

Yahara Portal – 2013 http://www.yaharaportal.org/subject/geese
Great Lakes Echo – 2013 http://greatlakesecho.org/2013/08/06/survey-reveals-why-lawn-trumps-native-shoreline-and-what-to-do-about-it/

ADDITIONAL PROJECTS & RESOURCES GENERATED

The following grants were received to support or continue this research program using social marketing to promote natural shorelines:

1. "Using social psychology and tailored messaging to better promote shoreland restoration on Wisconsin's inland lakes." $59,242. (B. Shaw, PI, UW-Madison; E. Olson, University of Wisconsin-Stevens Point is co-PI). University of Wisconsin Consortium for Extension and Research in Agriculture and Natural Resources (CERANR) fund. 2013-2015.

2. "Promoting behavior change on Wisconsin's shorelines." (B. Shaw, PI). University of Wisconsin, Madison, Graduate School. PI. $27,908, 2013-2014.

3. "Self-enhancement bias and natural shorelines." $14,260. (B. Shaw, PI). Wisconsin Department of Natural Resources, 2013.

4. "Delivering local education; Learn about your lakes." $8,000. Wisconsin Department of Natural Resources, 2011 & 2012.

5. "Shoreline restoration; Top ten native plants for wildlife incentive." $4,000. Wisconsin Department of Natural Resources, 2011.

6. "Shoreline restoration; Top ten native plants incentive." $4,000. Wisconsin Department of Natural Resources, 2010.

NEXT STEPS

Conduct workshops on effectively promoting shoreland protection – 2014

Field test specific methods for delivering objective feedback about shorelines ecological health to property owners – 2013-2015

Submit additional articles to peer-reviewed journals read by social and natural scientists

RECOMMENDATIONS

Lake property owners may already know about the importance of shoreland habitats but still may have overly manicured shorelines. With local or regional education campaigns, consider using a survey and or focus groups to better understand their self-interests and concerns. Use what you learn to develop more effective educational messages. Our findings identified the following as effective strategies:

1. Promote the use of low growing native shrubs and plants that don't block the view of the lake.
2. Promote native plants as a way to attract more songbirds, frogs and other types of wildlife property owners identified as desired.
3. Emphasize the benefits of natural shorelines for preventing geese from congregating and defecating on their lawns and beaches.
4. Multiple messages delivered over an extended time period may be more effective. Develop educational programs with multiple approaches that work together to influence change.
5. Create long-term lake shoreline owner relationships as real change toward more natural shorelines takes time.
6. Property owners likely see their property as more natural than it is. A shoreland self-assessment score sheet may help them objectively rate the condition of their property.
7. Achieving behavior change in shoreline maintenance requires patience. Anticipate incremental behavior change over time.
8. Use logos to create a more unified and recognizable brand.
9. Promote mulched pathways and mulched edges as a way to reduce tick exposure.

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