# Carver County Water Management Organization Downtown Waconia Water Quality Education Campaign



# **Prepared by**

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# **Prepared on Behalf of**

Carver County Water Management Organization

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# **Resilient Communities Project**

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# Carver County Water Management Organization Downtown Waconia Water Quality Education Campaign

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# Background

Lake Waconia is a body of water located near the town of Waconia in Carver County, Minnesota. It has been determined that the formerly pristine condition of the lake is under threat of impairment. Carver County has been taking steps to identify and mitigate risk factors leading to impairment of the lake, namely storm water runoff from surrounding residential and commercial properties. In the interests of mitigating the causes of water impairment through cleanup and capture of storm water runoff, a survey of Lake Waconia residents and businesses was recently taken and data analyzed by CCWMO, the Carver County Water Management Organization. We would like to express our gratitude to Madeline Seveland, Charlie Sawdey, and Seth Bossert for kindly providing their extensive research and inviting us to participate in the betterment of their water conservation outreach efforts. We would also like to thank the Resilient Communities Program and Mike Greco for providing the opportunity for graduate students at the University of Minnesota to be involved in real world community engagement projects and to gain experience in both planning and executing the necessary strategies toward this specific conservation remediation.

According to Resilient Communities Project CCWMO informational document, CCWMO is conducting a three-phase project to address storm water runoff leading to water quality impairment in Lake Waconia. This follows a project already in place for a funded cost share program for citizen use of advanced best management practices to protect and restore the quality of the water in the county. Those best management practices available for 75% funding include, and are not limited to, installation of raingardens, shoreline restoration, native plantings, rain barrels, and more.

Given that CCWMO has provided a wealth of data and water quality improvement and resources including models, information for users, BMP funding, therefore, we have seen our job in phase II of the project as figuring out how to better present potential solutions to the water quality problems for lakeshore residents and also offer strategies to more effectively engage their participation in the cost share program.

The survey that CCWMO conducted in 2014, known as a KAP study (Knowledge, Attitudes and Practices), had several anticipated outcomes. The goal was chiefly to create an education campaign surrounding water resource protection and the CCWMO's cost share program. Much consideration was given to the maintenance and enhancement of resident's property values. Many outreach efforts have already been made by CCWMO targeting residents and businesses of downtown Waconia and the surrounding lake environs.

Because the local economy of Waconia is heavily tied to tourism, therefore maintaining and improving water quality is imperative to the ongoing economic and environmental health of the Lake Waconia region. In the following pages we recommend some resources and strategies that can potentially be used to help guide and further the program goals.

# **Education and Outreach Goals**

The chief goal of our work group is to help CCWMO adopt new methods and strategies to raise awareness and increase implementation of shoreline best practices within the Lake Waconia watershed area. While it remains CCWMO's goal to increase active engagement among residents, our work group has sought to augment their approach by making specific recommendations and providing additional resources.

## **Objectives**

It is necessary to increase participation in CCWMO cost-share program for rain gardens, rain barrels, shoreline plantings etc. paper. Some shared mitigation strategies aim toward pollution control, others, including rocked spillways and cisterns may aid in potential drought mitigation through treatment of runoff as a resource for retention and/or reuse. This increase through improved and continued community engagement strategies

# Outreach Methods - needs assessment and strategies

An education campaign to increase understanding of Lake Waconia issues and community engagement is already in place and led by CCWMO. Further outreach strategies should target positive survey participants and skeptical survey participants, respectively:

1. Positive survey participants: CCWMO should actively engage survey participants who need additional information – such as education about widely impaired waters in the region and redirection to other online resources listed below – in order to connect local issues with state and regional events and conditions.

# Outreach/education strategies:

- Directly mail cost share applications and invitations to join Lake Association to homeowners, townhome residents, homeowner's associations, and businesses. In addition to those resources already being available online, physical distribution by mail ought to increase participation. For examples of this outreach method, refer to the Friends of Lake Nokomis organization, associated with the Freshwater Society.
- Demonstration project at one or more lakeshore townhome sites and downtown Waconia taking both visibility and runoff into account when soliciting participation. This extends to the time after the city of Waconia completes its proposed buffer strip and shoreline mitigation projects in 2017.
- Invitations to small group gatherings for question and answer sessions.
- Before and after photos of rain gardens, buffer strips, rain barrels, spillways, and cisterns. Such photos were publicly shared at the Waconia Waters Forum on April 16<sup>th</sup> in the PowerPoint presentation regarding *How to Reduce the Impact of Storm Water Runoff.*

 Skeptical survey participants: Dubious participants appear to need more evidence of their own lake inputs and contributions to lake contamination. Barriers to participation include a lack of frequently asked questions regarding yard runoff, perceived "worse" practices by townhome yard management, and downtown silt runoff.

# Outreach/education strategies

- Demonstration projects are more important for this set of people, but they also need more specific water impairment data to be mailed to participants as follow up to survey.
- Skeptical group may also increase participation with one-one or small group presentation of mitigation benefits (concrete evidence and discussion - as in Madeline's and Seth's April 16 presentation) or those could be made available in hard copy format.

#### Additional Resources

Several state, local, and non-profit resources exist in the region and actively work to mitigate water quality issues and shoreline inhabitant outreach and education. Both online and personal resources are provided:

- 1. Web-based resources for residents and discussion with CCWMO:
  - http://www.nytimes.com/2016/02/20/us/storm-water-long-a-nuisance-may-be-a-parched-californias-salvation.html?login=email&hp&action=click&pgtype=Homepage&clickSource=story-heading&module=second-column-region&region=top-news&WT.nav=top-news
  - http://www.mprnews.org/story/2015/04/29/minnesota-waters
  - http://www.conservationminnesota.org/state-of-water-conference/
  - http://eotswcd.fatcow.com/EOT/Documents/OTC%20Shoreland%20Guide.pdf
  - <a href="http://freshwater.org/master-water-stewards-a-community-approach-to-protecting-water">http://freshwater.org/master-water-stewards-a-community-approach-to-protecting-water</a>
  - http://masterwaterstewards.org/our-watershed/
  - http://www.friendsoflakenokomis.org/
- Individuals from state agencies or other water management organizations for CCWMO networking:
  - Connect with: Darren Newville, the District Manager for the East Otter Tail Soil and Water Conservation District (SWCD).

- Connect with: Carrol Henderson, an educated zoologist, who works with Minnesota Department of Natural Resources Nongame Wildlife Program.
- Photography Resource: Katherine Pekarek-Scott
   Minnesota Pollution Control Agency 320-441-6973
   katherine.pekarek-scott@state.mn.us

# **Budgetary Considerations for Publication**

As per email communication with Paula West and Precision Printing (producers of all shoreline guides cited here), the previous publications' writings costs were approximately \$2,000. The printing cost in 2011 for 8 ½ x11" glossy 80# stock was \$8,750 for 11,500 copies. Ms. West suggests using Aquatic Invasive Species information in the same publication in order to qualify for funding through that initiative foundation, or Outdoor Heritage Funding as other counties have done.

As per phone communication with Precision Printing of Detroit Lakes, MN, they were responsible for the Otter Tail County publication and quoted current prices for a similar booklet, should Carver County wish to pursue that project. Precision uses 80# paper for a glossy, colored cover with text, folded and stitched, and four inside pages of color (of the original 28 pages). Each booklet can also include an inserted postcard. The cost for 5,000 such copies is \$6,190 plus \$250 if inserting a postcard. For 7,500 copies the cost is \$7,260 plus \$333 if inserting a postcard. For 10,000 copies the cost is \$8,360 plus \$415 if inserting a postcard. Precision Printing ships with Speedy Delivery and they recommend that Carver County sets aside at least \$500 for shipping. The contact person at Precision is Barbara Ann, who can be reached at (218)-844-3103 or ppofmn@arvig.net.

## **Evaluation Procedures**

It must be determined how much increased participation there has been in the adoption of best management practices, with the following considerations and suggestions:

- Increase in positive awareness on follow-up survey or additional survey.
- Include opportunities to provide reflection, discussion, and suggest possibilities.
- Commitment to one or more aspects of cost-share program.
- Engagement/participation in Lake Waconia management/action citizen's group
- Actual installation of cost-share mitigation as demonstrated by before and after photos.
- Improvement in Lake Waconia water quality as measured by future data Collection.
- Any and all demonstration projects agreed to by townhome sites, residents or businesses in downtown Waconia.

## Recommendations

We find four general categories in which to group our recommendations to improve community engagement among the Lake Waconia populace toward water quality improvement and maintenance. Those include:

- Direct mailings
- One-to-one and small group meetings
- Eventual publication and distribution of a document similar in scope to that published by Otter Tail County Coalition of Lakes Associations, and others (see Appendices)
- Networking among the WMO entities in Carver County (as above) and beyond 2016
  particularly in order to encourage the formation of a Lake Waconia residents'
  association and Coalition of Lakes Association (COLA 501c3) in the future. Among
  the Carver County WMO's listed on the Minnesota Waters website are:
  - Minnewashta Preservation Association
  - Lotus Lake Conservation Alliance
  - Lower Minnesota River Preservation Association
  - o Association for Pierson Lake Enhancement
  - Twin Lakes Association
  - o Friends of Lake Bavaria

# Appendix A – Excerpt from Otter Tail County Shoreland Guide to Lake Stewardship (Ordinances and homeowner resources)

# General Otter Tail Shoreland Management Ordinance Requirements

The following general requirements apply to work done in the shoreland zone of a lake or river.

#### **Building and Landscaping**

If you intend to build or alter a structure or change the landscape on your shoreland lot, develop your ideas in a drawing of your lot and the lake and then visit the Land & Resource Management Office. Your drawing should be drawn to scale, including lot dimension, water frontage and setbacks from the road right of way, lake, sewage system, and top of a bluff. The drawing should also include existing structures and all impervious surfaces.

Lot Building Requirments: The Otter Tail Shoreland Management Ordinance establishes minimum requirements for building on shoreland lots. Requirements include buildable lot area (in square feet), shoreland width, setbacks from the lake or river, and setbacks from the structure and water well for the placement of a septic system. Requirements vary depending on the lake classification (natural environment, recreational development, or general development) for the lake or river on which the building will take place. Check with Otter Tail Land & Resource Management for specific requirements for a particular lake and before purchasing a lot to make sure your plans are consistent with the lot requirements. You can refer to a chart in the Shoreland Management Ordinance on the Land & Resource Management website.

(www.co.ottertail.mn.us)

Shoreland Alterations or Excavation: In general, no grading, filling or alternation of land, including retaining walls, is allowed in the Shoreland Impact Zone (SIZ), Bluff Impact Zone (BIZ) or a wetland. Land alteration not to exceed 20 cubic yards per year may be allowed elsewhere in the shoreland zone. Check with Otter Tail Land & Resource Management for allowable activities with a Conditional Use Permit or Grade/Fill Permit, which must be issued before any earth is moved. See page 20 for ice ridge repair requirements.

<u>Building On a Bluff</u>: Because bluffs are potentially unstable, no structures or accessory facilities, except stairways and landings, are allowed in the Bluff Impact Zone (BIZ), the land located within 30 feet from the top of the bluff.

Stormwater Management: The goal of stormwater management is to keep precipitation from running off the land and into the waterbody because water runoff carries with it nutrients and pollutants that may be detrimental to water quality. Development of a lot should be planned to minimize disturbed areas and erosion to reduce runoff potential. Impervious surfaces, those that water cannot penetrate, must not exceed 25% of the lot area. Permeable pavers for walkways and patios must be included in the calculation. Minimization of paved areas is discouraged while rain gardens and the use of natural drainage areas are encouraged.

<u>Clearing of Vegetation</u>: Limited clearing of vegetation and trees in the shoreland zone is allowed. Minimal clearing is allowed to accommodate construction, but keep as much vegetation as possible to minimize runoff.

Stairways, Lifts, and Landings: These are the preferred alternatives to major topographic alterations for access to the shore area. The maximum width of stairs is 4 feet. Landings must be no more than 36 square feet in area. Stairs and landings may not have canopies or roofs. Other placement and building restrictions may apply.

<u>Decks</u>: Decks must meet the structure setback requirements. Non-conforming decks may be allowed without a variance for structures existing prior to 2/5/1992; contact Land & Resource Management for allowable criteria.

Water Oriented Accessory Structures: A small building such as a boathouse, screen porch, sauna, fish house or detached deck, may be located closer to public waters than the normal structure providing a site permit is obtained from Otter Tail Land & Resource Management. The structure cannot be used for human habitation or have water or sewer connections.

<u>Drainage and/or filling of Wetlands</u>: Wetlands are protected by the State Wetland Conservation Act (WCA) and in most cases drainage and/or filling of wetlands is prohibited. If wetland acreage is lost as a result of permitted land alteration, they must be replaced in accordance with the WCA requirements.

#### Non-Conforming Structures and Lots

Buildings and lots platted before 10/15/1971 are grandfathered in. If these structures and lots do not conform to the current ordinance they are designated nonconforming. The Otter Tail Shoreland Management Ordinance places limitations on the amount of expansion or replacement that is allowed for these structures and what may be built on nonconforming lots without getting a variance. Contact Land & Resource Management for allowed activity.

# Conditional Use Permits and Building Variances To obtain a conditional use permit, the proposed uses must be presented to the Otter Tail County Planning Commission for their determination of its applicability to the Shoreland Management Ordinance. In granting a permit, the Planning Commission may impose conditions on setbacks, vegetation, location of septic system, placement of docking and other conditions. An application must be filed along with detailed drawings not less than 21 days

prior to the next scheduled meeting of the Commission.

The Board of Adjustment can issue variances to the Shoreland Management Ordinance requirements. Variances are only granted when the request is in harmony with the general purpose of the ordinance. No variance will be granted that would allow any use or expansion of use that is prohibited in the shoreland district. Contact Land & Resource Management for filing requirements.

# ✓ Otter Tail County Shoreland Homeowner's Checklist:

Depending on what you want to do with your shoreland property, permisson and/or permits may be required from one or more agencies before proceeding with a project.

# Contact the Otter Tail Land & Resource Management Office before:

- · Buying, clearing, or developing shoreland property.
- Building a new structure, remodeling or adding on to an existing structure.
- Building detached accessory structures, i.e. fences, decks, patios.
- · Installing a septic system, including an outhouse.
- Building a boardwalk, raised path to the lake, or anything that does not meet setback requirements.
- Building or repairing any accessory structure near the shore (boat house, gazebo, storage locker, etc.).
- Draining, excavating, or filling a wetland anywhere in Otter Tail County.
- Building stairways, landings, or clearing access paths in bluff areas.
- · Installing rip-rap, a beach blanket, or ice ridge repair.
- · Seasonally placing an RV on a shoreland lot.
- · Building on a sub-standard lot.

When planning and before starting a project in the shoreland zone, contact the Otter Tail Land & Resource Management Office. Bring in a detailed plan of the project to review with staff. Contact staff at 218-998-8095 or stop by the office at the Government Services Center, 540 Fir Avenue in Fergus Falls.

# Contact the East or West Otter Tail Soil and Water Conservation District (SWCD) for:

- Technical information and assistance on projects that involve shoreland stabilization (erosion control) and shoreland and woodland management.
- Technical information and assistance on shoreland restoration/landscaping projects; talk with the shoreland specialist in the East Otter Tail SWCD Office.
- Funding assistance for abandoned well sealing, low interest septic compliance loans, and conservation program assistance
- Cost-share programs for water quality and shoreline restoration projects; wildlife projects on private land; and wetland restoration projects.
- Tree sales

See the map at http://www.eotswcd.org for the East and West SWCD boundaries.

# Contact the appropriate Watershed District (see page 2 for district boundaries):

- For assistance with projects that involve shoreland stabilization.
- Before starting any shoreland project to see if watershed district permits are required.

#### Contact the appropriate Minnesota DNR Office before:

- Removing emergent vegetation (cattails, bulrushes, wild rice); contact the Fisheries office.
- Using chemicals to control any aquatic vegetation (emergent or submerged); contact the Fisheries office.
- Clearing a path through lilypads for access to open water; contact the Fisheries office.
- Altering a lake bed or any work done below the OHWL; contact Waters/Fergus Falls.

# Funding Partners

- · MN DNR Native Shoreland Buffers Incentive Program
- · Otter Tail County Coalition of Lake Associations
- Otter Tail County Land & Resource Management
- Lake Region Electric Cooperative "Operation Round Up"
- · Otter Tail Lakes Property Owners Association
- · Otter Tail Power Community Connections Program
- East Battle Lake Lakeshore Association

- East and West Otter Tail Soil and Water Conservation Districts
- Buffalo-Red River Watershed District
- RMB Environmental Laboratories, Inc.
- · Park Region Mutual Telephone Company
- Dead Lake Association
- Wall Lake Association



#### Frequently Called Numbers & Contact Information in Otter Tail County

Projects that impact Minnesota's water resources are regulated by a variety of local, state, and federal agencies. This guidebook does not attempt to offer a comprehensive list of water-related contacts.

#### OTTER TAIL COUNTY CONTACTS

# Otter Tail County Government Services Center

540 Fir Avenue, Fergus Fall, MN 56537 Main telephone: 218-998-8000

#### Otter Tail County Website

www.co.otter-tail.mn.us

Government officials (county, city, and township) and links to county departments.

## Otter Tail County Land & Resource Mgnt

540 Fir Avenue West (Government Services Ctr)

Fergus Falls, MN 56537 Phone: 218-998-8095

Hours: Mon-Friday, 8 a.m.-4:30 p.m. No applications are processed after 4:00 pm. http://www.co.otter-tail.mn.us/land

#### Otter Tail Soil & Water Conservation Districts

#### East Otter Tail SWCD

801 Jenny Ave SW, Suite 2, Perham, MN 56573 Phone: 218-346-4260 ext.3

Email: steve.henry@mn.nacdnet.net Hours: Mon-Friday 7:30 a.m. to 4:00 p.m. Shoreline Specialist: Steve Henry

www.eotswcd.org

#### West Otter Tail SWCD

506 Western Ave N, Fergus Falls, MN 56537 Phone: 218-739-1308 ext.3

Email: brad.mergens@mn.nacdnet.net Hours: Mon-Friday 7:30 a.m. to 4:00 p.m.

www.wotswcd.org

## Otter Tail Solid Waste Department

Solid Waste: 218-998-4898 Recycling Center: 218-736-4400 HHW Facility: 218-736-2161

http://www.co.ottertail.mn.us/ solidwaste/default.php

#### Otter Tail County Geographic Information Systems (GIS)

525 Fir Avenue West (Government Services Ctr)

Fergus Falls, MN 56537 Phone: 218-998-8310

Provides general information on enhanced 911 Ordinance and 911 house address signs. http://www.co.ottertail.mn.us/gis/default.php

# Otter Tail County Highway Administration

505 South Court Street (South Court Building) Fergus Falls, MN 56537

Phone: 218-998-8470

http://www.co.ottertail.mn.us/highway/default.php

# Otter Tail Emergency Preparedness

Information on spring floodiing and other emergencies.

http://www.co.ottertail.mn.us/emergency

#### Watershed Districts (WD): (see page 2)

#### Bois de Sioux WD

704 Hwy 75 South, Wheaton, MN 56296 Phone: 320-563-4185

bdswd@frontiernet.net; www.frontiernet.net/~bdswd

#### Buffalo-Red River WD

123 Front Street S.; P O Box 341 Barnesville, MN 56514, Phone: 218-354-7710 brrwd@bvillemn.net; www.brrwd.org

#### Pelican River WD

801 Roosevelt Avenue, Detroit Lakes, MN

Phone: 218-846-0436 Email: tera.guetter@arvig.net Website: http://www.prwd.org/

#### **Cormorant Lakes WD**

Cormorant Community Center

10929 Ctv Hwv #5, Pelican Rapids, MN 56572

Phone: 218-532-5025

Email: admin@cormorantlakeswatershed.org Website: www.cormorantlakeswatershed.org

#### MINNESOTA STATE OFFICE CONTACTS:

#### Minnesota DNR

# MN DNR Information Center

Toll free: 1-888-646-6367

info.dnr@state.mn.us; www.dnr.state.mn.us Link to Area Offices by Division:

http://www.dnr.state.mn.us/areas/index.html

## MN DNR Multi-Discipline Office/Fergus Falls

Waters, Fish & Wildlife, AIS Specialist, Parks & Trails 1509 First Avenue North, Fergus Falls, MN 56537

Phone: 218-739-7576

# DNR Fisheries Regional Office in Bemidji

(For aquatic plant management permits) 2115 Birchmont Beach Rd NE, Bemidji, MN

Phone: 218-755-3959

# Minnesota Pollution Control Agency (MPCA)

Detroit Lakes Office: 218-847-1519 ISTS Licensing Phone: 651-296-7789

#### Minnesota Department of Health (MDH)

Fergus Falls Office: 218-332-5150 State Office Phone: 800-383-9808

#### University of Minnesota Extension

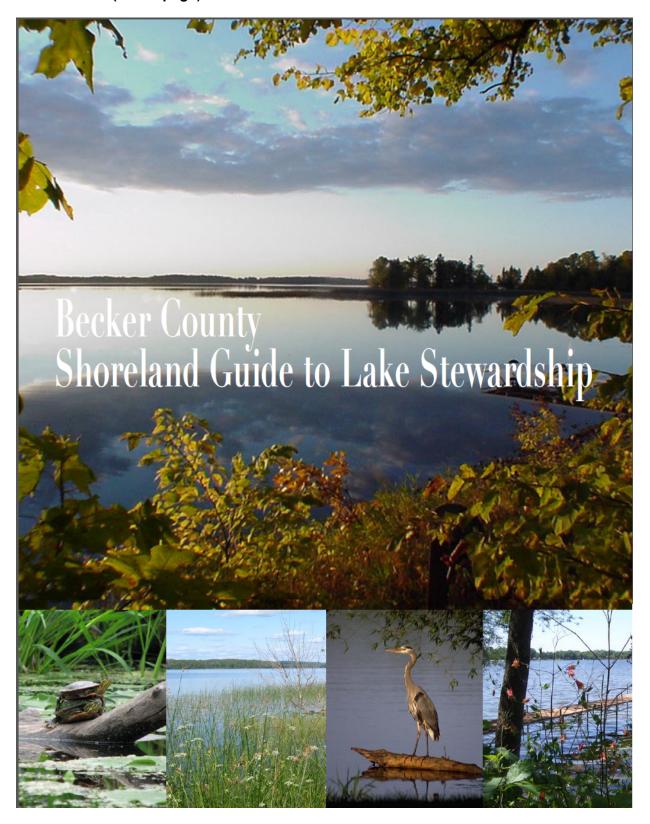
Extension Educator, Water Resource Management 220 West Washington Avenue; Suite 201 Fergus Falls, MN 56537; Phone: 218-998-5787 kterry@umn.edu; www.extension.umn.edu/Shoreland/

#### OTTER TAIL COUNTY COALITION OF LAKE ASSOCIATIONS (COLA)

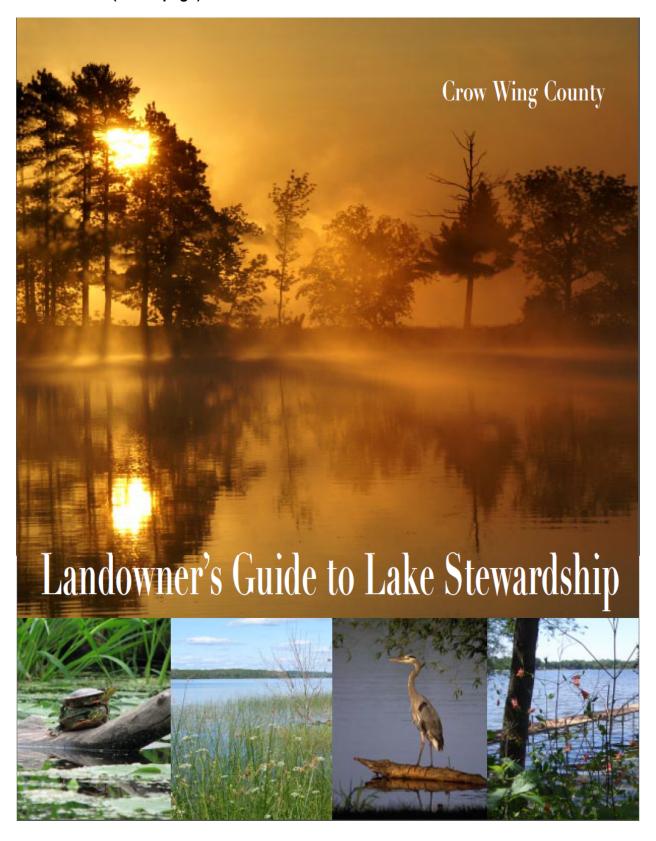
P O Box 53, Ottertail, MN 56571 Email: otccolameeting@gmail.com Website: www.minnesotawaters.org/group/otccola

The COLA is organized to facilitate cooperation among member lake associations and assist in fostering the wise use of the county lakes.

Appendix B – Excerpt from Becker County Shoreland Guide to Lake Stewardship (Cover page)



Appendix C – Excerpt from Crow Wing County Landowner's Guide to Lake Stewardship (Cover page)



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