



Culvert Program

Strategic Plan

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Bad River Watershed Association (BRWA) Culvert Program Strategic Plan

Background

The Bad River watershed is the largest basin on the south shore of Lake Superior. Fish passage and sedimentation at road stream crossings have been identified as major concerns in the watershed. To address this concern, the Bad River Watershed Association (BRWA) initiated a culvert project to conduct a watershed wide, quantitative road-stream crossing inventory and identify specific sites that are priorities for remediation.

BRWA developed inventories to gather general information about the structure itself, crossing characteristics, and stream channel conditions. Inventories were conducted by a combination of BRWA volunteers and Northland College student interns. Critical criteria were developed with the help of local partners to identify sites with accelerated erosion and sediment loading, or sites that create fish passage problems, or both.

Now that we have a list of priority problem sites, we need to work with local partners to determine how we will fix those sites. This document outlines a process for determining how local partners will work together to remediate problem road stream crossings, and proposes a strategic work plan that identifies specific sites, funding, partners and their roles for the next three years.

Vision

It is the vision of the BRWA's culvert program to improve the integrity of streams and rivers in the Bad River watershed by replacing culverts on problem sites in coordination and collaboration with all stakeholders.

Mission/Purpose

The purpose of this plan is to detail the process and work plan by which the BRWA and their partners will work to replace problem culverts within the Bad River watershed that are on the priority replacement list.

Goals, Objectives, and Tactics

Goal 1: Obtain funding to address problem sites.

Objective 1a — Identify funding needs for the coming year's project sites.

Objective 1b — Identify annual funds available for culvert replacement already existent in the budgets of participating agencies.

Objective 1c — Acquire additional funding for coming year through research and grant writing.

Objective 1d — Write a comprehensive fundraising plan.

Goal 2: Increase coordination and communication among key stakeholders in order to collaborate and efficiently mobilize and apply existing resources.

Objective 2a — Identify all key stakeholders involved in culvert replacement process and define their roles within the process.

Tactics:

- Create and maintain an outline that details the procedure for a collaborative culvert replacement process—broken down into individual stages of the process and including roles, offices involved, standard forms, and tentative timeframe if applicable. (*For a draft see Appendix A*)
- Develop and update a contact list of contact information for current stakeholders, possible funders, and interested parties. (*For outline see Appendix B*)

Objective 2b — Host annual culvert coordination workshop.

Tactics:

- Detail logistics of annual meeting: when meeting will be held, who is involved. (*Appendix C*)
- Establish preliminary needs for meeting, determine what information is needed to allow the meeting to run efficiently. (*Appendix C*)
- Develop a working itinerary for meeting. (*Appendix D*)
- Detail what is needed for post meeting follow-up. (*Appendix C*)
- Distribute and review evaluation of workshop success/effectiveness. (*Appendix E*)

Goal 3: Evaluate the progress of the BRWA culvert program.

Objective 3 — Document and assess outcomes of the culvert program at the end of each season.

Tactics:

- Maintain documentation of meeting minutes, replacement projects, funding sources, media coverage, etc as historical reference as the culvert program develops. -Use these documents as a starting point for annual updates of policy.
- Complete and review the Strategic Plan Evaluation annually (*Appendix F*)
- Collect and review Culvert Coordination Workshop Evaluations. (*Appendix E*)

Long-Term Project Needs

- A:* Coordinate culvert databases of BRWA, county, etc in order to synchronize/cross reference sites and improve information sharing and streamline replacement process.
- B:* Create an online photo database of before and after pictures of culvert replacement projects. Work towards geo referencing these sites with GIS to create an interactive map.
- C:* Develop a strategic plan for long-term monitoring of the project sites to analyze replacement success.
- D:* Re-inventory replaced culverts and update database accordingly.
- E:* Synthesize results of replacement projects into measurables (i.e.: miles of stream opened up, estimate of reduced sedimentation loads, etc).

Mechanism for Evaluation

The BRWA will develop, update, and utilize an evaluation form to assess the degree of success of the culvert program and the effectiveness of this strategic plan. Evaluation should be completed annually after each replacement season. The preliminary evaluation is developed on a five-point scale—one being poor or the least and five being the best or most. (*Appendix F*)

Appendices

- A.** Collaborative Culvert Replacement Work Plan
- B.** Contact List of Stakeholders
- C.** Culvert Coordination Workshop
- D.** Working Itinerary for Culvert Coordination Workshop
- E.** Culvert Coordination Workshop Evaluation
- F.** Culvert Program Strategic Plan Evaluation

Appendix A

Collaborative Culvert Replacement Process Work Plan

The priority list of culverts is presented in Figure 1 and Table 1. This list was developed by applying critical criteria to inventory data. As additional inventory data becomes available this list may change. In addition, some sites were added to the list based on suggestions from town or county highway road crews.

The strategic work plan for how we will fix these sites over the next three years is presented in Tables 2-4. A description of the different elements of culvert remediation is described below. Each element is included in the 3 year work plan.

ENGINEERING

The engineering work to design the new crossing will be completed by a county, state, federal or other engineer with training in fish friendly design. The engineer will be selected on a site-to-site basis depending on the location of the crossing site

PERMITTING

All permitting will be the responsibility of the appropriate jurisdiction. Engineers that design fish friendly crossings in this plan will work with those jurisdictions to complete required permits.

FUNDING

Our program often involved providing funding for the pipe, with match for the project contributed by local townships or counties to install the pipe. Therefore funding sources for both the pipe and the installation are provided in the work plan.

INSTALLATION

Installation is carried out by state, county, township, or tribal county road-crews or by a contractor of their choosing. Installers for BRWA's Culvert Program must be willing to work with all participating partners and install new structures according to design plans.

MONITORING

Monitoring to assess the affects of culvert replacement on fish and sediment delivery will be conducted on some sites. BRWA and partners will coordinate and conduct this monitoring.

Priority Culvert Sites the Bad River watershed
List created 9-23-08

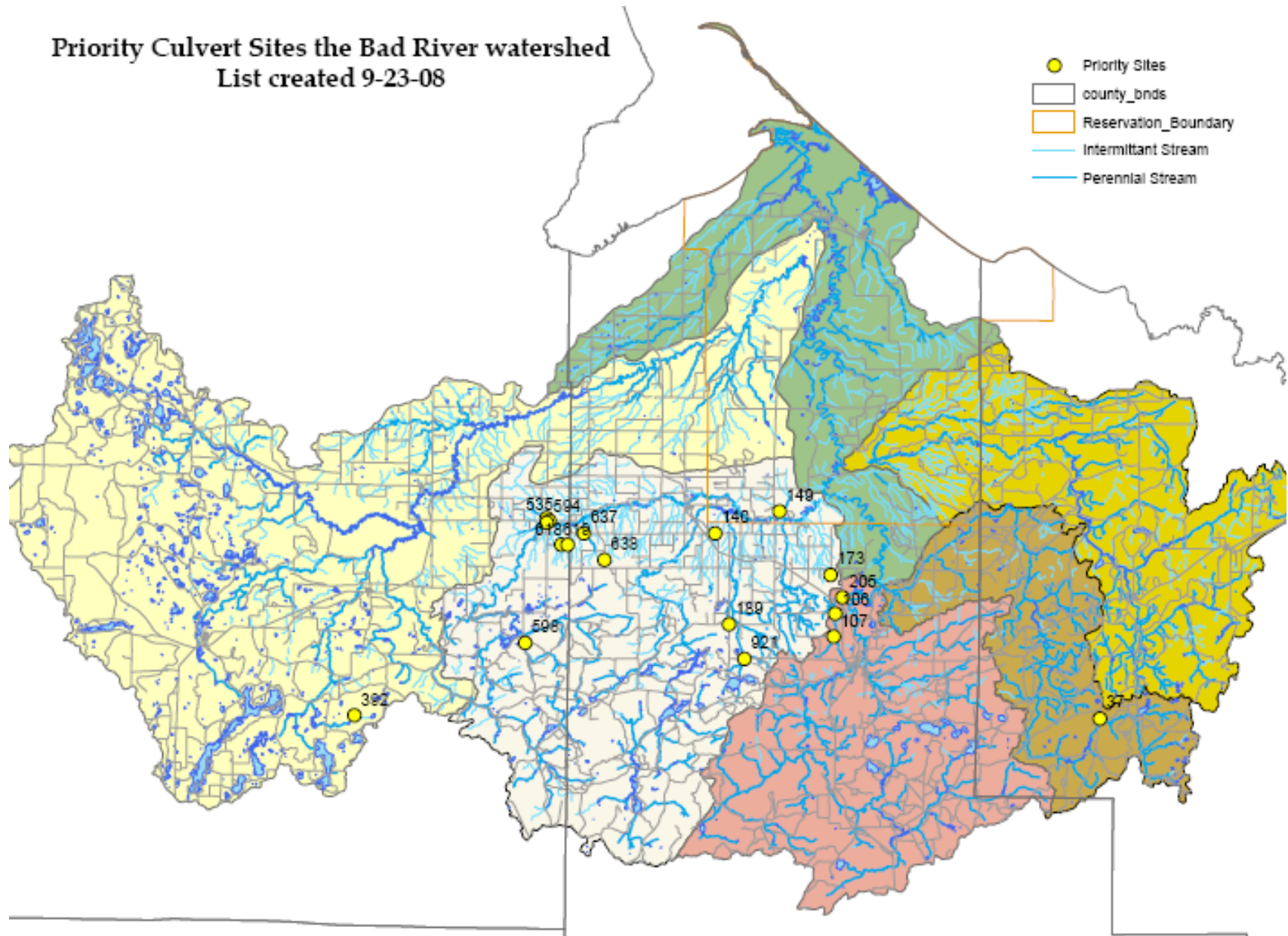


Figure 1. Map of the Bad River Watershed showing priority Culvert Sites.

Table 1. Site information on culverts on the priority list.

Site ID	Waterway	Road	Township	Township Range	Section	Quarter	Pipe Length (ft)	Height (in)	Width (in)
37	Tyler Forks	Shirley Lake Road	Anderson	T 44N R 1W	13	NW	30	60	72
106	Krause Creek	County C	Morse	T45N R3W	24	SE			180
107	Krause Creek	Gilgen Road	Ashland	T45N R3W	25	SE	56	60	60
140	Brunswelier River Trib.	County Road C	Ashland	T45N R3W	6	NW	70	72	72
149	Marengo River Trib.	Mattson Road	Ashland	T46N R3W	34	SW			
173	Billy Creek	Schlies Road	Ashland	T45N R3W	13	NW	40	24	24
189	Trout Brook Trib.	Spring Brook Road	Ashland	T45N R3W	30	NE			
205	Krause Creek	Golf Course Road	Ashland/Morse	T45N R2W	19	NW		96	96
392	Long Lake Branch of White R. Trib.	Taylor Lane	Grand View	T 45N R 6W	16	NE	24	36	36

Table 1. Site information on culverts on the priority list continued

Site ID	Waterway	Road	Township	Township Range	Section	Quarter	Pipe Length (ft)	Height (in)	Width (in)
392.5	Long Lake Branch of White R. Trib.	Taylor Lane	Grand View	T 45N R 6W	16	NE	24	36	36
527	Marengo River Trib.	Argo Road	Kelly	T 46N R 5W	36	SW	48	6	8
535	Marengo River Trib.	County Hwy E	Kelly/Lincoln	T 45N R 5W	1	NW	60	84	84
594	Marengo River Trib.	Four Corner Store Road	Lincoln	T 45N R 5W	1	NW	48	60	78
598	Morgan Creek Trib.	Snake Tr./FR 194	Lincoln	T 45N R 5W	35	NW	30	48	48
618	Marengo R. Trib.	Hager Road	Lincoln	T 45N R 5W	1	SE	55	48	72
619	Marengo River Trib.	Hager Road	Lincoln	T 45N R 5W	1	SE	60	48	48
626	Morgan Creek	Morgan Creek Road	Lincoln	T 45 N R 5W	26	SW	56	144	96
637	Troutmere Creek	Midway Road	Marengo	T 45N R 4W	6	SE	60	96	144
921	Trout Brook	Kornstead Road/FR 390	Morse	T44N R3W	5	NE			

Sites Selected for 2009 Culvert Projects

<i>Duties for Culvert Replacement</i>	<i>Site 1</i>	<i>Site 2</i>	<i>Site 3</i>	<i>Site 4</i>	<i>Site 5</i>	<i>Site 6</i>	<i>Site 7</i>
	<i>618 Hager Rd</i>	<i>619 Hager Rd</i>	<i>392 Taylor Lane</i>	<i>392.5 Taylor Lane</i>	<i>637 Troutmere Creek</i>	<i>37 Tylers Forks</i>	
<i>Engineering</i>	<i>Bayfield County LWCD</i>	<i>Bayfield County LWCD</i>	<i>Bayfield County LWCD</i>	<i>Bayfield County LWCD</i>	<i>Ashland County LWCD</i>	<i>Iron County LWCD</i>	
<i>Permitting</i>	<i>BRWA/Town Lincoln</i>	<i>BRWA/Town Lincoln</i>	<i>USFWS/Town Grand View</i>	<i>USFWS/Town Grand View</i>	<i>Ashland County LWCD/Town Marengo</i>	<i>Iron County LWCD/Town Anderson</i>	
<i>Installation</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>
<i>Monitoring</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>
<i>Funding (pipe)</i>	<i>BRWA \$5,000 USFWS Coastal</i>	<i>BRWA \$5,000 USFWS Coastal</i>	<i>USFWS \$5,000</i>	<i>USFWS \$5,000</i>	<i>BRWA \$5,000 USFWS Coastal</i>	<i>BRWA \$10,000 NFWF</i>	
<i>Funding (Installation)</i>	<i>Town Lincoln</i>	<i>Town Lincoln</i>	<i>Town Grand View</i>	<i>Town Grand View</i>	<i>Town Marengo, Ashland LWCD, USFWS</i>	<i>Town Anderson, Iron County</i>	

Sites Selected for 2010 Culvert Projects

	<i>Site 1</i>	<i>Site 2</i>	<i>Site 3</i>	<i>Site 4</i>	<i>Site 5</i>	<i>Site 6</i>	<i>Site 7</i>	<i>Site 8</i>
<i>Duties for Culvert Replacement</i>	<i>140 County C</i>							
<i>Engineering</i>	<i>Ashland County Highway Dept</i>							
<i>Permitting</i>	<i>Ashland County Highway Dept/ Town Ashland</i>							
<i>Installation</i>	<i>Ashland County Highway Department</i>							
<i>Monitoring</i>								
<i>Funding (pipe)</i>	<i>BRWA \$15,000 USFWS Coastal</i>							
<i>Funding (Installation)</i>	<i>?</i>							

Appendix B

Contact list of current partners

Last Updated: 12/5/2008

Name	Affiliation	Culvert Program Focus
Tom Fratt	Ashland County Land and Water Conservation	Design
Mike Pero	Ashland County Land and Water Conservation	Design
Butch Loebermeier	Bayfield County Land and Water Conservation	Design
Ben Dufford	Bayfield County Land and Water Conservation	Design
Mary Jo Gringas	Iron County Land and Water Conservation	Design
Paul Johnson	Natural Resources Conservation Service	Design
Tom Fitz	Northland College	Monitoring
Pam Dryer	US Fish and Wildlife Service	Monitoring
Ted Koehler	US Fish and Wildlife Service	Monitoring
Naomi Tillison	Bad River Natural Resources Department	Monitoring
BRWA	BRWA	Funding
Naomi Tillison	Bad River Natural Resources Department	Funding
Pam Dryer	US Fish and Wildlife Service	Funding
Mark Nuutinen	Town of Ashland	Installation, Permitting
Bob Cameron	Town of Gingles	Installation, Permitting
Carl Kubley	Town of Gordon	Installation, Permitting
Harold Smith	Town of Marengo	Installation, Permitting
Howard (Bud) Peters	Town of Morse	Installation, Permitting
Luis Salas	Town of Sanborn	Installation, Permitting
Tom Richardson	Town of White River	Installation, Permitting
Wayne	Town of Delta	Installation, Permitting
Bill Devries	Town of Drummond	Installation, Permitting
Howard Sibbald	Town of Grandview	Installation, Permitting
Verne Gilles	Town of Kelly	Installation, Permitting
Douglas Glaspie	Town of Lincoln	Installation, Permitting
James Sandor	Town of Mason	Installation, Permitting
Howard (Bud) Benter	Town of Anderson	Installation, Permitting
Tom Innes	Town of Gurney	Installation, Permitting
Daniel Soine	Town of Knight	Installation, Permitting

Appendix C

Culvert Coordination Workshop

Who is involved in the coordination meeting?

The Bad River Watershed Association; representatives from counties and townships; state, federal, and tribal agencies; state and federal government representatives whose jurisdiction falls within the Bad River watershed.

When will the meeting be held?

Meeting will be held annually, after September 15th and before October 20th to best accommodate budgeting and schedule of seasons for participants in the workshop.

Preliminary needs/necessary information:

- Existing funds available for replacement projects (monies from BRWA, DNR, USFWS etc.)
- List of priority sites including as much detail as possible sent out by Sept 1st— exact locations, site measurements, estimated costs of replacement/pipe, photos, large scale maps etc.
- Staff resources available from participating state, county, township, or tribal crews/availability within individual agency budgets.

Post-meeting follow up:

- Minutes/decision document will be distributed to participants within 2 weeks of workshop date.
- A notice to townships will be released detailing the decisions reached concerning sites discussed in the meeting in a press release, office memo etc.

Appendix D

Working Itinerary for Culvert Coordination Workshop

**Value of this specific itinerary is subject to change dependent on workshop attendees, revised objectives, or improvement based on review in evaluations. This is intended as a starting point for a continually updated document.*

I. Introductions and Background	15 min
II. Season Culvert Choices	20 min
a. The Priority list of problem crossings	20 min
b. Taking Stock of Resources	25 min
c. Choose sites for the coming year	15-30 min
III. Break	10 min
IV. The process to ensuring successful culvert installations	70 min
a. Site selection	
b. Permitting	
c. Design/Engineering	
d. Installation	
e. Monitoring	
V. Workshop Evaluation	5 min

Appendix E

Culvert Coordination Workshop Evaluation

The BRWA would like to hear some feedback from you about this workshop. Please respond by circling your answers and/or writing additional comments:

Answers are based on a five-point scale. One indicating the least and five indicating the greatest.

1) How satisfied were you by the outcome of the meeting:

A. Season culvert choices:

1 2 3 4 5

Comments:

B. Culvert network development

1 2 3 4 5

Comments:

2) To what degree do you feel that the season's culvert choices were made in a fair manner?

1 2 3 4 5

Comments:

3) How well do you feel that your opinion/voice was heard?

1 2 3 4 5

Comments:

4) How valuable was this meeting in assisting you to complete your job in relation to the BRWA's culvert program?

1 2 3 4 5

Comments:

5) Did you find that that this was a good time of year to hold the meeting?

Yes No

(If you answered no please provide a suggested date)

6) To what degree do you feel you were provided with sufficient material for the meeting?

1 2 3 4 5

Comments:

7) Would you recommend this workshop to your peers/co-workers?

Yes No

Comments:

8) What was the most/least useful part of the workshop?

9) What do you hope to see the BWRA doing in the future in terms of the culvert program (any suggestions, comments, critiques, etc.)?

Additional Comments:

Appendix F

Strategic Plan Evaluation

Answers are based on a five-point scale. One indicating the least and five indicating the greatest.

1) To what degree were funding needs for the coming year's replacement projects identified in a timely and efficient manner?

1 2 3 4 5

Comments:

2) How well were existing funds for culvert replacement identified and utilized?

1 2 3 4 5

Comments/ideas for further utilization of existing funds:

3) How well did the comprehensive fundraising plan suit the needs of the culvert program this year?

1 2 3 4 5

Comments/edits to the plan:

4) To what degree was the stakeholders contact list beneficial in coordinating efforts this year?

1 2 3 4 5

Comments:

Additions or changes to list:

5) Overall, how well did the coordinating workshop run this year?

1 2 3 4 5

A. How effectively were the appropriate parties reached?

1 2 3 4 5

Ideas for improvement:

B. How effectively was the desired attendance achieved?

1 2 3 4 5

Ideas for improvement:

C. To what degree was site information accurately and appropriately gathered in advance for the meeting?

1 2 3 4 5

Ideas for improvement:

D. How successful was the itinerary in coordinating the flow of the meeting and its efficiency?

1 2 3 4 5

Ideas for improvement:

E. To what degree were post meeting follow-up goals met in a timely manner?

1 2 3 4 5

Ideas for improvement:

Additional comments or proposed edits to the strategic plan for coming year: