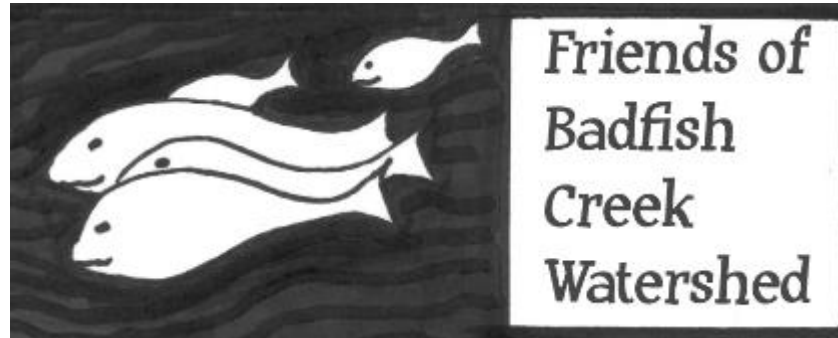


# From Monitoring to Planting:

Knocking Out Knotweed on Badfish Creek  
in Rock County  
2008-2014

Lynne Diebel, Friends of Badfish Creek Watershed

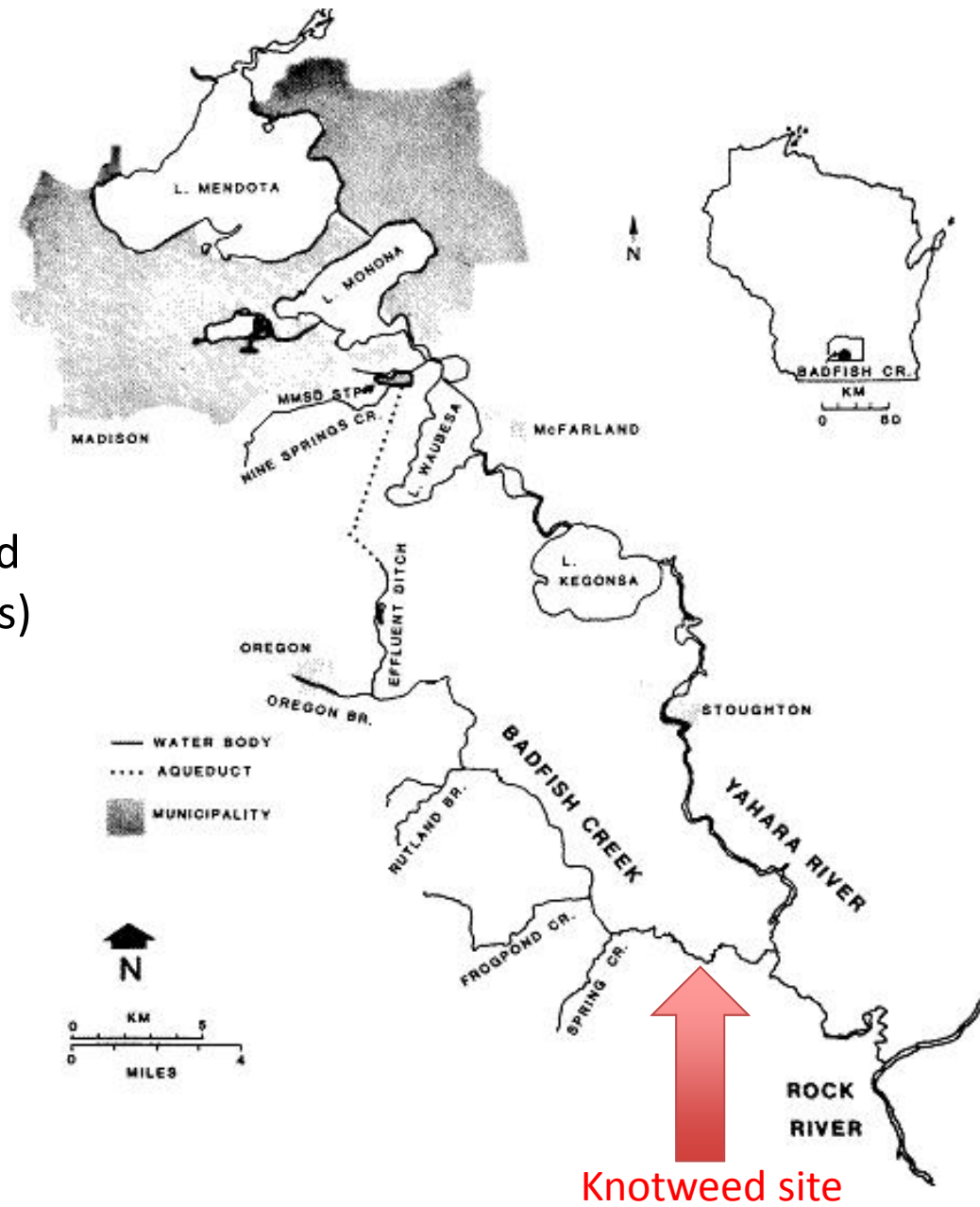
## Friends of Badfish Creek Watershed



Chapter of the Rock River Coalition



# Badfish Creek Watershed (Dane and Rock Counties)



# Monitoring by Canoe

Project R.E.D. (Riverine Early Detectors)

River Alliance of Wisconsin Citizen Monitoring Program

<https://www.wisconsinrivers.org/our-work/project-red>



July 24, 2008

Canoed the Badfish from Cooksville to Casey Road with Laura MacFarland (River Alliance of Wisconsin) as a Project R.E.D. pilot project

Found:

- two lone purple loosestrife plants
- Japanese knotweed on both sides of Riley Road bridge



## **Know Thine Enemy**

Knotweed stalks sprout early and grow around three feet a month. The plant sends roots down some 9 feet and rhizomes outward up to 60 feet. It grows through concrete, damaging roads, dams, buildings and just about anything made by man. To eradicate knotweed, you must destroy the network of roots and rhizomes.

(June 2009) In 26 days, the plants had grown to be 7-8 feet tall, 1 inch in diameter, and they weren't even fully unfurled.





## Eat Thine Enemy?



recipes online

<http://eattheinvaders.org/japanese-knotweed/>

and many other sites

**August 2008**

Support and encouragement of  
River Alliance of Wisconsin  
Rock River Coalition

Susan Graham, WI DNR Water Resources Management Specialist

Wisconsin DNR Aquatic Invasive Species (AIS) Grant

## **LOTS to do in the fall of 2008**

1. Authorize grant application with our fiscal agent RRC

2. Gain landowners' permission and support

3. Identify stakeholders and build partnerships:

River Alliance

Rock River Coalition (RRC)

Invasive Plants Association of Wisconsin (IPAW)

Dane County Conservation League

Mad City Paddlers

Prairie State Canoeists

Sierra Club river touring section

high school environmental group

Boy Scout troop

Agrecol Native Nursery

Prairie Enthusiasts

3. Recruit volunteers for work parties

Stakeholder groups

Local newspaper article drew individual citizens

4. Request Letters of Support from stakeholder groups

## **Enlist expert advice and guidance**

DNR and IPA W advised adaptive management:

1. Cut and burn
2. Foliar spray regrowth with glyphosate, surfactant and blue dye
3. Inject glyphosate into large stalks (over ½" diameter)

FBCW's treasurer Scott Taylor, a professional forester certified in aquatic herbicide application, supervised

1. purchase of chemicals and equipment
2. chemical application and safety training
3. herbicide application permits

Grant  
Application  
Submitted  
Feb 2009

**Proposal by the Friends of Badfish Creek Watershed to Eradicate Japanese Knotweed at Riley Road on Badfish Creek**

The Friends of Badfish Creek Watershed (FBCW) is a chapter of the Rock River Coalition (RRC), a 501(c)(3) which serves as FBCW's fiscal agent.

**The Problem**

In July 2008, Laura MacFarland of the River Alliance of Wisconsin and Lynne Diebel of FBCW surveyed Badfish Creek by canoe as part of Project R.E.D. (Riverine Early Detectors), the River Alliance's initiative for aquatic invasive species identification and control on Wisconsin rivers.

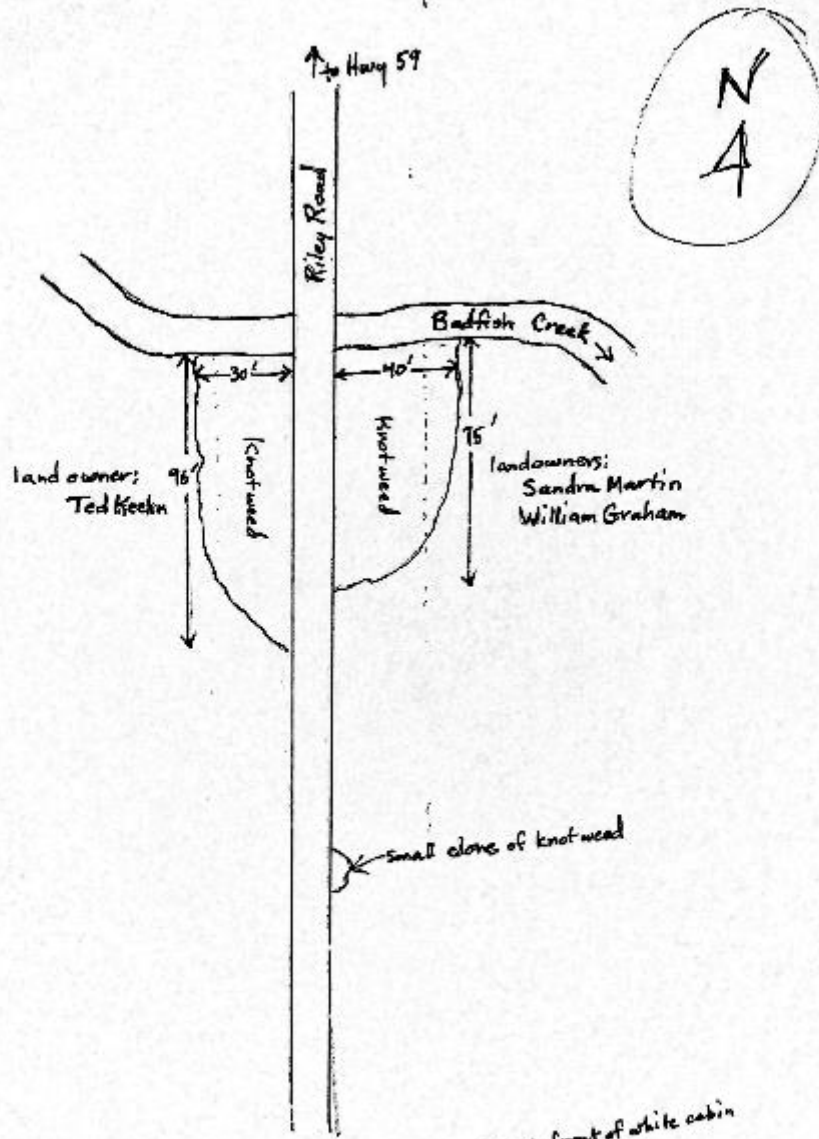
Laura found approximately 5,000 square feet of Japanese knotweed (*Polygonum cuspidatum*) on the south side of the creek at Riley Road (Rock County), both upstream and downstream of the bridge. The infestation was reported to the DNR Weed Watchers program and to adjacent landowners. Susan Graham of the DNR visited the site.

Knotweed infestation on the banks of Badfish is currently limited to this bridge site. However this is a highly aggressive plant, and plant pieces which are washed downstream can resprout, creating new clones. Knotweed grows up to ten feet tall, in dense, leafy, impenetrable stands which block human and animal access to the stream and shade out all native plants. Mowing knotweed actually increases its spread.

Knotweed infestations destabilize stream bank soil, thus increasing the rate of stream bank erosion. In 2001, the Badfish in Rock County was one of the top watersheds in Rock County for soil loss, estimated at 9 tons/acre/year (Lower Rock River Water Quality Management Plan, 2001).

The Badfish in Rock County is a popular canoe route for local paddlers and paddling groups, including the Mad City Paddlers, the Prairie State Canoeists, the Hoofers Outing Club, and the River Touring Section of

FDLW copy



Note: 1 mile South of bridge is another small clone, at the head of tributary (on the right in front of white cabin just before Caledonia Road)

# Project Plan

2009

**March-April:** Before the spring runoff floods the banks, cut and/or knock down dead knotweed stalks and haul to nearby upland to clear the area for the work in June.

(20 volunteers for 4 hours = 80 hours)

**June:**

1. About a week after foliage has unfurled on emergent stalks, and when the temp is above 65 degrees, apply foliar spray: glyphosate (Rodeo) by stream and triclopyr (Element 3A) further back, both with surfactant and blue dye. The small isolated clones along Riley Road south of the bridge will be initially treated by injection of glyphosate with an injection tool sold by JK Injection Tools as part of the adaptive management approach.
4. Once the diameter of the stalks in these clones is reduced, foliar spray will be used on these as well.

(3 volunteers for 2 hours = 6 hours)

2. After 2-3 weeks (when stalks are dead) cut or knock down with rope or pole, haul to upland, and pile on tarps until dry to prevent re-sprouting.

(15 volunteers for 4 hours = 60 hours)

3. Burn accumulated stalks when all are dry.

(2 volunteers for 4 hours = 8 hours)

**Aug:**

1. Apply foliar spray to emergent knotweed. Where feasible, inject clones. At this point, sprouts will be sparser and thinner.

(3 volunteers for 2 hours = 6 hours)

2. After 2-3 weeks, cut or knock down dead stalks and haul.

(15 volunteers for 4 hours = 60 hours)

3. Burn stalks when dry.

(2 volunteers for 4 hours = 8 hours)

**Sept:**

1. IF regrowth warrants spraying, apply foliar spray.

(3 volunteers for 2 hours = 6 hours)

2. After 2-3 weeks, cut or knock down stalks and haul, if necessary.

(4 volunteers for 2 hours = 8 hours)

3. Seed with annual rye grass nurse crop to stabilize banks, and mulch with straw and peat moss to reduce runoff erosion.

(3 volunteers for 1 hour = 3 hours)

Total volunteer hours for 2009 = 245 with Sept spray (231 without)

## Cost Estimate and grant request:

<u>Item</u>	<u>#</u>	<u>Cost</u>	<u>Source</u>
<b>Wages</b>	240	\$8/hour = \$1920	volunteer
<b>Plant Material:</b>			
Annual rye seed to cover 5,000 sq. ft.			Agrecol
Native grass Seed to cover 5,000 sq. ft.			Agrecol
<b>Supplies:</b>			
Waders	3		already owned
Waders	2	\$130 total	<a href="http://www.cabelas.com">www.cabelas.com</a>
Straw bales	7	\$50	
Bags peat moss	2	\$30	
Shoulder gloves	5	83.55 total	<a href="http://www.galeton.com">www.galeton.com</a> Item #7451
Loppers	5		already owned
Loppers	5	94.90 total	<a href="http://www.amazon.com">www.amazon.com</a> Fiskars 27 -Inch Anvil Lopper #91476935A
Tarps	4	\$80	
Chemical gloves & safety goggles	2	\$75	Farm & Fleet
Rubber boots	2		already owned
Foliar spray equipment	2		already owned
Gallons Glyphosate (Rodeo)	2.5	\$220	UAP or Prosource
Surfactant		\$50	



Read grant app carefully

Ask questions

Detailed, concise proposal

GRANT APPROVED!

March 26, 2009

Aquatic Invasive Species Control Grant Program

State Grant Amount:

\$3,257.

March 23, 2009 through December 31, 2013

(We applied for and received a one-year extension,  
submitting the final grant report in mid-December, 2014)

From the very beginning, document all progress with **photos** taken at the same spot

2008



2009



2011



## Observation and Workday Log

Knotweed log:

### 2009

4/18/09 – scattered 2" high sprouts (that was the day our volunteer group cleared, hauled and burned the dead stalks)

5/14/09 – heavy growth, stalks up to 7 feet tall and 1 inch in diameter (there's a yardstick against the clump in photo 5-14-09 001), almost fully leafed out

6/13/09 – cut the fully leafed stalks (1 photo) and hauled to Ted Kuehn's for burning

7/7/09 – sprayed (1 photo)

8/13/09 – looking weaker

9/15/09 – sprayed and injected

### 2010

3/23/10 – observed Riley Road site – nothing visible yet (IMG-1250, 1251, 1252)

4/14/10 – observed site with Scott – tallest on east side (4" tall, placed flag) and mixed with garlic mustard; almost nothing on west.

4/16/10 – observed east side flagged sprout now 6" tall

4/21/10 – observed east side flagged sprout now 9" tall and some stalks are 2' tall; garlic mustard is dying. On west side growth is very sparse and spindly

4/29/10 – observation with photos

1. small clump NW of bridge (injected last year) where no new sprouts are visible
2. isolated patch SE of bridge (injected last year) where largest sprouts are 36" high and re-growth is thinner than east side of bridge with most sprouts 12" tall (Photos 1,2,3)
3. SE corner of bridge (triclopyr last year), flagged sprout is 17" tall, largest sprouts are ½" diameter and 36" tall, density much less than last year; garlic mustard looks dead (Photos 4,5,6,7,8)
4. SW corner of bridge (glyphosate last year), about 20 sprouts total, all spindly with tallest 15" (Photos 9,10,11)

6/5/10 – cut new growth and hauled to Ted Kuehn's farm where he will burn (4 photos from bridge)

7/9/10 – glyphosate foliar spray on both sides of bridge (lots of green-headed coneflower on west). Scott recommends Milestone early September.

8/16/10 – observation of west side showed small growth; north, none; east, moderate 3' high; SE, more.

9/30/10 – Milestone foliar spray on both sides of bridge

10/21/10 – injected two sites, the isolated clone SE of the bridge and the clone on the steep ravine side. 10ml of Milestone VM/container water

## Volunteer Hours Log

### **4/18/09**

22 volunteers for 1.75 hours @ \$12/hour = \$462

Rob Raether

Russ Doman

Joe Roisum

Sue Reindollar

Dayna Flores

Andy Flores

Christopher Arndt

Cathy Arndt

Tony Allhands

Jean Mazzara

Russ Darling

Levi Huvila

Brett Darling

Connor Roisum

Colin Davis

Linda Hopper

Jerry Doll

Russell Melland

Laura McFarland

Lynne Diebel

Sue Graham

Ted Keehn

1 professional volunteer for 1.75 hours @ \$35/hour = \$61.25

Scott Taylor (Taylor Conservation, LLC)

### **6/13/09**

10 volunteers for 2 hours @ \$12/hour = \$240

Zander Gunderson

Ted Keehn

Cathy Royer

Henry Royer

Greg Diebel

# Cutting



# Loading



# Stomping



# Piling



# Burning





# More cutting and loading



# Spraying and Injecting



## **Public Education Programs**

11-4-09 Stoughton Senior Center  
7-19-11 Cooksville Community Center  
3-7-13 Mad City Paddlers meeting  
2013 Wheel Against the Weeds  
2014 Wheel Against the Weeds

Also submitted numerous articles about the project progress to the local papers  
(always include PHOTOS of volunteers!)

## Challenges

1. Incredible persistence of JK
2. Opportunistic new invaders (garlic mustard, wild parsnip)
3. Diminishing enthusiasm during the last two years

## 2014

6-3-14 – sprayed everything (knotweed, dames rocket, garlic mustard, wild parsnip, brambles) with 2% glyphosate (AquaNeat) per Scott Taylor's advice.

9-1-14 – sprayed everything with 2% glyphosate (AquaNeat) again

10-19-14 – mowed brush and dead foliage with power brush cutter, dug holes with planting augers (powered by cordless drill) and planting bars, planted 1200 native grass plugs: (switch grass, side oats grama, little bluestem on the dry slopes (25%) and cord grass, Virginia wild rye and switch grass in lower, moister areas (75%). Bill Graham of Agrecol donated a third of the plants (\$500)!





March 29, 2016

Virginia Wild Rye!

No knotweed!

