



*Cultivating
Environmental
Stewardship in the
Lakeshore Region*

LNRN Networks: The Land and the Water



The Ledge and the Lakeshore





*Cultivating
Environmental
Stewardship in the
Lakeshore Region*

LNRP Vision for the Land and the Water: Cultivating a land ethic through the Sense of Place campaign; and cultivating a water ethic through the We All Live on the Water campaign.

*A Sense of
Place*

WE ALL LIVE
ON THE
Water
Life Depends on It. Protect It.

*A Review of the Centerville Creek and Hika Park
Restoration Project*

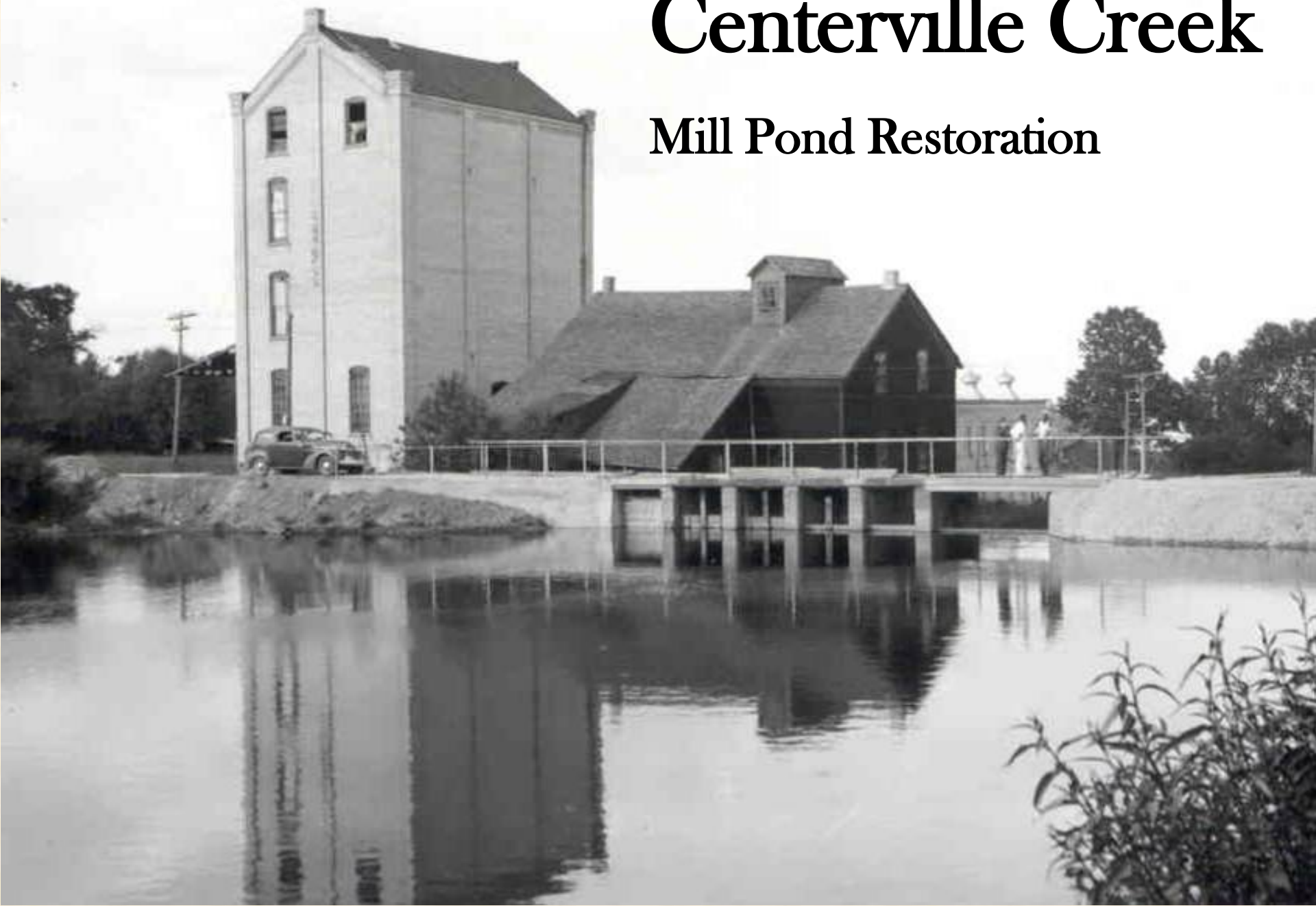
*A Partnership between the Village of Cleveland and LNRP
that helped form the Friends of Hika Bay*



Friends of Hika Bay
Calvin, Pine, Point, Fischer & Centerville Watersheds

Centerville Creek

Mill Pond Restoration



Centerville Creek

Mill Pond Restoration



WILD LIFE AND BOATING ON CENTERVILLE LAKE—BACK OF DAM

1936



LAKE FORMATION BACK OF CENTERVILLE DAM

Centerville Creek Restoration

Our Aspirations:

*A return to a
natural
appearing and
functioning
stream*

*Similar to the
upstream
character of the
South Branch*





CONFLUENCE OF NORTH AND SOUTH BRANCHES OF CENTERVILLE CREEK

LOCATION OF FORMER DAM PREVIOUSLY REMOVED

HIKA SHORES NATURAL AREA

HIKA PARK BOAT LANDING

CENTERVILLE CREEK RESTORATION AREA

VIEW OF CENTERVILLE CREEK AND HIKA SHORELAND PROJECT AREA



Centerville Creek Restoration Timeline

- 1996 Dam removed
- 2000-2001 WDNR River Planning Grant Assessment (Interfluve)
- Recommendations with almost a \$1 million price tag that included a 50% match



2009-2013 LRNP Contracts

- Original contract given to LNRP by the Village of Cleveland for a Feasibility Analysis
- Purpose: “to revisit possible restoration alternatives”
- Advisory Committee
- Grant Writing
- Fundraising
- Overall Coordination



Inputs on Design Elements

- Friends of Hika Bay
- Interfluve
- River Alliance of Wisconsin
- UW Stevens Point – Watershed Studies
- DNR, County Land & Water Conservation Dep., Invasive Species Coordinator
- UW Madison – Landscape Designs
- Lakeshore Technical College – Horticulture Program
- D & H Land Surveys





HIKA BAY RESTORATION PLAN

CONCEPTUAL MASTER PLAN



Scale 1" = 200'-0" North ↑

Lookout Entrance

The lookout entrance to the park is located on the North side of Lincoln Avenue and is intended to serve as a welcoming point for the community. The arbor will hold informational signs and maps about the park itself as well as the history of the Mill Pond which was once located directly to the North of the entrance.



Scale 1" = 20'-0" North ↑

Character Sketches

The Boardwalk

The boardwalk will safely take people on a tour of the ridge and swale ecosystem, incorporating signage to educate people of the ecosystems importance.



Connections

A path underneath the bridge constructed of concrete will allow flooding while providing the asset of connecting the park while dry.



Walk to Lake Michigan

Section view showing the transition from the open recreation area by the pumping station to the pier. Native planting would resemble the swale ecosystem.



Scale 1" = 15'-0"

PROJECT STATEMENT

The Village of Cleveland, WI recently received a grant for the restoration of Centerville Creek with the help of the Lakeshore Natural Resources Partnership. The creek runs from West of the town, to East into Lake Michigan. The restoration grant will provide the means for the Village of Cleveland to have sediment removed from the dry basin of the old Mill Pond. Sediment had been deposited over time as a result of a mill dam that was once in place. The project will also include recontouring the slopes leading down to Centerville Creek as well as the creek bed itself. The village hopes that this work will help to bring back trout to the creek, which is an active trout stream. The grant money also allowed the Village of Cleveland to purchase land on the East side of Lakeshore Road directly behind an active ridge and swale ecosystem. The main purpose of this project is to graphically explore multiple options of park design for the Village of Cleveland.

Project Goals

- Improve Site Connectivity throughout the Park
- Improve and exploit existing views, using Lake Michigan as a Focal Point
- Create a Secondary Entrance Closer to town along Lincoln Avenue
- Restore Land obtained through the grant to further expand the Ridge and Swale Ecosystem
- Create an Enjoyable and Educational Park Experience

Beachfront

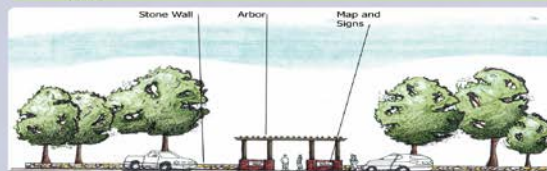
The beachfront zone of the site has been designed to improve views out to Lake Michigan. This has been accomplished by opening up lines of sight from the Western edge of the site and Lakeshore Road. Views from on site have also been improved by adding several small gazebos for people to gather in, as well as seat walls along the edge of the sand dunes. A pier has also been added to the site so that people can interact more freely with the lake. The pump station should be improved to allow for public restroom facilities and a concession stand.



Scale 1" = 50'-0" North ↑

Lookout Entrance

View of parking adjacent to the arbor which houses maps and informational signage. Information at this site would highlight the history of the Mill Pond.



Scale 1" = 15'-0"

Example of UW Madison Student Design

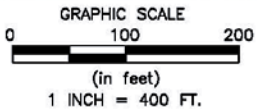
We received 19 student designs for the overall restoration plan.



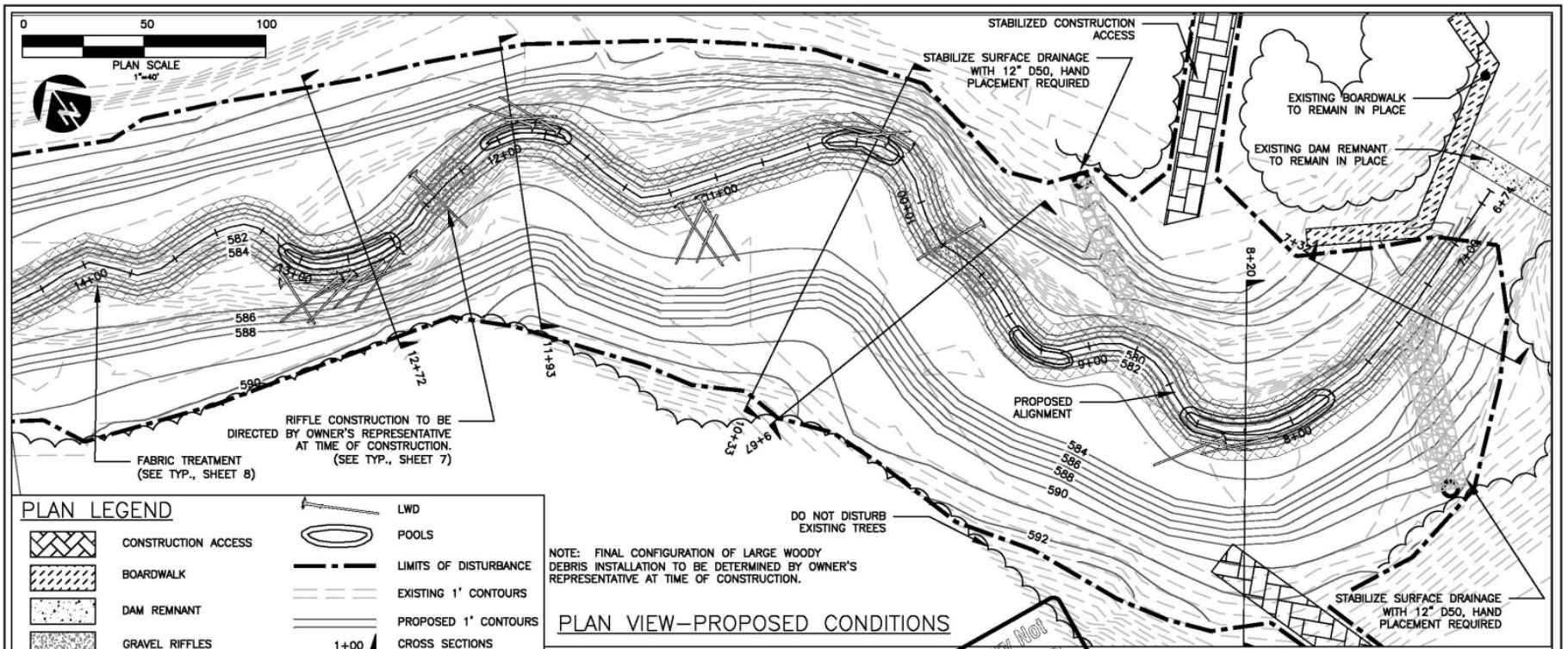
Maintain space
for future paths

Floodplain
bench

Meander bend
with pools



PROPOSED CONDITIONS
CENTERVILLE CREEK
CLEVELAND, WI



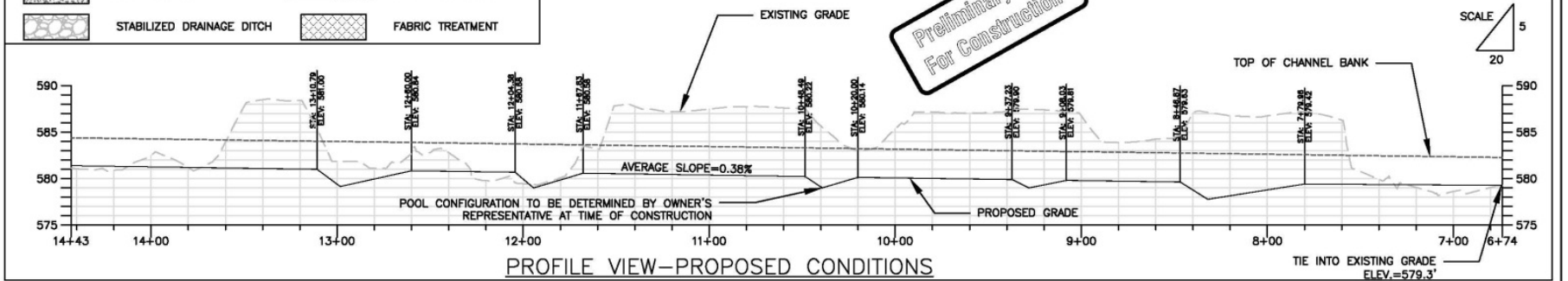
PLAN VIEW-PROPOSED CONDITIONS

PLAN LEGEND

	CONSTRUCTION ACCESS		LIMITS OF DISTURBANCE
	BOARDWALK		EXISTING 1' CONTOURS
	DAM REMNANT		PROPOSED 1' CONTOURS
	GRAVEL RIFFLES		CROSS SECTIONS
	STABILIZED DRAINAGE DITCH		FABRIC TREATMENT
	POOLS		LWD

NOTE: FINAL CONFIGURATION OF LARGE WOODY DEBRIS INSTALLATION TO BE DETERMINED BY OWNER'S REPRESENTATIVE AT TIME OF CONSTRUCTION.

Preliminary Not For Construction



PROFILE VIEW-PROPOSED CONDITIONS

NO.	BY	DATE	REVISION DESCRIPTION

BOL	BOL	GO, MJM
DRAWN	DESIGNED	CHECKED
GO, MJM	05/04/11	PROJECT
APPROVED	DATE	PROJECT

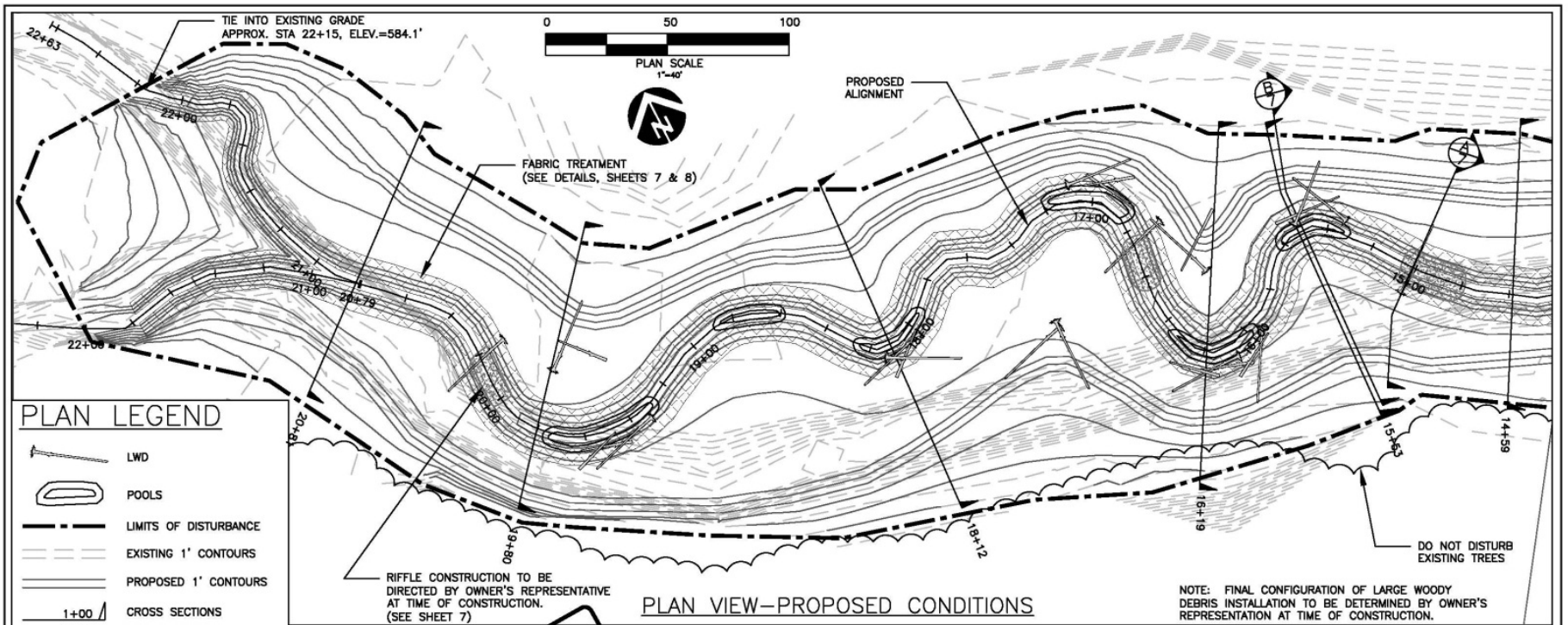
Village of Cleveland
Cleveland, WI
Centerville Creek Restoration

3602 Almond Avenue Suite 3
Madison, WI 53714
608.441.0342
www.inter-fluve.com

Proposed Plan View
and Profile

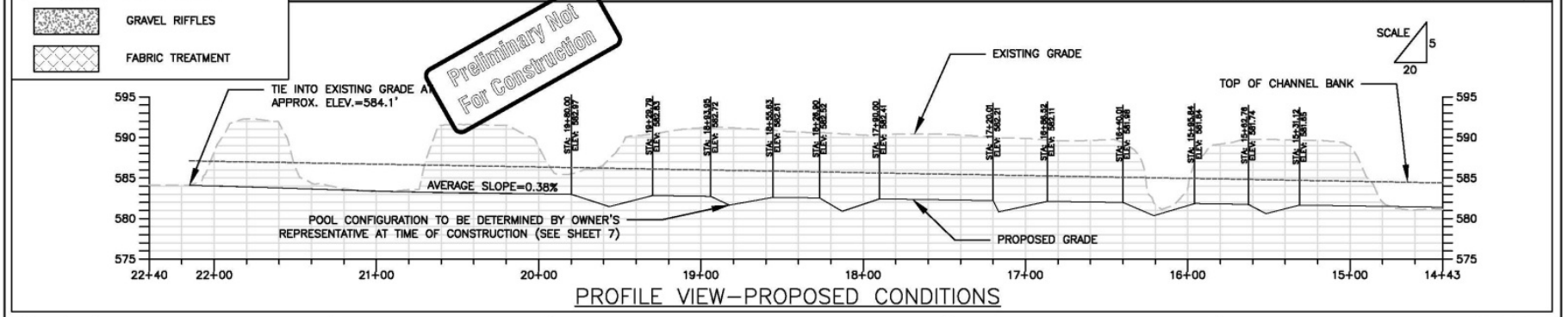
SHEET
3 of 14





PLAN LEGEND

	LWD
	POOLS
	LIMITS OF DISTURBANCE
	EXISTING 1' CONTOURS
	PROPOSED 1' CONTOURS
	CROSS SECTIONS
	GRAVEL RIFFLES
	FABRIC TREATMENT



NO.	BY	DATE	REVISION DESCRIPTION

BOL	BOL	GO_MJM
DRAWN	DESIGNED	CHECKED
GO_MJM	05/04/11	PROJECT
APPROVED	DATE	

Village of Cleveland
Cleveland, WI
Centerville Creek Restoration

3002 Atwood Avenue Suite 3
Madison, WI 53714
608.441.6342
www.interfluve.com

Proposed Plan View
and Profile

SHEET
4 of 14



Project Photos



Project Photos



Project Photos

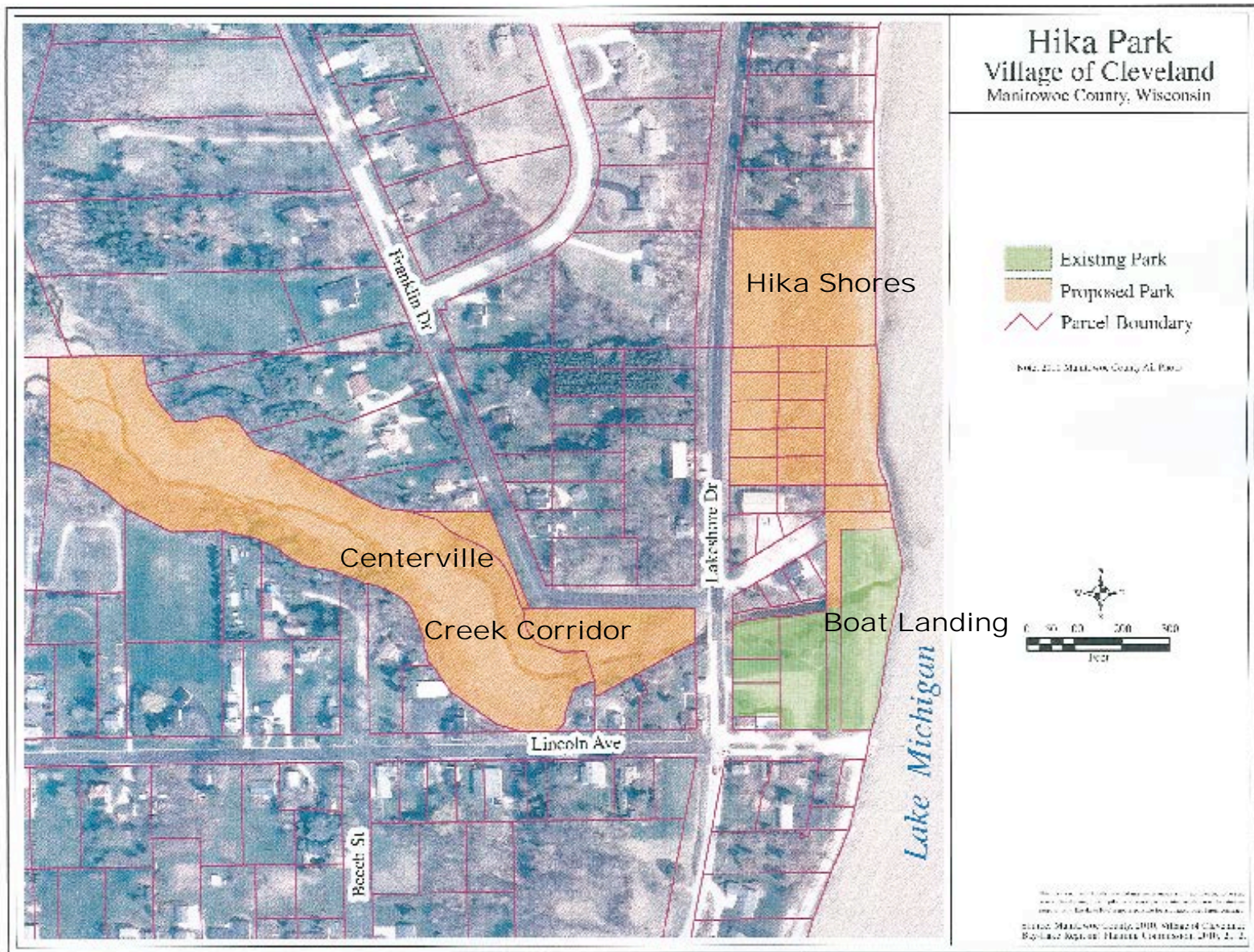
Winter 2013



Project Photos

Tree Planting





In September 2012, Cleveland Village Board approved LNRP recommendations to expand Hika Park and delineate three areas: Boat Landing, Hika Shores, and Centerville Creek Corridor. The park area expanded 6.3 times from 2.21 to 13.85 acres, an increase of 11.64 acres.



VIEW OF HIKA SHORES WOODS FROM LAKESHORE DRIVE



VIEW OF HIKA SHORES SWALE WETLAND



VIEW OF HIKA SHORES BEACH



OLD PLAT MAP OF CENTERVILLE CREEK EMPOUNDMENT AREA AND HIKA SHORELAND

NORTHWARD EXTENSION OF CENTERVILLE CREEK AT SHORELINE SHOWN ON OLD PLAT IDENTIFIED AS "LAGOON" SUGGESTS WETLAND (SWALE) CONNECTION TO CENTERVILLE CREEK.

HISTORICAL AND EXISTING CONDITIONS OF HIKA SHORES



Come and learn about
**Ridge-Swale
Ecology**

October 9, 2012

6:30 - 8:00

LTC

ROOM L 222

Spend an evening with Jon Gumtow, a Senior Wetland Scientist at Stantec, and others discussing Ridge Swale ecosystems. We'll explore the educational and recreational values and opportunities for the Hika Sands property that is now part of Hika Park in the Village of Cleveland. Jon will open the session with a presentation on the ecological characteristics of Ridge Swale ecosystems. We'll then open it up for an interactive discussion on the plans for the Hika Sands property.

EMAIL US TODAY FOR FREE
REGISTRATION:
JENN@LNRP.ORG & JIM@LNRP.ORG
WEBSITES:
www.LNRP.org & www.hika-bay.org



Friends of Hika Bay

Calvin, Pine, Point, Fischer & Centerville Watersheds

PASSIVE - NATURE BASED

TRANSITIONAL

ACTIVE

RESTORE BEACH ... REMOVE WOODY PLANTS ... ENCOURAGE BEACH GRASSES AND DUNES

REMOVE INVASIVE SHRUBS AND OTHER PLANTS FROM WOODED AREA

WOOD BENCH (TYPICAL)

HIKING TRAIL LOOP SECTION ALONG EXISTING DUNE CREST

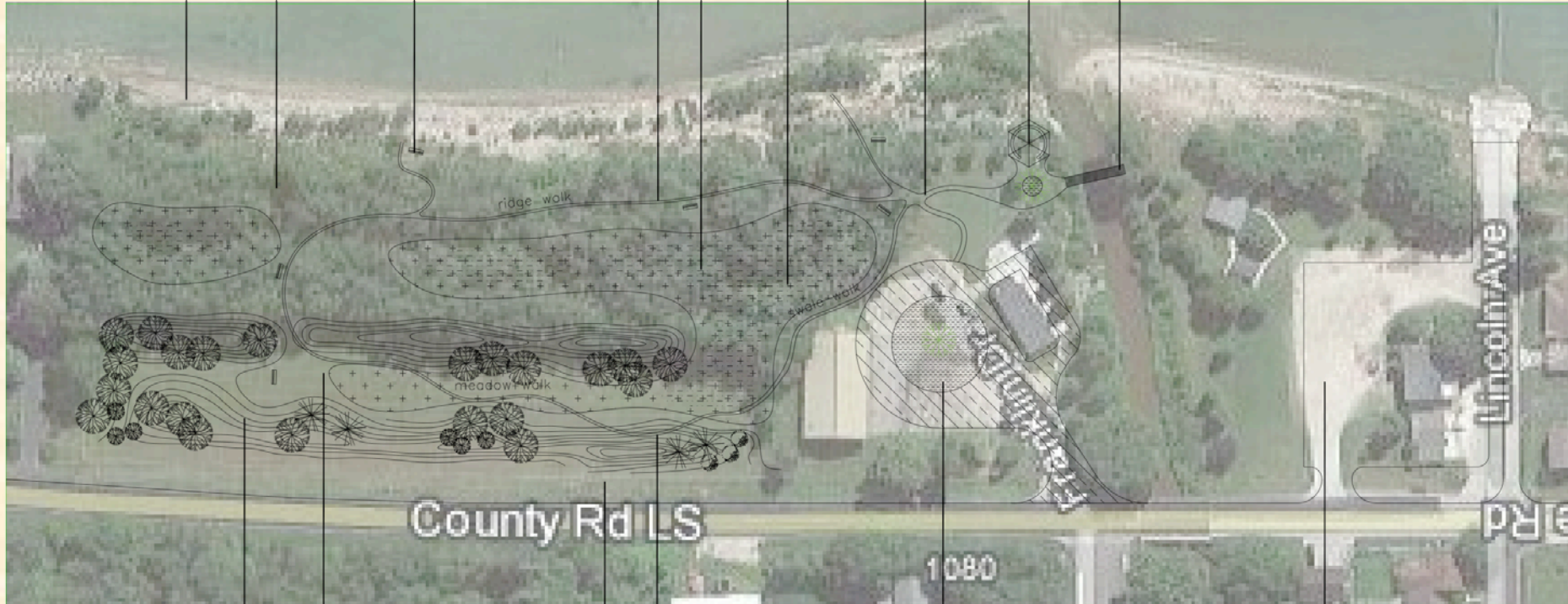
RESTORE AND EXPAND SWALE WETLAND

REMOVE OLD CONCRETE PIECES

TRAIL HEAD WITH KIOSK FOR PROPERTY AND LOCAL BUSINESS INFORMATION

COVERED VIEWING AREA AND SEATING CIRCLE WITH INTERPRETIVE GRAPHIC DISPLAYS

PEDESTRIAN BRIDGE ... PREFERRED LOCATION SHOWN. LOCATION TO BE VERIFIED WITH REVIEW AGENCY.



NATURALIZE TURF AREA ... CREATE WET MEADOW

RIDGES TYPE LANDFORM WITH FILL REMOVED FROM CENTERVILLE CREEK RESTORATION PROJECT. PLANT WITH NATIVE TREES

TRAIL LOOP SECTION THROUGH MEADOW

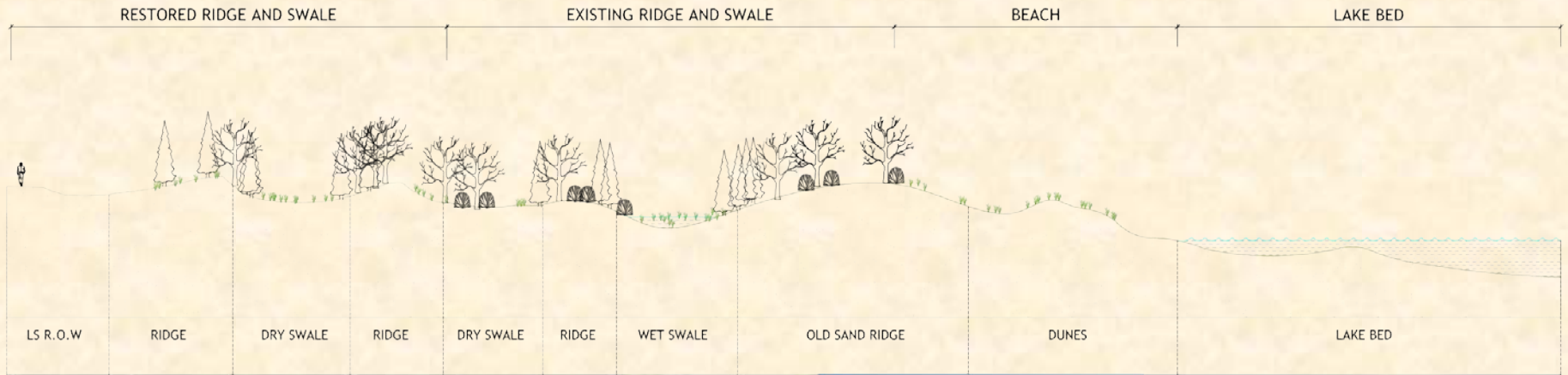
MOWED DITCH AND ROAD EDGE TO MAINTAIN "MANAGED" NATURAL LANDSCAPE PRESENTATION OF PARK

PARKING LOOP WITH CENTER GARDEN SPACE UPON FUTURE REMOVAL OF DPW GARAGE

POTENTIAL FOR FUTURE EXPANSION OF BOAT TRAILER PARKING UPON REMOVAL OF APARTMENT BUILDING

DESIGN CONCEPTS FOR HIKA PARK SHORELAND





SECTION THROUGH RESTORED HIKA PARK SHORELAND

Landscape Design Presentations

JOIN US FOR A WEEK OF CELEBRATING THE ACCOMPLISHMENTS OF OUR HORTICULTURE TECHNICIAN STUDENTS! COME HEAR ABOUT FOUR SEMESTER-LONG SERVICE-LEARNING PROJECT STUDENTS WERE ENGAGED IN; EACH PRESENTATION WILL SHOWCASE A DIFFERENT COMMUNITY PROJECT.

SHEBOYGAN COUNTY HISTORICAL RESEARCH CENTER:

Monday December 12, 1-2:30p, Cleveland Training Room (L242).

Redesign and renovation proposals for the south foundation and yard to provide ADA access, raise curb appeal, and reduce maintenance.

LTC PUBLIC SAFETY BUILDING:

Tuesday December 13, 8-9:30a, Cleveland Training Room (L242).

Redesign and renovation proposals to improve storm water runoff and drainage, update landscape plantings, reduce maintenance and improve curb appeal.

HIKA PARK:

Wednesday December 14, 1-2:30p, Lakeshore Conference Room (L147)

Conceptual plans for low impact recreational use, storm water retention, and ecologically sound landscape plantings at the proposed Hika Park. Student designs were submitted as part of a Wisconsin DNR grant application through the Lakeshore Natural Resources Partnership.

SUSTAINABILITY EDUCATION CENTER/ENVIRONMENTAL CAMPUS:

Friday December 16, 9-10:30a, Lakeshore Conference Room (L147)

Design proposals for the front of the house across the northeast corner boundary of the property. The designs are meant to create a more inviting and accessible face for the SEC and Environmental Campus while reducing storm water runoff.

Xee Xiong
AmeriCorps*VISTA
Service-Learning Coordinator
920-693-1686
xee.xiong@gotolte.edu

Students and staff are welcome to attend.
Snacks will be provided.

Andrew S Knapp
Horticulture Instructor
Agriculture Department
920-693-1321
Andrew.knapp@gotolte.edu

LTC Horticulture Program

Used Hika Park for a Class Project

Assisted in the Removal of Invasive Species

Free Picasa photo

- A. Sugar Maple (*Acer saccharum*)
- B. Black Cherry (*Prunus serotina*)
- C. Black Gum (*Nyssa sylvatica*)
- D. Emerald Arborvitae (*Thuja occidentalis*)
- E. Elderberry (*Sambucus canadensis*) / Witchhazel (*Hamamelis virginiana*)
- F. Pussy Willow (*Salix discolor*)
- G. Lowbush Blueberry (*Vaccinium angustifolium*)
- H. Tall Meadow Rue (*Thalictrum dasycarpum*)
- I. Northern Sea Oats (*Chasmodon latifolium*)
- J. Black Snakeroot (*Cimicifuga racemosa*)

- K. Indian Grass (*Sorghastrum nutans*) / Big bluestem (*Andropogon perardii*)
- L. Tick Trefoil (*Desmodium canadense*)
- M. Joe-Pye Weed (*Eupatorium purpureum*)
- N. Shooting star (*Dodecatheon meadia*)
- O. Compass Plant (*Silphium laciniatum*) / Prairie Dock (*Silphium teretithinacum*) / Cup Plant (*Silphium perfoliatum*)
- P. Aster (*Asteriscoides*) / Pale Purple Coneflower (*Echinacea pallida*)
- Q. Marsh Blazing Star (*Liatris spicata*)
- R. Boneset (*Eupatorium perfoliatum*)
- S. Butterfly Weed (*Asclepias tuberosa*)
- T. Obedient Plant (*Physalegia virginiana*)

- U. Cardinal Flower (*Lobelia cardinalis*)
- V. Michigan Lilies (*Lilium michiganense*)
- W. Wild Iris (*Iris versicolor*)
- X. Jacob's Ladder (*Polemonium reptans*)
- Y. Blue Beech (*Carpinus caroliniana*)
- Z. Ohio Spiderwort (*Treadscantia ohioensis*)
- AA. Culver's Root (*Veronicastrum virginicum*)
- BB. Bottle Gentian (*Gentiana andrewsii*)
- CC. Giant Solomon's Seal (*Polygonatum biflorum*)
- DD. Labrador Tea (*Ledum groenlandicum*)

- EE. Trillium (*Trillium grandiflorum*)
- FF. Spotted Touch-Me-Not (*Impatiens capensis*)
- GG. Purple Fringed Orchid (*Habenaria psychodes*)
- HH. Violet: Birds' Foot (*Viola pedata*)
- II. New England Asters (*Aster novae-angliae*)
- JJ. White Meadowsweet (*Spiraea alba*)
- KK. Prairie Smoke (*Geum triflorum*)
- LL. Little Blue Stem (*Schizachyrium scoparium*)



Hika Park

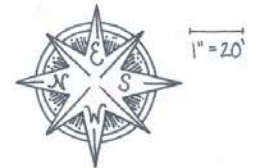
Concept Plan

Cleveland, WI October 20, 2011

Lakeshore Technical College

Horticulture Technician Program

"ALL-WAYS GREEN" Work Group



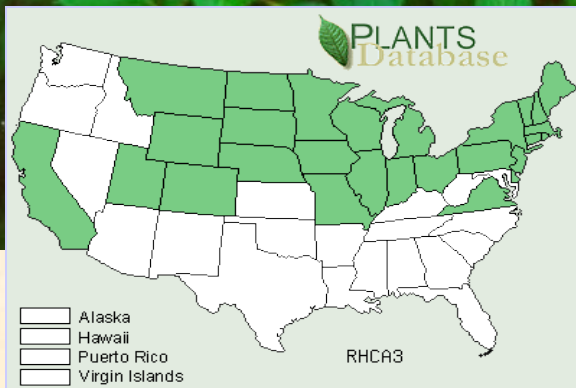
Friends of Hika Bay

Calvin, Pine, Point, Fischer & Centerville Watersheds

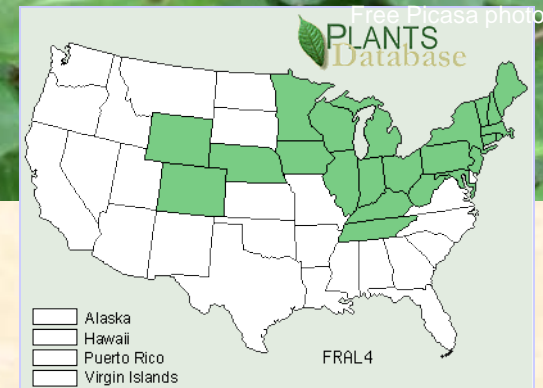
Chicago
Botanic
Gardens



Common Buckthorn
Rhamnus cathartica

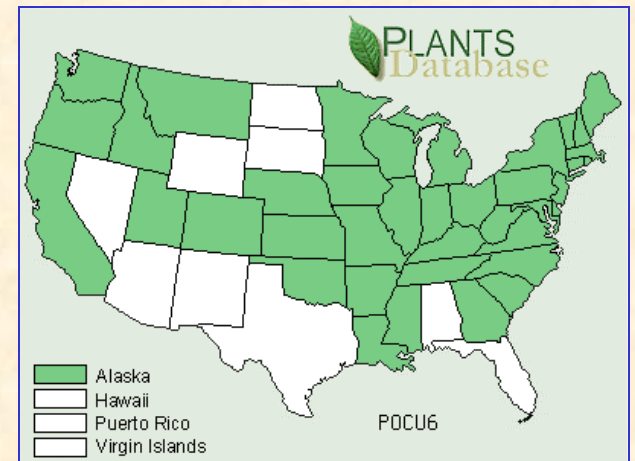
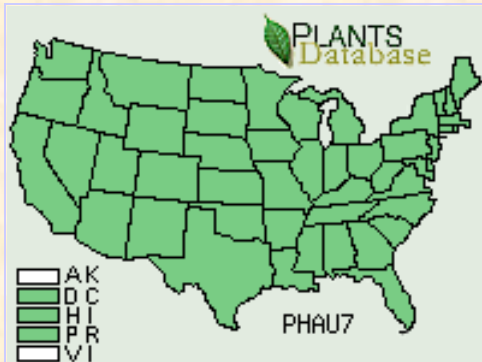


Glossy Buckthorn
Rhamnus frangula



Photos:
Chicago
Botanic
Gardens

Phragmites and Japanese Knotweed



Friends of Hika Bay Invasive Species

Centerville Creek / Hika Park Restoration and Reclamation

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[Current Proposal](#)
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[Creek Monitoring](#)
[Restoration Designs](#)
[Volunteer Time Reporting](#)
[L N R P](#)

Linking restoration
of Centerville Creek
and an enhanced
Hika Park to better
water quality in
Lake Michigan.

Welcome to the Friends of Hika-Bay Volunteer Site.

Please enter your time and activity.

Name *

First Name Last Name

Date *

09 / 11 / 2012
Month Day Year

Hours *

0.00

Natural Area *

Species 1 *

Species 2

Species 3

Comments

Submit

Bird Surveys Comparing Fischer Creek and Centerville Creek

eBird Range Map--Herring Gull

http://ebird.org/ebird/map/hergul?neg=true&env.minX=-87.75063659283444&env.minY=43.93367212096642&env.maxX=-87.6863494071655&env.maxY=...

Species: Date: Location:

Fischer Creek Conservation Area
Manitowoc, US-WI

DATE	#	OBSERVER	
2012-01-21	225	Robert Domagalski	Checklist
2012-02-02	34	Robert Domagalski	Checklist
2012-02-13	17	Robert Domagalski	Checklist
2012-02-15	8	Robert Domagalski	Checklist
2012-02-16	54	Robert Domagalski	Checklist
2012-02-27	19	Robert Domagalski	Checklist

Centerville Creek
Manitowoc, US-WI

DATE	#	OBSERVER	
2012-02-27	1	Robert Domagalski	Checklist

TIP Click points to see sightings and checklists at that location

Map data ©2012 Google - Terms of Use

Zoom Tool
Full Species Range
Terrain
Street
Satellite
Hybrid
Show Points Sooner
Check this box to show points at broader scales when possible: 2000 points max

RECENT OLDER (30+ DAYS)
Birding Hotspot
Personal Location

Student involvement: A rewarding marriage of education and “real science”



Friends of Hika Bay
Calvin, Pine, Point, Fischer & Centerville Watersheds



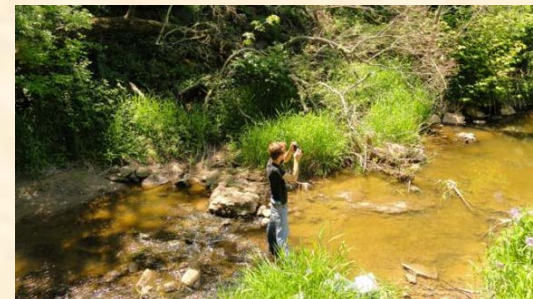
Partnership - UW Manitowoc Three Years 2010 - 2012

Student interns

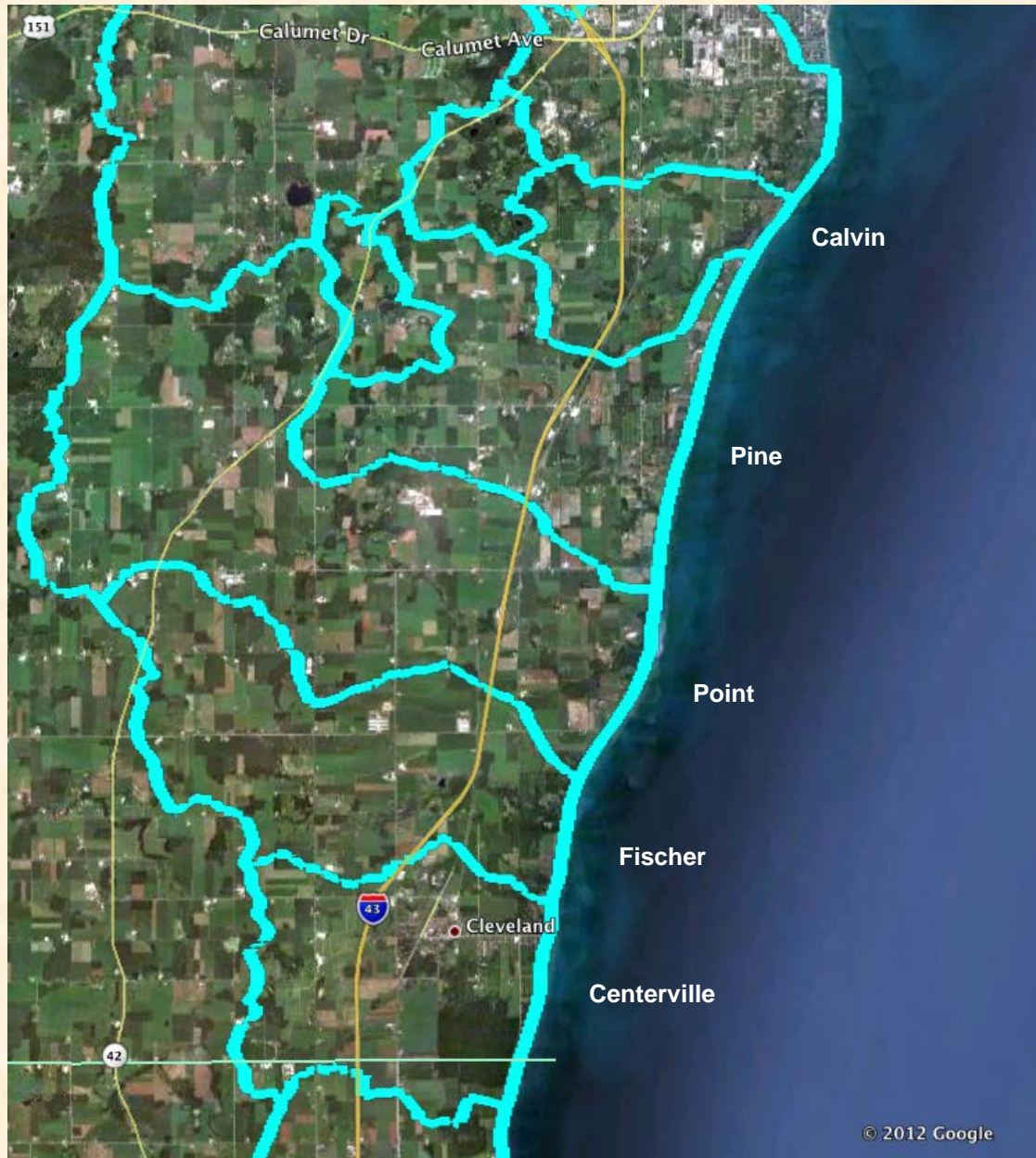
- Baseline assessment
- 5 points in 2010, 7 points in 2011, 10 points in 2012
- Weekly measurements of physical, chemical, biological characteristics
 - pH, temperature, flow, turbidity, conductivity, dissolved oxygen, ammonia, phosphorus
 - *E. coli*

Lab Courses

- Macroinvertebrate surveys
- Repeated Measures on Centerville, Fischer, Point and this year on Pine & Calvin



Frontal Watersheds of Southern Manitowoc County



Initial Focus

2009-2011

Centerville Creek

Fischer Creek

Point Creek

Additional Watersheds

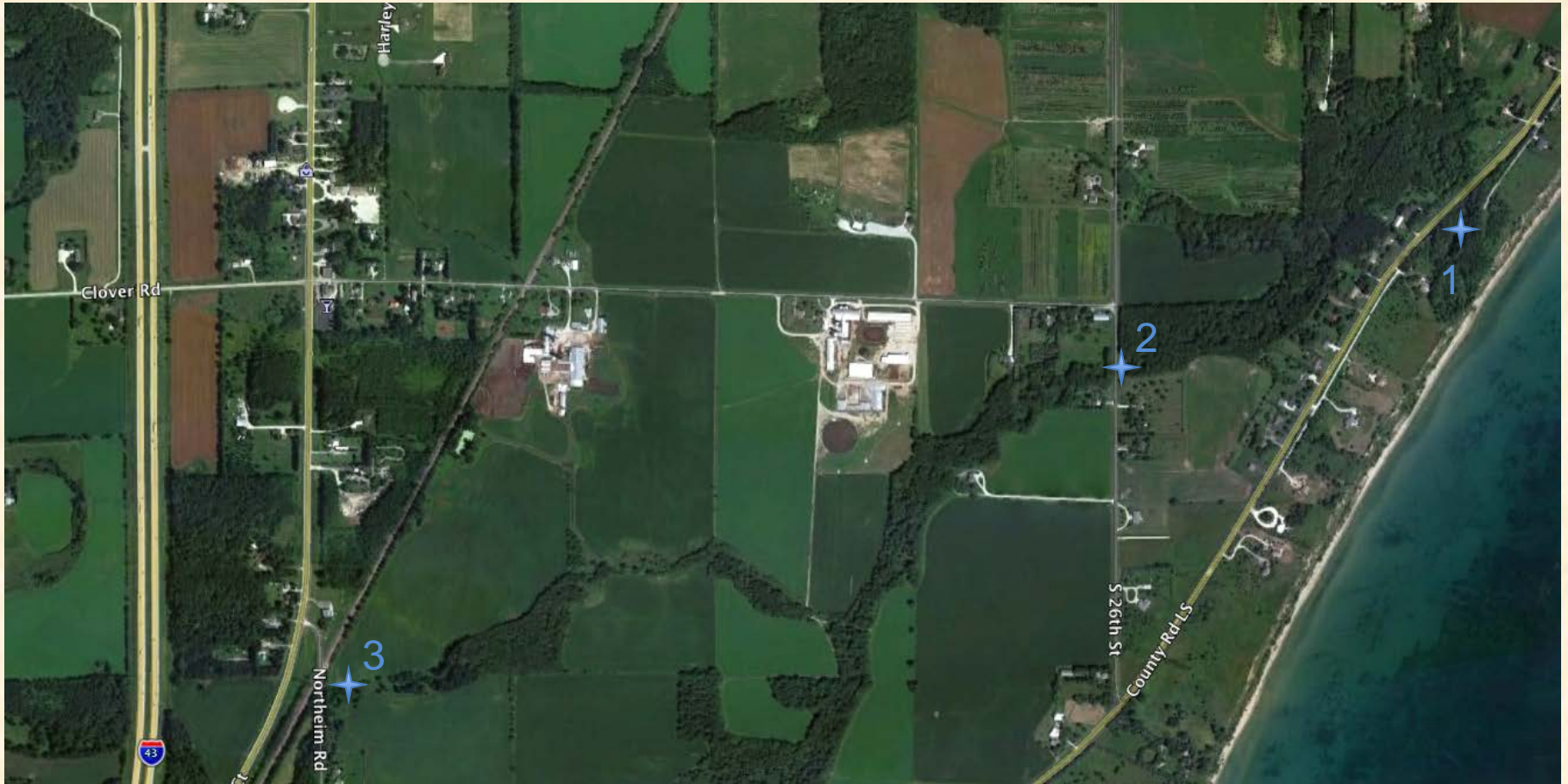
2012

Pine Creek

Calvin Creek

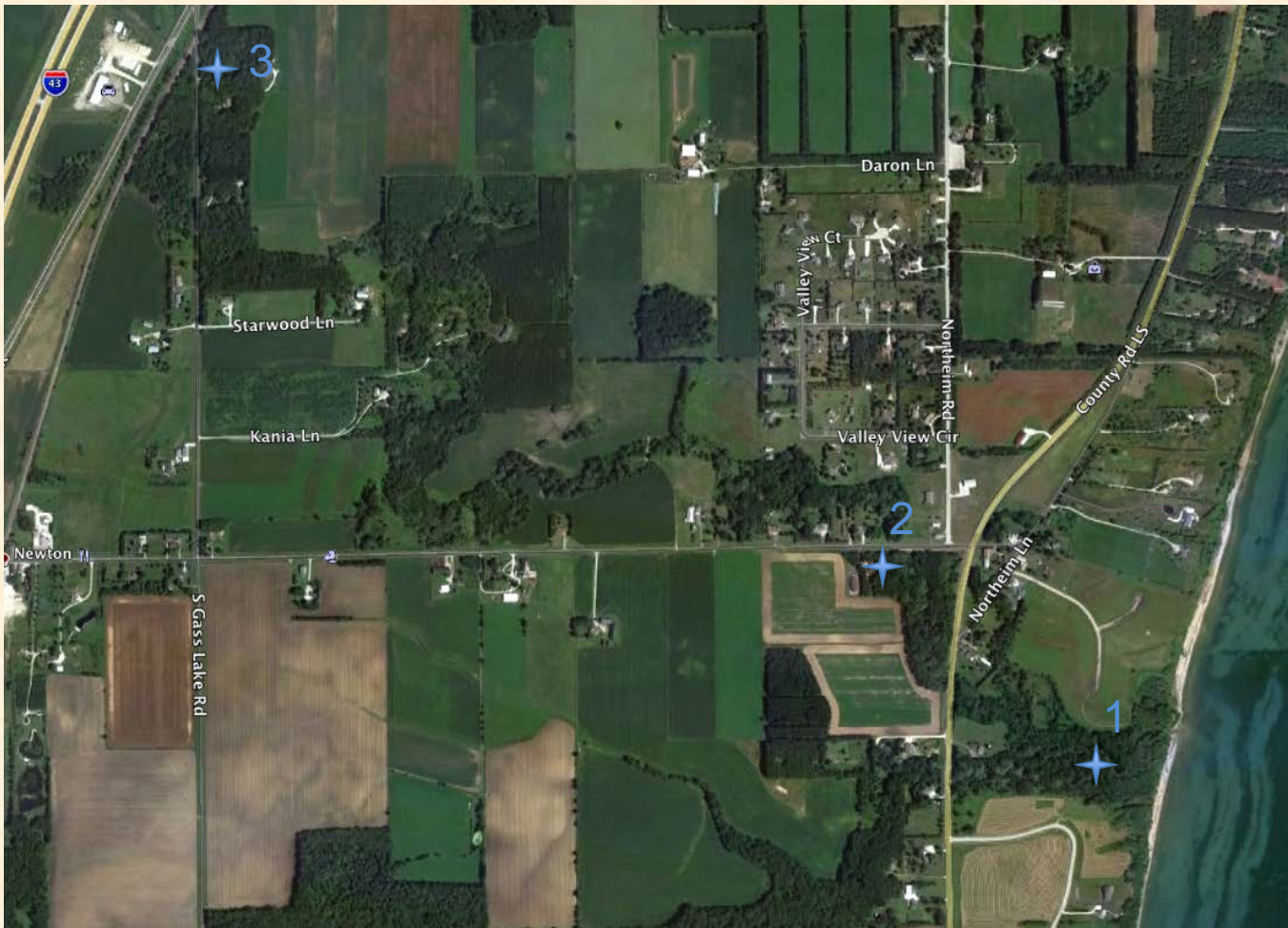
2012 Calvin Creek Sample Points

- 1) in Conservation Easement just east of Hwy LS (for class); 2) on S. 26th Street;
- 3) off of Hwy CR on Northeim Rd



2012 Pine Creek Sample Points East of Hwy I-43

- 1) in Conservation Easement just east of Hwy LS off of Sea Gull Drive (for class);
- 2) on Hwy U just west of Hwy LS;
- 3) off of Hwy CR on S. Gass Lake Road



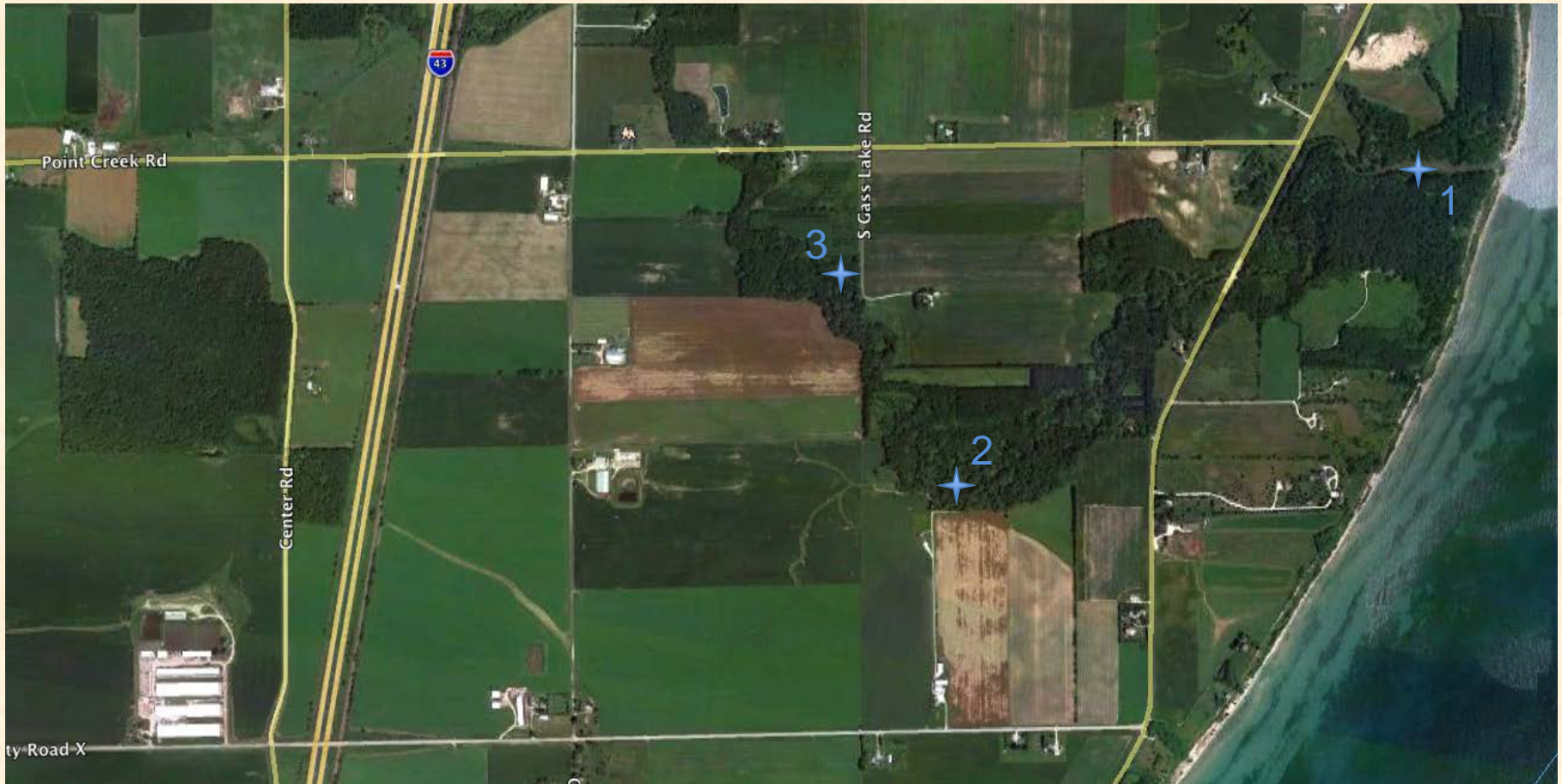
2012 Pine Creek Sample Points West of Hwy 43

4) On Center Road; 5) Lake Discharge on Sonnenburg Ln. 6) in Carsten's Lake; 7) Inlet on Carstens Road East on north side of road; 8) Inlet on Carstens Road West on south side of road.



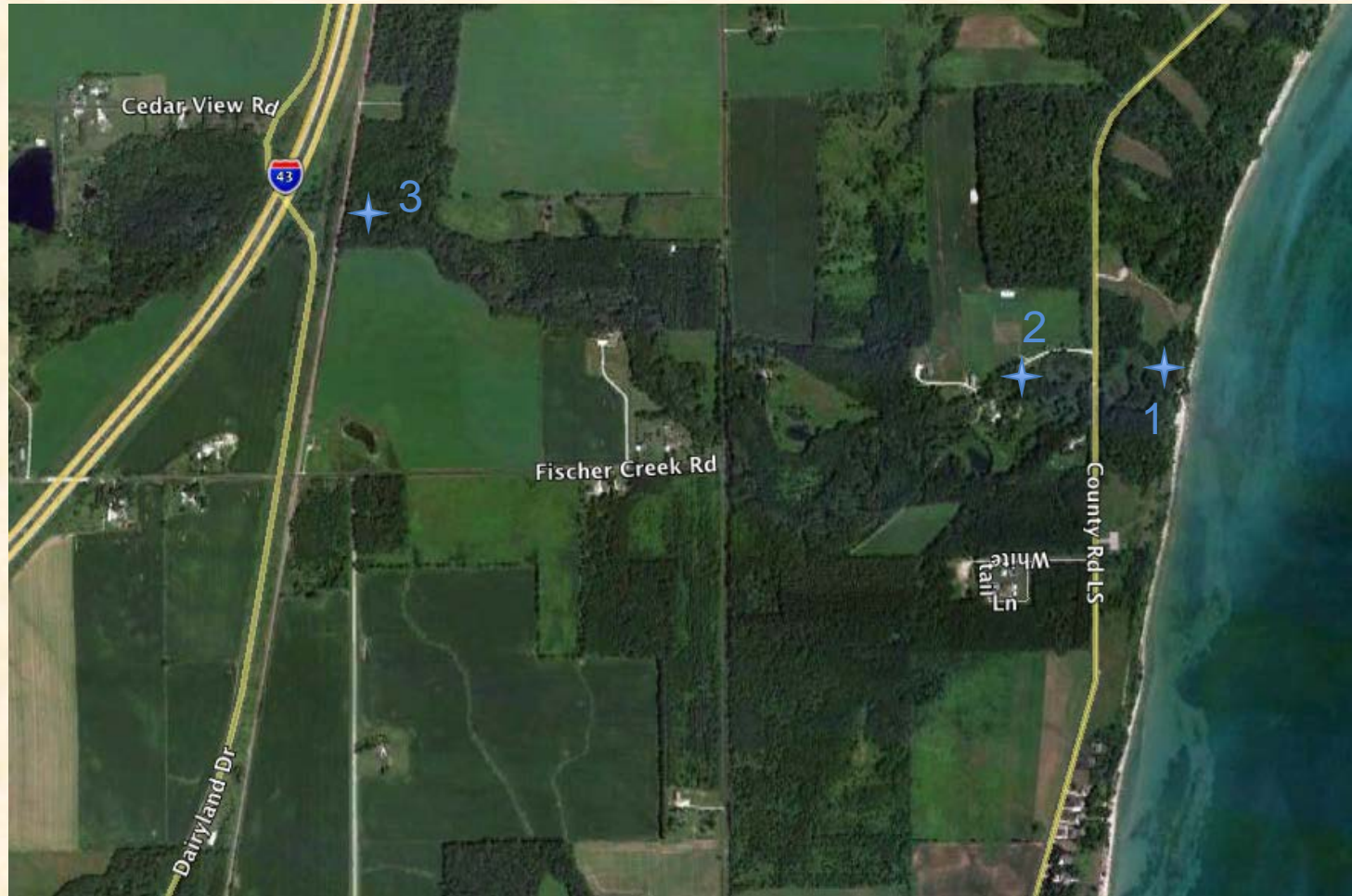
2012 Point Creek Sample Points

- 1) Near mouth, just east of Hwy LS (for class); 2) on Wayne Schuette's property off of Hwy X; 3) off of Point Creek Road at end of S. Gass Lake Road



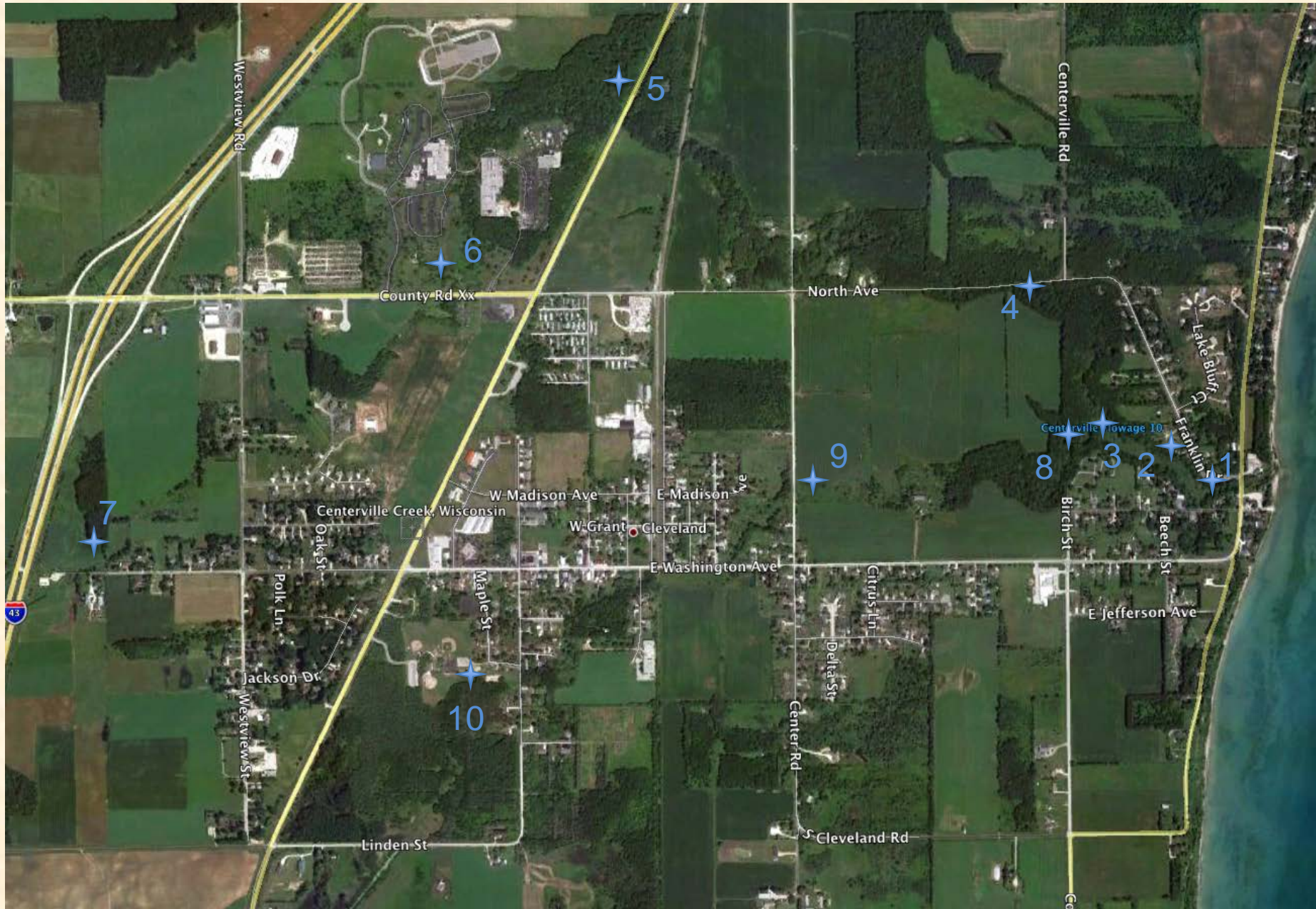
2012 Fischer Creek Sample Points

- 1) Near mouth, just east of Hwy LS (for class);
- 2) off of Fischer Creek Road just west of Hwy LS;
- 3) off of Dairyland Road near Lutheran Cemetery



2012 Centerville Creek Sample Points

#1-3 in Millpond; #4-7 on the North Branch; #8-10 on the South Branch



Friends of Hika Bay Water Quality Data

Centerville Creek / Hika Park Restoration and Reclamation

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[Reference Materials](#)
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[Restoration Designs](#)
[Volunteer Time Reporting](#)
[L N R P](#)

Linking restoration of Centerville Creek and an enhanced Hika Park to better water quality in Lake Michigan.

Welcome to the Friends of Hika-Bay Creek Monitoring Site.

This is a collaborative effort between LNRP and UW-Manitowoc providing water quality information for southeastern Manitowoc County. Summer information is the result of 4 sponsored UW-Manitowoc student interns. Fall and winter information is a summary of data taken by all students in the introductory biology classes.

For the summer of 2012, sampling for nutrient content and pathogens is done every Tuesday morning from over 25 locations. The site map details these locations. The information is an important component to the Centerville Creek Restoration Project. Year to year comparisons will be made in an effort to detail water quality improvements due to the restoration. The wide area sampling information enables a comparison of how the different land practices in each watershed impact water quality.

2012 Creek Monitoring

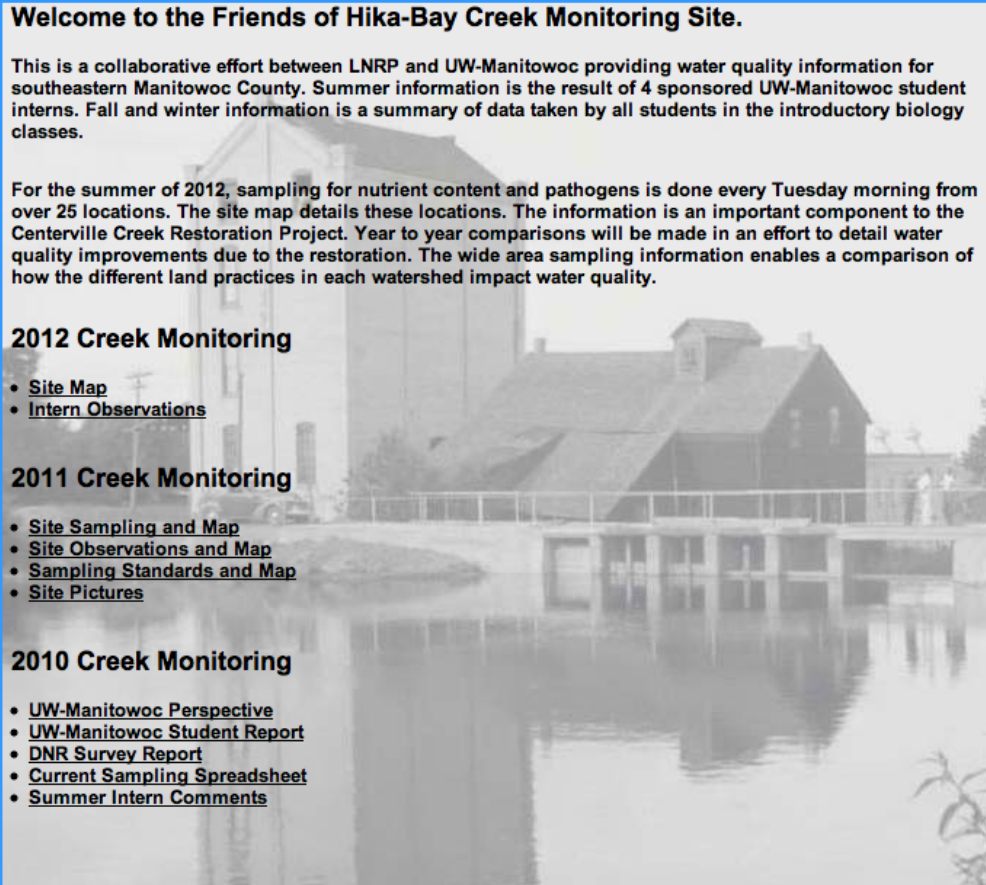
- [Site Map](#)
- [Intern Observations](#)

2011 Creek Monitoring

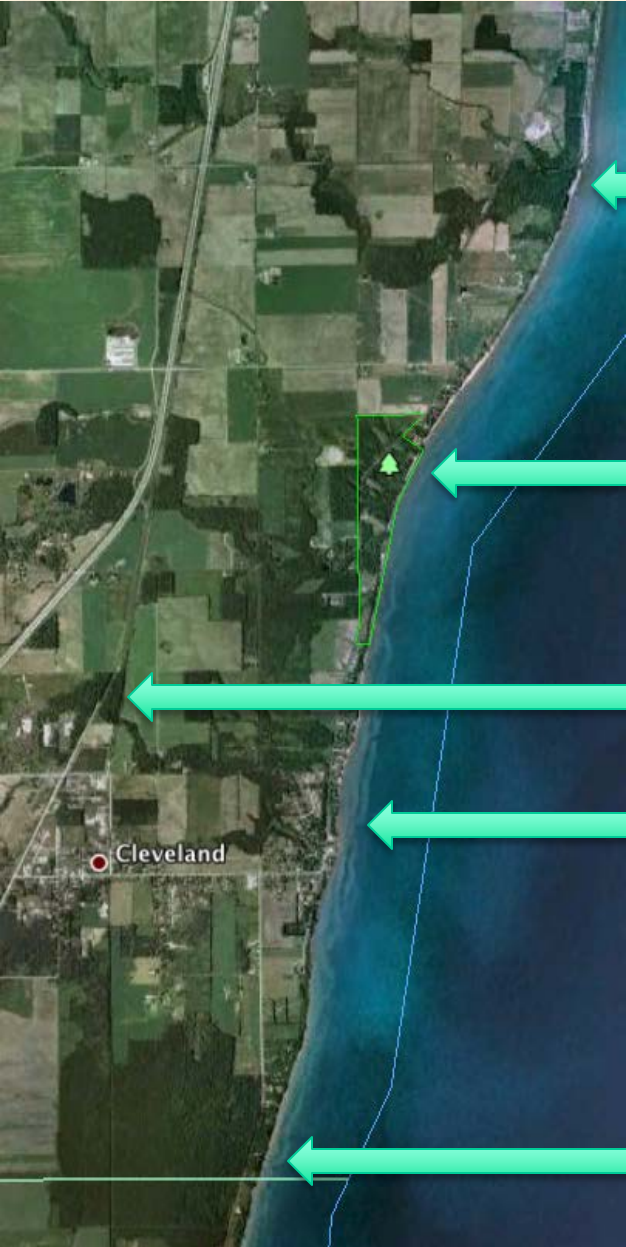
- [Site Sampling and Map](#)
- [Site Observations and Map](#)
- [Sampling Standards and Map](#)
- [Site Pictures](#)

2010 Creek Monitoring

- [UW-Manitowoc Perspective](#)
- [UW-Manitowoc Student Report](#)
- [DNR Survey Report](#)
- [Current Sampling Spreadsheet](#)
- [Summer Intern Comments](#)



Natural Corridors



Point Creek Natural Area and
Kingfisher Farm – Management by UW
Green Bay

Fischer Creek Conservation Area –
Management by Manitowoc County

Old Growth Forest – Management by the
Lakeshore Technical College

Centerville Creek and Hika Park –
Management by Village of Cleveland

Cleveland Swamp – Management by
Manitowoc Fish and Game

Map 5:
Point Beach to Sheboygan
Lake Michigan Water Trail
Wisconsin

- Primary Boat Ramp/Dock
- Secondary Boat Ramp/Dock
- Primary Carry-in/Beach
- Secondary Carry-in/Beach
- Primary Road End
- Secondary Road End
- Emergency Landing
- Camping
- Bluff Areas

Note: The number in parentheses (##) after the site name corresponds to the water trail inventory table

- Interstate/U.S. Highway
- State Highway
- County Highway
- Local Road
- Surface Water
- Municipal Boundary



Source: WDOT, 2009; WDNR, 2010; Bay-Lake Regional Planning Commission, 2010.



DRAFT

Recreational Opportunities

Lake Michigan Water Trail: a new 450 mile water trail along the shoreline of Lake Michigan. This will become the second longest trail in Wisconsin.

Hika Park is the only lake-level access point between Manitowoc and Sheboygan

Lakeshore Natural Resource Partnership - Outreach

Quarterly Newsletter: The Source

Websites: www.LNRP.org and www.hika-bay.org

Regional Outreach: Lake Michigan Stakeholders



Jim Kettler, Executive Director

Telephone: 920-304-1919

Email: jim@LNRP.org