

Notice: Use of this form is required by the Department of Natural Resources for any application filed pursuant to chs. NR 190,191,195 & 198, Wis. Adm. Code. Personal Information collected on this form, will be used for administrative purpose and may be provided to requesters to the extent required by Wisconsin's Open Records Laws [ss.19.31 – 19.39 Wis. Stats.] To be considered, applications must either be submitted electronically by the December 10th or February 1st due date or paper applications must be postmarked no later than by the December 10th or February 1st due date.

Section 1: Application Type (check one)

Application Deadlines:

DECEMBER 10

Lake Management Planning Grant:

- Large Scale Planning Small Scale Planning

Lake Protection Grant:

- Lake Classification & Ordinance Development

Aquatic Invasive Species Grant:

- Education, Prevention & Planning
 Clean Boats Clean Water Use Form 8700-337

River Protection Grant:

- River Planning

YEAR-ROUND:

Aquatic Invasive Species Grants:

- Early Detection & Response Maintenance & Containment Use Form 8700-323

FEBRUARY 1

Lake Protection Grant:

- Land/Easement Acquisition
 Wetland & Shoreline Habitat Restoration
 Lake Management Plan Implementation
 Healthy Lakes Project

Aquatic Invasive Species Grant:

- Established Population Control

Rivers Protection Grant:

- River Management
 Land/Easement Acquisition

Section 2: Applicant Information

Project Title

Waterford Waterway - Flowering Rush Early Detection Control

Applicant Name (Organization)		Organization Type	
Waterford Waterway Management District		Lake District	
Authorized Representative (AR) Name		AR Title	
Mike Waghorn		Vice chairman	
AR Address		City	State ZIP Code
415 North Milwaukee Street		Waterford	WI 53185
AR Phone Number (include area code)	AR Ext.	E-mail Address	
(312) 952-1959		mikewaghorn@yahoo.com	
Contact Representative Name, if different from AR		Contact Title	
Phone Number (include area code)		Ext.	Contact E-mail Address

Indicate if you have been approved as one of the following:

Qualified lake association, Form 8700-226, nonprofit conservation organization or qualified nonprofit organization, Form 8700-290, or river management organization, Form 8700-287? Yes No (If no, you must be approved prior to applying for a grant.)

Section 3: Project Information

Waterbody Name	Proposed Start Date		Proposed End Date	
	07/01	2016	December 31	2018
Tichigan Lake / Waterford Waterway / Fox River	(Start Date)	(Year)	(End Date)	(Year)
Project Area (Select all that apply):	County(ies)			
<input type="radio"/> County-wide <input type="radio"/> Multi-county <input type="radio"/> Town-wide <input type="radio"/> Regional <input type="radio"/> Lake	Racine			
<input checked="" type="radio"/> River <input type="radio"/> Other (specify): _____				

**Surface Water Grant Application
Lake Management Planning,
Lake Protection & Classification,
River Protection, River Planning,
Aquatic Invasive Species (AIS) Control**

Form 8700-284 (R 12/3/15)

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Public Access: Is there public access to the waterbody of which the project is proposed? Yes No

If yes, attach a map showing all public access points.

No. of public access sites including boat launches and walk-ins: 2

No. of public vehicle-trailer parking spaces available at public access sites: 25

Does this project include Laboratory sample analysis? Yes No

Indicate lab service provider:

State Lab of Hygiene, use Form 8700-360

Other Certified Lab:

Consultation

Has the applicant had a pre-application grant scoping consultation with the Department? Yes No

Project Location

State Assembly District number(s):

83

State Senate District number(s):

28

Sponsor Type (city, village, town, etc. - ex. Holland, Town of)	Legal Description							
	Township (N)	Range	E or W	Section	Quarter	Quarter- Quarter	Latitude (North, 4 to 7 decimal places)	Longitude (West, 4 to 7 decimal places)
Village of Waterford	04 N	19	E	23				
	N							

Section 4: Federal Nonpoint Source Program Funding Eligibility - For Lake Protection or River Protection Grants Only

Not applicable.

Section 5: Cost Estimate and Grant Request

List organization (e.g., school, town, county, nonprofit other management organization, etc.) other than the applicant that are providing financial support in the project. Identify the type of financial support (cash, volunteer hours, equipment, etc) and attach a copy of the organizations letter of financial commitment.

Organization Name	Type of Support	Amount of Support

Are there federal dollars in this project? Yes No

Source of Federal Funds

**Surface Water Grant Application
 Lake Management Planning,
 Lake Protection & Classification,
 River Protection, River Planning,
 Aquatic Invasive Species (AIS) Control**

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Project Budget

Costs for Each Category	Project Costs					Subtotal
	Activity	Time (hr.)	Cash Cost	Time (hr.)	Donated Value	
Permit Costs	Hand harvesting permit - 2016		120.00			\$120.00
Consulting Services	Hand pulling and recon survey - 2016		6,150.00			\$6,150.00
Consulting Services	Full point-intercept survey - 2016		4,350.00			\$4,350.00
Permit Costs	Hand-harvesting permit - 2017		120.00			\$120.00
Consulting Services	Hand pulling and recon survey - 2017		5,100.00			\$5,100.00
Consulting Services	Full point-intercept survey - 2017		4,550.00			\$4,550.00
Permit Costs	Hand-harvesting permit - 2018		120.00			\$120.00
Consulting Services	Hand pulling and recon survey - 2018		4,440.00			\$4,440.00
Consulting Services	Full point-intercept survey - 2018		5,130.00			\$5,130.00
Subtotals			30,080.00			\$30,080.00
<input type="checkbox"/> Override Default State Share Percentage:	Alternative State Share %		Total Project Cost Estimate (Cash + Donated Value)			\$30,080.00
			State Share Requested			\$20,000.00

Early Detection & Response Projects - \$20,000 - maximum grant up to 75% state share, cannot exceed cash cost.

**Surface Water Grant Application
 Lake Management Planning,
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 River Protection, River Planning,
 Aquatic Invasive Species (AIS) Control**

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Section 6: Attachments (check all that are included)

A. For all applicants: (Refer to instructions for applicability.)

- 1. Authorizing resolution
- 2. Letters of commitment if the project is receiving donation or cash contribution
- 3. Map of project location, boundaries, and public access
- 4. For projects sending samples to the State Lab of Hygiene (SLOH) only, a completed SLOH projected cost form

B. For first time applicants that are Lake Management Organizations (LMOs), River Management Organizations (RMOs)

- 1. Completed Form 8700-226 (LMOs) or 8700-287 (RMOs)

C. For First time non-profit organizations or non-profit conservation organization

- 1. Copy of IRS 501(c)(3) determination letter and copies of your Articles of Incorporation and Bylaws
- 2. A completed Form 8700-290
 For projects that entail sending samples to the State Lab of Hygiene (SLOH) only; a completed SLOH projected cost form

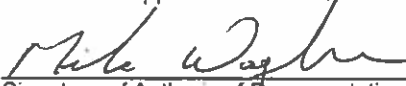
D. For Land Acquisition

- 1. Completed Form 1800-001, Environmental Hazard Assessment
- 2. Appraised
- 3. Title insurance

E. Design specifications, if applicable, for River Management or Lake Management Plan Implementation

Section 7: Certification

By submitting this application, I am requesting a variance from the DNR to ss. NR 190.05(4), NR 190.15(6), NR 191.05(1), NR 195.07(4), NR 198.23(1), NR 198.44(1), Wis. Adm. Code, as appropriate, to establish an application deadline of December 10 and February 1. The requested variance is in my interest and is essential to effect the necessary DNR grant actions and program objective of a uniform application deadline.



Signature of Authorized Representative

6/23/16

Date Signed

DNR USE ONLY			
Application Type	Research/Demo Project <input type="radio"/> Yes <input type="radio"/> No	Waterbody ID	Project Priority Rank
Lake District			
Is the applicant a Green Tier Community Charter member? <input type="radio"/> Yes <input type="radio"/> No		Is the project within a Green Tier Community? <input type="radio"/> Yes <input type="radio"/> No	
AIS/Lake/River Coordinator Approval/Date		Environmental Grants Specialist Approval/Date	

Section 8: Project Description

A. Project Area and Public Access/Use

The Waterford Waterway is a flowage created by damming the Fox River in the Village of Waterford and includes Tichigan Lake, which was connected by increased water levels from the dam. The Waterway is located in the Town and Village of Waterford, Racine County, and at 1132-acres is the largest lake in the County (maps are provided in the attachments). Overall, much of the Waterway is shallow with a maximum depth of 6 feet. Tichigan Lake, however, reaches depths up to 63 feet with an average of 15.6 feet. Overall, the Waterway has over 24 miles of shoreline. Waterford Waterway borders between mesotrophic and eutrophic, but is highly productive with moderate water quality and provides numerous recreational opportunities for a wide spectrum of users including fishing, boating, swimming, hunting, and leisure activities.

Public boating access exceeds the minimum as defined in NR 1.91(F). At Waterford Waterway there are two public boat landings, each with one paved lane, cumulative parking for up to 25 vehicles with trailers, fishing pier, and restrooms. Tichigan Wildlife Area is a State-owned 1500 acre natural area abutting the flowage on its north shore and provides exceptional recreational activities and access. Additional lake access is provided by private properties, including three additional private accesses with boat launching, a public swimming beach, and two businesses providing boat and canoe rentals.

The Waterford Waterway Management District (WWMD) formed in 2003 to protect and enhance the quality of the lake and has been at the forefront of controlling Aquatic Invasive Species (AIS) within the Waterway.

B. Problem Statement

Battling AIS, other aquatic plant issues, and protecting the integrity of the Waterway has been a financial burden on WWMD, which has funded numerous management activities. Some projects have been funded with assistance from the WDNR AIS grant program with the last grant received in 2014 (ACEI-151-14 - invasive species control grant). Current projects funded and completed by the District include, but are not limited to, the following:

- * ONGOING: Annual AIS management including pre and post-treatment surveys, mapping, and herbicide application
- * ONGOING: Work with Racine County Land Conservation Department to address current run off issues
- * ONGOING: Annual, out-of-pocket grants to riparian landowners to help with installation of rain-gardens and shoreline buffers
- * ONGOING: Monitors and inspects silt fence for construction projects on riparian properties
- * ONGOING: Citizen Lake Monitoring for secchi, chlorophyll a, and phosphorus for nearly 30 years

Lake ecosystems change over time with the constant flux of current AIS populations and constant threat of the introduction of new AIS to the waterbody. As these change or become more intense, it is necessary to be aware of new issues related to the native plant community and AIS along with possible management techniques. During a recent project on the Waterway, populations of flowering rush (*Botumus umballatus*) were found scattered throughout the flowage (Attachment A). Only a small portion of the flowage was surveyed at this time and it is likely the spread of flowering rush is much greater than mapped.

Flowering rush can quickly overtake shallow areas of waterbodies, potentially rendering them unusable and non-navigable by watercraft (Attachment B). In order to reflect current conditions and future management options, quick and targeted actions are essential. This grant will initiate and facilitate such actions.

C. Project Description and Timeline Matrix

1. Goal/Job Objective:

The primary goals for Waterford Waterway is to monitor, map, and control pioneer populations of flowering rush throughout the entire waterway. Flowering rush is a newly identified AIS within the waterway and requires quick action to control populations before it spreads further. Management actions related to flowering rush control are outside of previous activities and include highly selective hand-harvesting techniques. This grant objective is to provide a clear strategy and options for management activities.

Fast and efficient control actions will directly address these concerns and are needed to further evaluate current flowering rush populations within Waterford Waterway. In an effort to address current issues, the District has established several goals including completing initial reconnaissance and mapping of populations, complete aquatic plant community evaluation, and highly selective control through targeted manual harvesting. Preliminary project objectives include:

- * Determine spread and locations of current flowering rush infestation
- * Monitoring and preventing the spread of flowering rush within the Waterway
- * Maintain and improve recreational opportunities
- * Preserve native aquatic and wetland plants
- * Evaluate and update manual harvest areas and techniques

These objectives will be used during the flowering rush control process and evaluated annually through the life of the project to maintain appropriate management activities to any newly arising concerns, or biological changes within the ecosystem.

1.a. Activity

Initial reconnaissance survey, selective hand harvesting, and permit for control of flowering rush - 2016.

Method and Data Collected

Prior to this activity, a permit will be applied for to selectively hand harvest areas of flowering rush within Waterford waterway. Permitted acreage is anticipated to be under 3.0 acres. Under this activity, the consultant will survey and map all shoreline areas of the Waterway for populations of flowering rush. The survey will be completed by watercraft, including motorized and kayaks for shallow, near shore areas. For hard to access, shallow wetland shorelines a drone equipped with video recording and GPS capabilities will be used for reconnaissance and mapping.

Concurrent with the survey, any populations of flowering rush identified will be selectively hand harvested. Harvested material will be contained within the boat during on the water activities then sealed and bagged so fragments do not become free and properly disposed of when complete. All areas of flowering rush identified and hand pulled be recorded for monitoring and regrowth in subsequent years.

Deliverable/Outcomes

This activity will include completion of a shoreline survey, including mapping of flowering rush populations. Final deliverables of this activity include an approved harvesting permit, maps and removal of flowering rush populations identified, including GPS locations. All locations identified at this time will be used in future surveys and monitoring for control in grant activities from 2017-2018.

1.b. Activity

Full, whole-lake point-intercept aquatic plant survey and mapping - 2016.

Method and Data Collected

The entire aquatic plant community of Waterford Waterway, excluding Conservancy Bay, will be sampled following WDNR point-intercept protocol. Aquatic plant specimens will be collected using a modified rake on a telescopic handle or a rake on a rope (for deeper locations) with visual observations of plants not directly sampled recorded. Data points are pre-established by the WDNR and will be loaded on a GPS. Significant observations of aquatic plants, specifically AIS, outside of the predetermined sampling grid will be recorded.

Aquatic plants will be identified to the species level wherever possible. Information collected will characterize species abundance ratings (frequency of occurrence, relative frequency of occurrence, density). The survey will also be used to supplement the District's management activities for Eurasian water-milfoil and curly-leaf pondweed. Information collected at sample locations will also include depth and observed or estimated bottom sediment composition.

Deliverable/Outcomes

The deliverables for the point-intercept survey will include maps documenting the location and distribution of any AIS present. All species mapped will be depicted separately. In addition to species maps, updated hand harvesting area maps will be created for 2017 flowering rush control. This map will be color coded for individual areas showing location length, width, and acres each proposed area.

All maps created under this activity will be provided in both digital as well as paper copies and included in the following year's permit and management activities. Harvesting maps will approved by the District and WDNR for use in future hand harvesting permits for flowering rush.

1.c. Activity

Reconnaissance survey, selective hand harvesting, and permit for control of flowering rush - 2017.

Method and Data Collected

The entire shoreline of the Waterway will again be surveyed for populations of flowering rush using the same techniques and actions as described under Activity C1a. Areas that were found to have populations of flowering rush and selectively harvested in 2016 will be a focus of this activity to ensure success from prior actions.

Deliverable/Outcomes

This activity will include completion of a shoreline survey, including mapping of flowering rush populations. Final deliverables of this activity include an approved harvesting permit and maps, removal, and GPS locations of flowering rush populations identified. All locations identified at this time will be used in future surveys and monitoring for control in grant activities from 2018.

1.d. Activity

Full, whole-lake point-intercept aquatic plant survey and mapping - 2017.

Method and Data Collected

The entire aquatic plant community of Waterford Waterway, excluding Conservancy Bay, will again be sampled following WDNR point-intercept protocol. All data collected in Activity C1b, 2016 will be updated during this survey. Areas of other AIS growth, including EWM and CLP, will again be noted and used to supplement the District's AIS management efforts outside of this grant.

Deliverable/Outcomes

The deliverables for the point-intercept survey will include maps documenting any AIS present on separate maps. In addition to species maps, an updated hand harvesting area map will be created. This map will be color coded for individual areas, showing location length, width, and acres each proposed area.

All maps created under this activity will be provided in both digital as well as paper copies and included in the following year's permit and management activities. Harvesting maps will approved by the District and WDNR for use in future hand harvesting permits for flowering rush.

1.e. Activity

Reconnaissance survey, selective hand harvesting, and permit for control of flowering rush - 2018.

Method and Data Collected

The entire shoreline of the Waterway will again be surveyed for populations of flowering rush using the same techniques and actions as described under Activity C1a. Areas that were found to have populations of flowering rush and selectively harvested in 2016 will be a focus of this activity to ensure success from prior actions.

Deliverable/Outcomes

This activity will include completion of a shoreline survey, including mapping of flowering rush populations. Final deliverables of this activity include an approved harvesting permit and maps, removal, GPS location of flowering rush populations identified.

1.f. Activity

Full, whole-lake point-intercept aquatic plant survey and mapping - 2018.

Method and Data Collected

The entire aquatic plant community of Waterford Waterway, excluding Conservancy Bay, will again be sampled following WDNR point-intercept protocol. All data collected in Activity C1d, 2017 will be updated during this survey. Areas of other AIS growth, including EWM and CLP, will again be noted and used to supplement the District's AIS management efforts outside of this grant.

Deliverable/Outcomes

The deliverables for the point-intercept survey will include maps documenting any AIS present on separate maps. In addition to species maps, an updated hand harvesting area map will be created. This map will be color coded for individual areas, showing location length, width, and acres each proposed area.

All maps created under this activity will be provided in both digital as well as paper copies and included in the following year's permit and management activities. Final maps under this activity will include areas of flowering rush harvested each year of this project to track results.

D. Role of Project in Planning/Management of Water Body

The project plays a valuable role in continuing overall planning and management of the lake as a phased approach after recent management activities and strives to improve current habitat and recreational uses. Flowering rush is currently in a pioneer stage of infestation with the Waterway. Quick action is necessary at this time when populations are low and can be easily controlled by selectively hand harvesting.

Flowering rush control is a crucial long-term management planning and rapid response tool for the lake. Activities completed as part of this grant will greatly complement management actions currently undertaken by the District and enhance their dedication to protect the Waterway. Aquatic invasive species are an ever present threat. The presence of new species requires the District to remain proactive in their management approach. For purposes of this grant, they have chosen to manage populations of flowering rush through hand harvesting, a uniquely highly selective action for AIS control.

E. Existing and Proposed Partnership

Waterford Waterway Management District is proposing a partnership with the WDNR to complete the above described project to the maximum allowable amount for rapid response grant projects. An expanded, more detailed budget for this project is included as Attachment B. The district will work with their consultant to complete technical components of the project and provide information to the WDNR for permitting. The District, lake users and a qualified consultant will complement AIS management efforts currently being completed by the District in cooperation with WDNR.

The District has had strong partnerships with the County, Village of Waterford, and other groups during past management actions which included out-of-pocket costs from all parties. These partnerships form a strong base for success and will continue. The District will complete specific action items listed in the AIS grant to improve the recreational opportunities and ecology of Waterford Waterway. When local community, governments and organizations learned of the proposed project, they reacted positively.

F. Plan for Sharing Results

The District has successfully completed past lake management planning activities with numerous project partners and continues to financially support many aspects of active lake management. This shows a strong perseverance to initiate future management actions and see them to completion.

The consultant will provide the District with final paper copies and an electronic copy of all maps created, including locations of any AIS identified during the full point-intercept surveys. Electronic copies of the plant survey data will also be submitted to the District.

With today's technology, staying connected is easier than ever. The District has adapted this and currently runs their own website providing updates on current projects, meeting minutes, pictures, and other lake management information. Throughout this project, they will continue to be active in this regard by providing updates available for this project. AIS maps and hand harvested areas will also be shared in this fashion.

G. Other

The Waterford Waterway Management District has successfully completed numerous projects for lake and AIS management, actively engaging the end user throughout all processes. This shows not only a dedication to preserving the values and condition of the lake, but also the perseverance to initiate such actions and see them to completion as well as a tremendous financial commitment. These are only continued stages in lake management and the District is committed to ensure protection of Waterford Waterway and continued enjoyment of its use for future generations.

Vast portions of the Waterford Waterway offer ideal habitat for flowering rush. When left unchecked, this AIS can wreak havoc on aquatic ecosystems and quickly expand, severely impacting fisheries and wildlife habitat and impacting recreational use of the water. With quick action, the District will be able to control flowering rush and preserve the Waterway.

Since forming, District members have been stewards for the Lake to protect and enhance fish and wildlife habitat within Waterford Waterway. Because of their commitment both financially as well as through labor contributions to the resource, an abundance of support for the proposed project exists from the local community, Racine County, and local sportsman's groups, providing a strong base for project success.

STANDARD AUTHORIZING RESOLUTION

WHEREAS, the Waterford Waterway Management District is interested in obtaining a cost-share grant from the Wisconsin Department of Natural Resources for the purpose of Early Detection and Rapid Response AIS Grant for flowering rush control.

WHEREAS, the applicant attests to the validity and veracity of the statements and representations contained in the grant application;

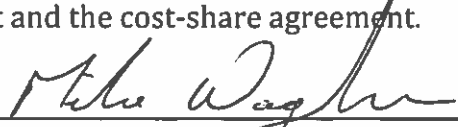
WHEREAS, a grant agreement is requested to carry out the project; and

NOW, THEREFORE, BE IT RESOLVED, that the Waterford Waterway Management District has budgeted a sum sufficient to full and satisfactorily complete the project and hereby authorize and empower the following officials or employees to submit the following documents to the Wisconsin Department of Natural Resources for financial assistance that may be available:

Task	Title of Authorized Representative
Sign and submit a grant application	Mike Waghorn - Vice Chairman
Enter into a grant agreement with the DNR	Mike Waghorn - Vice Chairman
Take necessary action to undertake, direct, and complete the approved project and bind the applicant	Mike Waghorn - Vice Chairman
Submit quarterly and/or final report to the DNR to satisfy the grant agreement, as appropriate	Mike Waghorn - Vice Chairman
Submit reimbursement request(s) to the NDR no later than the date specified in the grant agreement	Mike Waghorn - Vice Chairman
Sign and submit _____ (name of other necessary documents)	NAME / TITLE if applicable

BE IT FURTHER RESOLVED that applicant will comply with all local, state and federal rules, regulations and ordinances relating to this project and the cost-share agreement.

Adopted on 6/23/2016

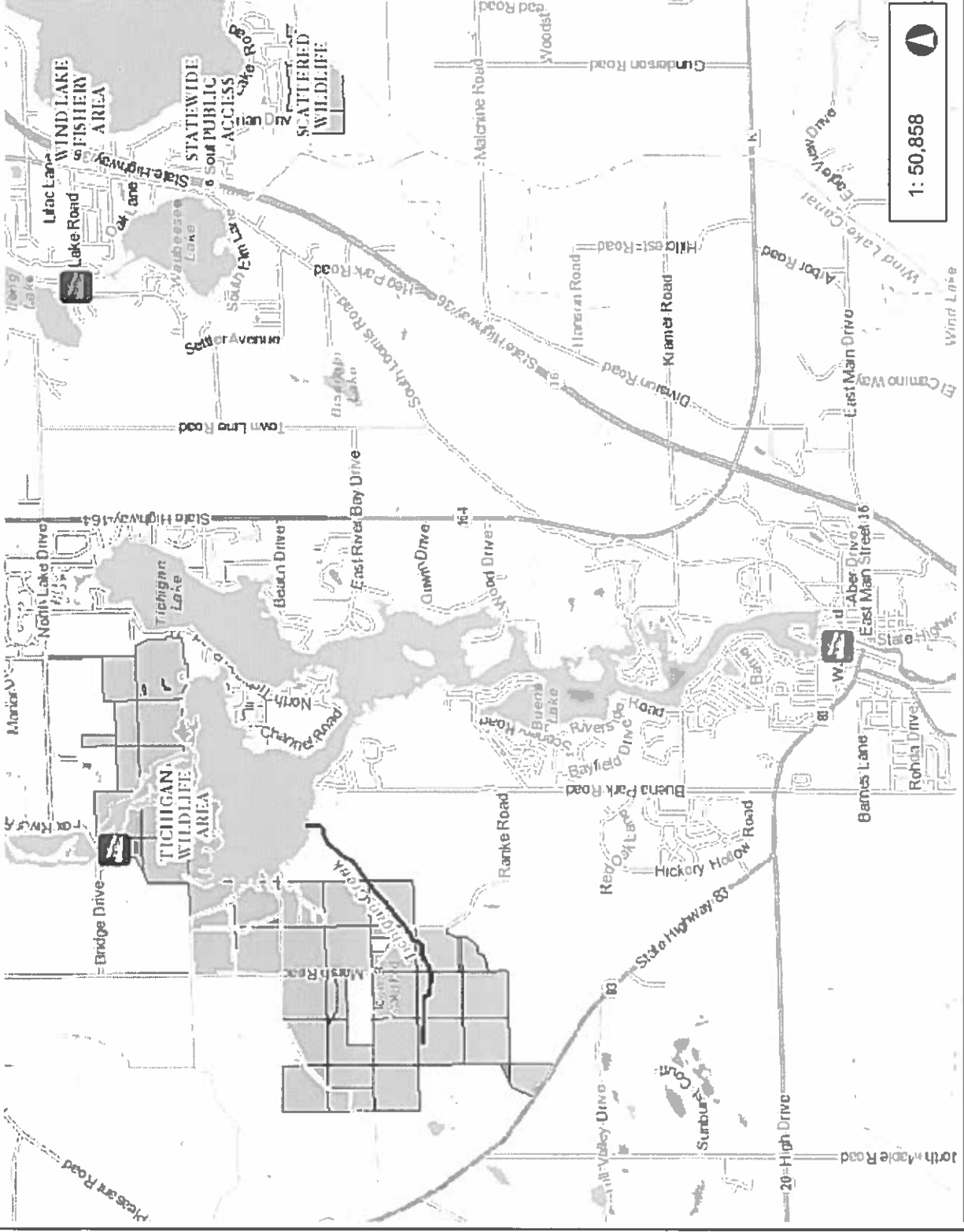


Authorized Signature

I hereby certify that the foregoing Resolution was duly adopted by Waterford Waterway Management District At a legal meeting held on 6/23/2016

VICE CHAIRMAN
Title
6/23/16
Date Certified

Waterford Waterway / Tichigan Lake



Map Features

- Shore Fishing Site
- Boat Access Sites
 - CARRY-IN
 - RAMP
 - UNKNOWN
- Trout Streams
- CLASS I
- CLASS II
- CLASS III
- State Natural Area
- Board of Commissioners of Pu
- County Forest
- US Fish & Wildlife Service
- US Forest Service
- National Park Service
- Mazomanie Beach Closed Are
- DNR Owned
- DNR Easement
 - Hiking, Fishing & Hunting
 - Hiking & Fishing
 - Hiking & Hunting
 - Hiking Only
- DNR Leased Land
- Fee Simple
- Easement
- Leased Land

Notes

Project location & lake access locations

1: 50,858

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty is expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/wlegal/>

1.6 Miles

0 0.80

1.6

Flowering Rush Locations

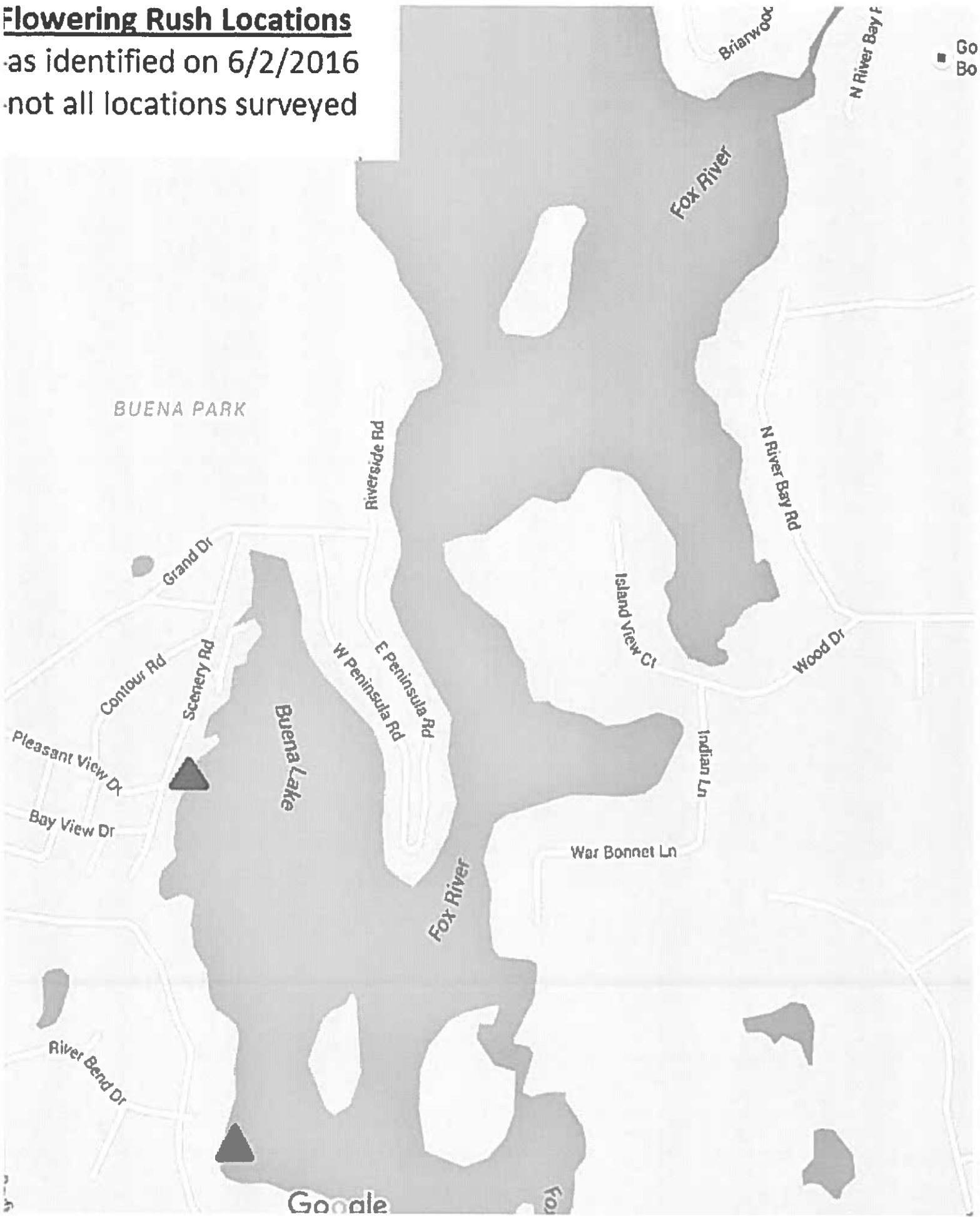
-as identified on 6/2/2016
-not all locations surveyed



Flowering Rush Locations

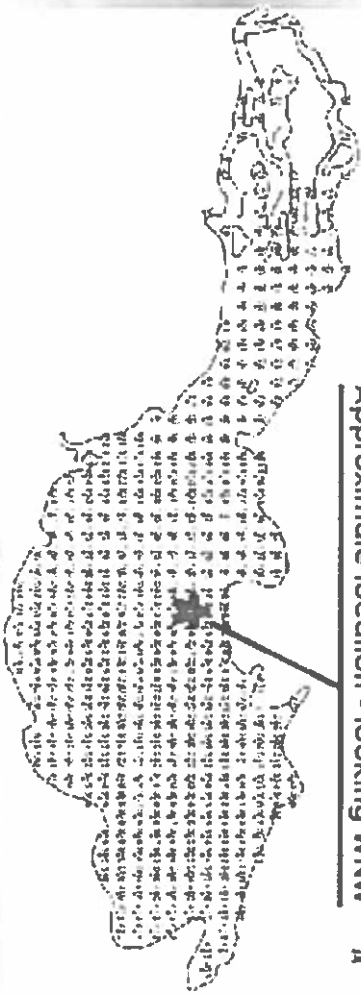
as identified on 6/2/2016

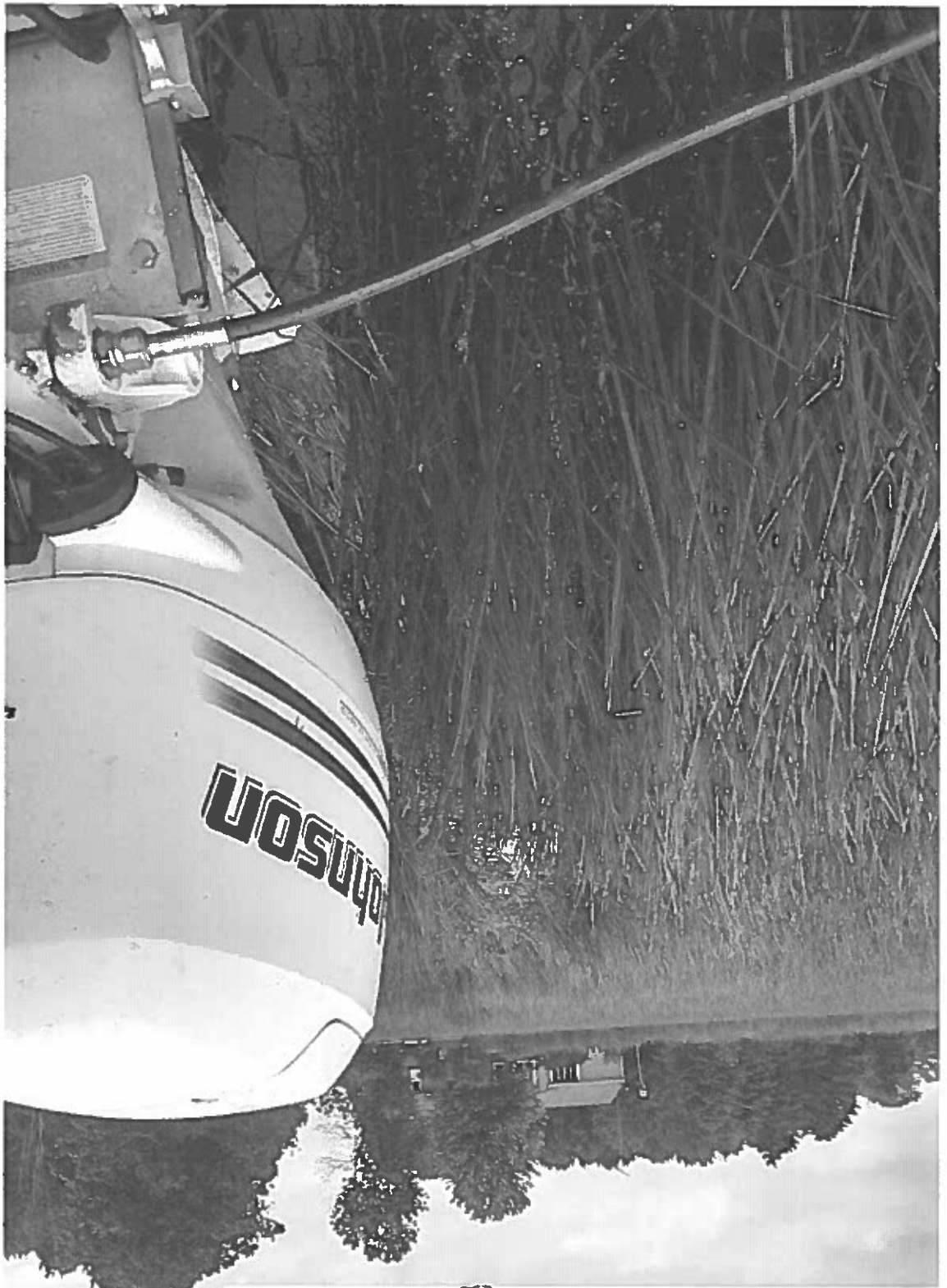
not all locations surveyed





Approximate location - looking WNW





Approximate location - Looking N

