State of Wisconsin
Department of Natural Resources
Bureau of Community Financial Assistance (CF/2)
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

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

Form 8700-284 (R 10/01/19)

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 Waters Use Form 8700-337

River Protection Grant:
- ( ) River Planning

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

YEAR-ROUND:

Aquatic Invasive Species Grants:
- ( ) Early Detection & Response
- ( ) Maintenance & Containment Use Form 8700-323

Section 2: Applicant Information

Project Title: Lake Onalaska Management Planning				
Applicant Name (Organization): Lake Onalaska Protection and Rehabilitation District		Organization Type: Lake District		
Authorized Representative (AR) Name: Marc Schultz		AR Title: Chairman, LOPRD		
AR Address (business/organization address): W8155 County Road ZB		City: Onalaska	State: WI	ZIP Code: 54650
AR Phone Number (include area code): (608) 781-1662	AR Ext.	E-mail Address: schultzma@charter.net		
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: Lake Onalaska		Proposed Start Date: February 15 (Start Date)	2019 (Year)	Proposed End Date: December 31 (End Date)	2019 (Year)
Waterbody ID (WBIC): 728100					

Project Area (Select all that apply):
- ( ) County-wide ( ) Multi-county ( ) Regional (●) Lake ( ) River
- ( ) Other (specify): _____

County(ies): La Crosse

Public Access: Is there public access to the waterbody of which the project is proposed? Attach a map showing all public access points.
(●) Yes ( ) No

Lake Acreage (if applicable): 8,391.00
No. of public access sites including boat launches and walk-ins: 11
No. of public vehicle-trailer parking spaces available at public access sites: 164

Does this project include Laboratory sample analysis? ( ) Yes (●) No
If yes, then complete Form 8700-360 and indicate the lab service provider:
( ) State Lab of Hygiene
( ) Other Program-Approved Lab:

Consultation

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

Date of Contact	Name of DNR Contact
11/11/2019	Jodi Lepsch

Project Location

State Assembly District number(s):	State Senate District number(s):
94,95	32

	Legal Description							
Sponsor Type (city, village, town, etc. - ex. Holland, Town of)	Township (N)	Range	E or W	Section	Quarter	Quarter-Quarter	Latitude (North, 4 to 7 decimal places)	Longitude (West, 4 to 7 decimal places)
Lake Onalaska Prot & Rehabilitation Dist	16 N	7	W					
Lake Onalaska Prot & Rehabilitation Dist	17 N	8	W					

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
Brice Prairie Conservation Association	Cash	$1,000.00
Brice Prairie Conservation Association	UW-L Student Stipend (Loosestrife Eval.)	$1,000.00

Are there federal dollars in this project? ( ) Yes (●) No

Source of Federal Funds

Project Budget

Costs for Each Category	Project Costs					
	Activity	Time (hr.)	Cash Cost	Time (hr.)	Donated Value	Subtotal
Consulting Services	Data and information gathering, compile inventory; summarize stakeholder viewpoints and management agency goals	24	3,500.00			$3,500.00
Consulting Services	Analyze: "State of Lake Onalaska", using inventoried datasets,and data gaps analysis	40	6,000.00			$6,000.00
Consulting Services	Draft Lake Management Plan, based on project results	94	14,000.00			$14,000.00
Donated Services	Purple Loosestrife Control Evaluation Project, UW-L Geography Dept. faculty field work, image analysis, report writing			70	3,500.00	$3,500.00
Subtotals			23,500.00		3,500.00	$27,000.00
☐ **Override Default State Share Percentage:** **Alternative State Share %**			**Total Project Cost Estimate** (Cash + Donated Value)			$27,000.00
					State Share Requested	$18,090.00

Large Scale Lake Planning Project - maximum grant up to $25,000 - up to 67% state share, cannot exceed cash cost.

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 or other DNR Certified Lab, complete a Surface Water Grant Project Lab Costs, Form 8700-360
- ☐ 5. For projects on state property, include a land use agreement or specify a date when you expect to obtain one

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

D. For Land Acquisition

- ☐ 1. Completed Form 1800-001, Environmental Hazard Assessment
- ☐ 2. Appraisal
- ☐ 3. Title insurance or commitment with supporting documentation

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.

Marc Schultz
Signature of Authorized Representative

12/10/2019
Date Signed

NOTE: Section 8 has a 10 page limit. Additional pages will not be considered.

Section 8: Project Description

A. Phased Projects:

Is this project being completed in phases? ◯ Yes ◉ No

B. Project Summary (2-3 sentences)

This project will describe the current status of Lake Onalaska and draft a comprehensive lake management plan. Existing data will be used to quantify lake loss from sedimentation; map submerged aquatic vegetation; inventory and identify gaps in monitoring data; summarize stakeholder and agency goals; clearly describe the management responsibilities of the complex overlapping local, state, and federal jurisdictions; and develop a management and information-sharing partnership framework.

C. Project Area and Public Access/Use

The project area is Lake Onalaska, an 8,391 acre eutrophic impoundment formed by Mississippi River Lock & Dam 7, of average depth 6 feet. Lake Onalaska is unique in the upper Mississippi River (UMR) system because of its lake-like character, isolated from the UMR main channel by a network of barrier islands. Inflows are from Mississippi and Black Rivers, Halfway and Sand Lake Creeks.
Classifications: 303(d) listed "impaired lake"; Black River, Halfway Creek also 303(d) listed; FAL designated use area; Low priority TMDL area; SPARROW Catchment: 0.9-1.0; adjacent PNW-ASNRI State Nat. Areas (Midway Railroad, Great River Trail Prairies); PNW for sturgeon and lakes < 50 acres.
Rare species likely in project area: Black tern, Blanding's Turtle, Black Buffalo, Prothonotory Warbler. The UMR National Wildlife and Fish Refuge lists 305 bird species, 57 mammals, 45 amphibians and reptiles, and 134 species of fish, most of which are found in Lake Onalaska. Peak counts of over 100,000 waterfowl occur during fall migrations on Lake Onalaska, including significant percentages of the continental population of canvasback ducks and tundra swans. The Lake supports one of the premier centrarchid fisheries on the Upper Mississippi River and has attracted national-level fishing tournaments, along with local ice fishing derbies. Commercial fishing was formerly important, but has declined in recent years. Large visible wildlife species important for wildlife observation and photography include thousands of tundra swans in fall migrations, nesting and migrating sandhill cranes and bald eagles, and summer-resident juvenile and migrating adult white pelicans. Most of Lake Onalaska is closed to waterfowl hunting, but the sport is popular during the fall in public hunting areas around the edges of the Lake.
8 boat landings, 3 canoe launches and 4 shore-fishing sites provide public access, as well as lateral access from a federally-owned shoreline strip surrounding the entire lake.

D. Problem Statement

Sedimentation, excessive nutrients & invasive species are dramatically altering Lake Onalaska. Nutrient loading from the upstream UMR and Black Rivers is beyond the scope of this project. A lake management plan focused on attainable in-lake solutions to sedimentation, overcoming access restrictions, and invasive species is needed.
Over 1,400 lake acres have been lost to 1-mile delta extensions of the Black & UMR inflows since 1937, converting to floodplain forest, reed canary grass/purple loosestrife meadow, or riverine distributaries. Diminishing lake depth has enabled submerged aquatic vegetation (SAV) to become established in former deepwater areas, and converting former shallow SAV beds to emergent vegetation and dry land. Habitat for diving ducks dependent on deepwater SAV such as wild celery is diminishing. While public access overland to shoreline areas is abundant, SAV beds block public access to deeper waters. Such access was the principle concern in a 2011 stakeholder survey.
The lake is data-rich, with monitoring data from WDNR, USGS, USFWS, USACE, and a 1977 LOPRD-funded lake study. Most of the federally-collected data focuses on a much larger area than Lake Onalaska. A critical need is to gather and inventory monitoring and assessment data focused on Lake Onalaska itself to inform the lake management plan. No such inventory exists.

Lake planning grants received by the Town of Onalaska in 1997 and 2007 for two small tributaries resulted in the creation of sediment traps at Halfway and Sand Lake Creeks. Larger sediment inflows from the Black River and Sommers Chute have not been addressed. Determining optimal hydrologic inflows and outflows to manage sediment load and water quality is a pressing need.

Chronic invasives include purple loosestrife & faucet snails. Outbreaks of water lettuce, hyacinth, & yellow iris were eliminated through prompt action. A purple loosestrife control program begun in 2001 needs evaluation of its effectiveness.

E. Project Description and Timeline Matrix

1. Goal/Job Objective:

Inventory natural resource monitoring data, stakeholder viewpoints, and management agency goals.

1.a. Activity

Inventory natural resource monitoring data: Review and compile inventory of limnological, riverine, geological, and wildlife monitoring and assessment datasets and published reports by federal and state natural resource agencies and local governments that apply to Lake Onalaska. This data will be used to inform an understanding of the historical and current water quality (including sedimentation), aquatic biota/habitat conditions, nutrients, potential drivers of water quality within the lake, and opportunities for improvement.

Method and Data Collected

Interview agency staff, review databases including routine data collection from: USGS Long Term Monitoring, WDNR Lake Onalaska water quality and fisheries sample sites, and USFWS vegetation monitoring, along with special purpose studies such as the 1977 Lake Onalaska Rehabilitation Plan.

Deliverable/Outcomes

Chapter in final report and management plan listing data sources, online links where available, and summarizing the content of each.

1.b. Activity

Inventory and summarize Stakeholder viewpoints and management agency goals.
Stakeholder viewpoints: A rich variety of relatively recent stakeholder input already exists for Lake Onalaska, but is scattered among many sources, which include: a recent LOPRD membership and public survey questionaire, focus groups commissioned as part of local government comprehensive plans, and public comment to regional and federal master/comprehensive plans.

Management agency goals: existing planning efforts describe goals and objectives from a multitude of agency viewpoints. In most cases these apply to much broader areas that Lake Onalaska is only a small part of, such as the Upper Mississippi National Wildlife and Fish Refuge, or the St. Paul District of the USACE. A goal of this project is to coalesce goals and objectives from existing planning efforts that apply to Lake Onalaska.

Method and Data Collected

Stakeholders: Summarize recent stakeholder survey, comprehensive plan focus groups, and public comments on regional/federal Master/Comprehensive plans.
Management Agency Goals: Review goals in formal agency plans applying at least in part to Lake Onalaska,including:
UMR Nat. Wildlife and Fish Refuge Comprehensive Conservation Plan (2006, applies to all 260+ miles of the Refuge)
Environmental Pool Plans (2004, River Resources Forum, for Pools 1-10)
UMR Master Plan (1988, under revision by the USACE, Pools 1-10)
UMR Land Use Allocation Plan (2011, USACE, Pools 1-10))
Comprehensive Plans for Towns of Campbell (2007), Onalaska (2005), and City of Onalaska (2015).
La Crosse Airport Master Plan (2003, in revision)

Conflicting goals will be highlighted. For example, promoting aviation safety, a goal of the La Crosse airport, with landing light towers for its major runway bisecting Lake Onalaska, can be seen to be in conflict with the USFWS goal of attracting migrating waterfowl to the Lake.

Deliverable/Outcomes

Chapter in final report and management plan summarizing stakeholder and agency viewpoints, highlighting areas that may be in potential conflict.

2. Goal/Job Objective:

Analyze: describe the current "state of Lake Onalaska" using inventoried datasets, including a description of the lake's progression along a timeline to senescence.

2.a. Activity

Quantify the rate and effect of sedimentation on lake volume

Method and Data Collected

Compile a time series of lake volumes from available bathymetric surveys, 1937- most recent (believed to be 2010), to quantify the rate of loss of lake volume. Point estimates from 1937 and 1977 are available in the 1977 Lake Onalaska Rehabilitation Plan.

Deliverable/Outcomes

Section in final report and management plan; time series of available bathymetric maps.

2.b. Activity

Quantify the rate of lake loss from inflow delta/splay progradation, 1937 - present.

Method and Data Collected

Compile a time series of aerial/satellite photography and mapping, 1937-present to quantify extent of deltas and splays, showing the progression of open water lake area loss to delta and floodplain forest habitat. Historical imagery will be screened for water depth from historical USACE gage information to assemble a consistent, comparable time series of imagery. Aerial photography from 1929 (pre-dam), 1938, 1954 are known to be available to augment more recent imagery.

Deliverable/Outcomes

Section in final report and management plan; time series of consistent, comparable imagery.

2.c. Activity

Evaluate the hydrological and hydraulic conditions of Lake Onalaska, identifying data gaps and needs. Develop management recommendations to control sedimentation and optimize hydrology.

Method and Data Collected

Simulate flow conditions with the 1D HEC-RAS hydraulic model, if applicable. Assimilate hydraulic model results, if applicable, with results of activities 2.a, 2.b, and resource agency hydrology and hydraulic condition monitoring studies identified in activity 1.a (inventory natural resource monitoring data).

Deliverable/Outcomes

Section in final report and management plan describing hydrological and hydraulic conditions of Lake Onalaska, Management recommendations to control sedimentation and optimize hydrology.

2.d. Activity

Describe changes in planktonic, benthic, fish, & avian species composition over time, 1937-present. from available surveys, if sufficent data exists and where summaries are available.

Dramatic shifts in large avian species are highly visible: white pelicans, sandhill cranes, bald eagles, tundra swans, Canada geese, and canvasback ducks were non-existent or rare in the early history of the Lake. For canvasbacks, wild celery was not abundant in the pre-dam upper Mississippi River habitat and took time to establish on the Lake. Historically canvasbacks migrated through eastern Wisconsin, utilizing lakes such as Poygan, Puckaway, and Butte des Morts, until declines in water quality in those areas decimated wild celery beds, forcing canvasback migrations westward to the Mississippi River in the 1950s, where wild celery was becoming abundant in the new reservoir habitat. These avian and other species shifts are not well-documented on an historical time scale.

Method and Data Collected

Review monitoring studies identified in activity 1.a (inventory), and management plans identified in 1.b, and historical species lists produced by USFWS and by birding organizations, if available.

Deliverable/Outcomes

Section in final report and management plan, referencing existing studies from 1.a and 1.b where available, and outlining overall changes in species composition to the extent known.

2.e. Activity

Describe historical (1937-present) submerged aquatic vegetation (SAV) distribution, and if possible, emergent vegetation beds.

Method and Data Collected

Aggregate maps, imagery, and summaries to describe historical (1937-present) SAV distribution and density from available sources, which include USFWS wild celery surveys, USGS LTRM surveys, the LOPRD-funded 1977 Lake Onalaska Rehabilitation Feasibility Study, and aerial and satellite imagery. To the extent possible from existing imagery and reports, describe emergent vegetation beds.

Deliverable/Outcomes

Section in final report and management plan.

2.f. Activity

Evaluate the effectiveness of existing invasive species controls, including the purple loosestrife biological control program of the Brice Prairie Conservation Association (BPCA), described at: http://www.briceprairieconservation.org/loosestrife/, which uses Galerucella beetles.

Method and Data Collected

Use drone-based aerial imagery to determine the extent of purple loosestrife infestation, and reductions resulting from the impact of BPCA's biological control program. Two years of pilot studies by BPCA and the University of Wisconsin-LaCrosse Geography Department's Dr. Niti Mishra have established the feasibility of loosestrife assessment through drone-based image collection and computerized image processing to recognize and map flowering-stage purple loosestrife. The methodology is now ready to apply the technique to a lake-wide scale. Habitats occupied by purple loosestrife are otherwise extremely difficult to assess using conventional methods such as quadrant sampling.

Deliverable/Outcomes

Project report with imagery, estimates of loosestrife coverage area and biological control-impacted areas.

2.g. Activity

Identify gaps in monitoring data requiring further data collection.

Method and Data Collected

Assemble lists of data gaps while compiling results of activities 2.a - 2.f.

Deliverable/Outcomes

Section in final report; recommendations to appear in management plan.

3. Goal/Job Objective:

Organize: describe complex management jurisdictions; propose information sharing network.

Lake Onalaska and its adjacent shoreline have a complex multi-agency regime for management oversight that is poorly understood by the general public. Governmental entities involved with Lake Onalaska include the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Federal Aviation Administration (adjacent large airport and ILS tower string that spans the lake), Environmental Protection Administration, Wisconsin Department of Natural Resources, La Crosse County, Cities of La Crosse and Onalaska, La Crosse Aviation Board, Lake Onalaska Protection and Rehabilitation District and the Towns of Onalaska and Campbell. NGO partnering groups involved with Lake Onalaska have included the Brice Prairie Conservation Association, La Crosse Sailing Club, Friends of the Refuge - Mississippi River Pools 7 & 8, the Raptor Resource Project, Brice Prairie EMS & Rescue, River Alliance of Wisconsin (for invasive species monitoring, education and control), and the North American Squirrel Association (providing outdoor activies for seniors and the physically challenged). A key element of the proposed project is a partnering and information-sharing framework focused on Lake Onalaska that includes all of the entities with management oversight, along with publicly presented information about how Lake Onalaska management functions.

3.a. Activity

Describe, in text and with graphical map overlays of management agency jurisdictions, referencing enabling legislation, and current management plans, how Lake Onalaska and areas immediately affecting it, are regulated and managed. Such a concise description will increase public understanding and cooperation with management and regulatory actions.

Method and Data Collected

Written and graphical summaries.

Deliverable/Outcomes

Chapter in final report and management plan.

3.b. Activity

Create an information sharing network for Lake Onalaska, involving all regulatory and management entities, identifying contacts and their positions in each agency. The LOPRD maintains contacts and a good working relationship with a subset of the routinely involved governmental entities. For historically practical reasons at the time of its foundation in 1975, LOPRD membership was limited to property immediately adjoining government-owned shorelines around the lake. Such property only occurred in the Towns of Onalaska and Campbell. The cities of La Crosse (airport), and Onalaska (southeast shore and Black River spillway area) have an interest in, and presence, on the lake, but do not have a formal direct voice in the LOPRD. An identified information-sharing network among all entities with management and regulatory authority over Lake Onalaska and immediately adjoining areas, including interested NGOs, will facilitate setting goals and achieving desirable outcomes.

Method and Data Collected

Obtain contact information from governmental agencies and NGOs with past participation listed in #3 Goal/Objectives.

Deliverable/Outcomes

Section of final report; participation of entities in study result-sharing meeting; identification of an improved invasive species outbreak response network among partners.

4. Goal/Job Objective:

Draft Lake Management Plan.

4.a. Activity

Incorporate results of Goal/Objectives 1,2, and 3.a into a draft management plan, for eventual DNR and approval for consideration for lake protection grants under ch. NR 191.

Method and Data Collected

Summarize and structure study results, resulting in written draft management plan.

Deliverable/Outcomes

Draft Lake Management Plan document.

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

Creation of a lake management plan focused on Lake Onalaska will:

1. Guide smaller habitat and access enhancement lake projects that the LOPRD is interested to contribute to the Lake.
2. Provide better feedback to large-scale (mostly federal) planning efforts for management and habitat restoration.
3. Improve coordination among regional and local government entities that have regulatory and management impacts that affect Lake Onalaska.
4. Improve management and control of invasive species on Lake Onalaska.

G. Existing and Proposed Partnership

The existing partnership of LOPRD with a subset of entities with management and regulatory oversight will be expanded into an information-sharing network, as described in Goal/Object 3 and Activity 3.b., also formally including the listed interested NGOs.

H. Plan for Sharing Results

The draft management plan will be circulated to to partners in the created information-sharing network. A public meeting will be scheduled at the completion of the project to share the results of the plan with the information-sharing network and the general public. Preliminary results of the project will be shared at the LOPRD annual meeting in early autumn of 2020.

I. Other