

Lessard-Sams Outdoor Heritage Council

Fiscal Year 2019 / ML 2018 Request for Funding



Date: May 31, 2017

Program or Project Title: Lake George Dam and Rum River Erosion

Funds Requested: \$539,000

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County Locations: Anoka

Regions in which work will take place:

- Metro / Urban

Activity types:

- Restore

Priority resources addressed by activity:

- Wetlands
- Habitat

Abstract:

This proposal will address two separate problems: the eminent failure of the Lake George dam and two severe erosion sites on the Rum River at Rum River Central Regional Park. We propose to replace the current failing sheet pile dam and fish barrier with a new sheet pile dam and fish barrier on the outlet to Lake George. We also propose to repair two river bank erosion sites rated as 'Severe' totaling approximately 625 feet on the Rum River which will reduce sediment loading into the river by 285 tons per year and will provide improved in stream fish habitat.

Design and scope of work:

The existing sheet pile dam and fish barrier will be removed and a new sheet pile dam with a fish barrier will be installed at the site of the existing dam. Upon completion of the dam, the disturbed area will be seeded and native tree and shrub species will be planted. This project will maintain the present dam elevation which supports about 150 acres of wetland and open water habitat. This repair will also address the failing fish barrier. This repair will limit the access of Aquatic Invasive Species from down stream waters that are listed as infested with zebra mussels. The habitat supported by this project provides fish spawning and nursery areas, waterfowl nesting, brood rearing and migration along with nesting and wintering cover for upland game birds. The two Rum River erosion sites will require excavation to establish a more favorable slope. The toe of the slope will be structurally reinforced to prevent further degradation of the slope and loss of soil into the river. The resulting decrease in soil loss will improve spawning habitat in the stream through reduced sedimentation and will improve water clarity and help to moderate water temperatures and improve summer dissolved oxygen levels. The reinforcement will end at the normal high water mark, above which native grasses, forbs trees and shrubs will be planted.

Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this project:

- H2 Protect critical shoreland of streams and lakes
- H6 Protect and restore critical in-water habitat of lakes and streams

Which other plans are addressed in this proposal:

- Anoka County Parks System Comprehensive Management Plan

Describe how your program will advance the indicators identified in the plans selected:

A prominent goal of the Park's comprehensive plan is effective conservation of the natural resources and enhancing water quality. The Lake George Dam project will help maintain the wetland wildlife habitat for nesting, spawning and young rearing that is currently influenced by the existing dam structure. The two erosion repair projects on the Rum River will lead to improved water quality by reducing sediment loads in the river which can degrade fish spawning habitat, increase summer water temperatures and decrease dissolved oxygen levels.

Which LSOHC section priorities are addressed in this proposal:

Metro / Urban:

- Protect, enhance, and restore riparian and littoral habitats on lakes to benefit game and nongame fish species

Describe how your program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife as indicated in the LSOHC priorities:

The dam replacement project will protect the upstream lake and wetland areas by maintaining stable water levels in these areas. Eighty eight acres of littoral area in Lake George and about 156 acres of wetlands associated with the lake and with the Grass Lake wetland area. The wetlands and the littoral area are important fish spawning and rearing areas along with being important for waterfowl and song bird nesting and young rearing. It also it was provides winter habitat for resident birds, mammals, reptiles and amphibians. The river erosion projects will improve fish habitat by reducing locally produced sedimentation which degrades spawning habitat important to river dwelling fishes.

Describe how the proposal uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:

Retaining the present water levels in Lake George will help maintain critical wetland habitat needs for the Blanding's Turtle (*Emys blandingii*), which is known to occur in this area. The repair of the two erosion sites on the Rum River would reduce sediment loads that can silt over fish spawning beds, cause higher water temperatures and reduce dissolved oxygen levels.

How does the proposal address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species:

Replacing the Lake George dam will preserve 156 acres of wetland wildlife habitat important for breeding and as nursery habitat for fish, waterfowl and other game and non-game species. It will also preserve the present littoral zone in Lake George which is important refuge for juvenile fish. It will provide an improved barrier to the movement of aquatic invasive species from the Rum River, which is currently listed as infested with Zebra Mussels, into Lake George. This project will maintain habitat for the Showy Lady Slipper and Blanding's Turtles.

Identify indicator species and associated quantities this habitat will typically support:

Not Listed

Outcomes:

Programs in metropolitan urbanizing region:

- Protected habitats will hold wetlands and shallow lakes open to public recreation and hunting *Measurements are made as to acres of wetland habitat hydrology maintained (150 acres) and Lake George littoral zone preserved (88 acres) for the dam replacement and a decrease in sediment loss of 285 tons per year for the river bank stabilization component.*

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended:

Anoka County has successfully restored 100's of acres of prairies and oak savanna throughout its park system. We have also successfully stabilized over 600' of eroding stream bank at two sites on the Rum River. An engineering firm will be contracted to conduct site surveys, develop designs and manage and monitor the construction process. The firm chosen would have extensive dam, water control structure and bank stabilization experience. A construction company with similar experience would be contracted through a competitive bid process to execute the removal of the old dam, the construction of the new dam and the stabilization of the two erosion sites.

Explain the things you will do in the future to maintain project outcomes:

Not Listed

What is the degree of timing/opportunistic urgency and why it is necessary to spend public money for this work as soon as possible:

The DNR has rated the 50 year old sheet piling dam as 'Poor' when it was evaluated in 2013 and additional decline was observed when the site was evaluated by an engineering firm in May of 2015. The loss of the dam would result in a water level drop that would impact about 156 acres of up stream wetland habitat and 88 acres of the Lake George littoral zone. It would also, at the least, make the public access to the lake difficult to navigate and eliminate angling opportunities the fishing pier currently offers.

How does this proposal include leverage in funds or other effort to supplement any OHF appropriation:

Anoka County will provide in-kind work in the way of removing trees and clearing debris from the three sites to provide access for the equipment needed to complete the projects. We would also plant trees and shrubs along with seeding areas that have been disturbed by the projects with native species.

Relationship to other funds:

- Anoka County Funds

Describe the relationship of the funds:

Anoka County will provide a 25% match of cash and in-kind resources.

Describe the source and amount of non-OHF money spent for this work in the past:

Appropriation Year	Source	Amount
2018	in kind work and cash match	\$134,000

Activity Details

Requirements:

If funded, this proposal will meet all applicable criteria set forth in MS 97A.056 - **Yes**

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program - **Yes**

Is the activity on permanently protected land per 97A.056, subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 - **Yes (County/Municipal, Public Waters)**

Do you anticipate federal funds as a match for this program - **Not Listed**

Land Use:

Will there be planting of corn or any crop on OHF land purchased or restored in this program - **No**

Accomplishment Timeline

Activity	Approximate Date Completed
Seek competitive bids and award contracts for design engineering and project management	October 2017
Clear trees for access by construction equipment	April 2018
Secure bids and award contract for construction	August 2018
Replace dam and fix erosion sites	October 2019
Plant trees and shrubs and seed disturbed areas	June 2020
Site evaluation and repair as needed	October 2020

Budget Spreadsheet

Total Amount of Request: \$539,000

Budget and Cash Leverage

BudgetName	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$0	\$39,000	Park Operating Budget	\$39,000
Contracts	\$480,000	\$0		\$480,000
Fee Acquisition w/ PILT	\$0	\$0		\$0
Fee Acquisition w/o PILT	\$0	\$0		\$0
Easement Acquisition	\$0	\$0		\$0
Easement Stewardship	\$0	\$0		\$0
Travel	\$0	\$25,000	Park Equipment/Operating Budget	\$25,000
Professional Services	\$47,000	\$57,000	Park Operating Budget	\$104,000
Direct Support Services	\$0	\$0		\$0
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$12,000	\$13,000	Park Operating Budget	\$25,000
DNR IDP	\$0	\$0		\$0
Total	\$539,000	\$134,000		\$673,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Park Staff	0.38	0.38	\$0	\$39,000	Park Operating Budget	\$39,000
Total	0.38	0.38	\$0	\$39,000		\$39,000

Amount of Request: \$539,000

Amount of Leverage: \$134,000

Leverage as a percent of the Request: 24.86%

DSS + Personnel: \$0

As a % of the total request: 0.00%

Easement Stewardship: \$0

As a % of the Easement Acquisition: -%

Does the amount in the contract line include R/E work?

Yes, 100%

Describe and explain leverage source and confirmation of funds:

The leverage source includes full time budgeted county park staff and capital equipment controlled by the county park or highway departments.

Does this proposal have the ability to be scalable? - No

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	150	150
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	0	0
Total	0	0	0	150	150

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	\$0	\$0	\$0	\$539,000	\$539,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$539,000	\$539,000

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	150	0	0	0	0	150
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	0	0	0	0	0
Total	150	0	0	0	0	150

Table 4. Total Requested Funding within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	\$539,000	\$0	\$0	\$0	\$0	\$539,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$539,000	\$0	\$0	\$0	\$0	\$539,000

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	\$0	\$0	\$0	\$3,593
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0
Enhance	\$0	\$0	\$0	\$0

Table 6. Average Cost per Acre by Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	\$3,593	\$0	\$0	\$0	\$0
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$0	\$0	\$0	\$0

Target Lake/Stream/River Feet or Miles

Rum River 700', County Ditch 19 75'

I have read and understand Section 15 of the Constitution of the State of Minnesota, Minnesota Statute 97A.056, and the Call for Funding Request. I certify I am authorized to submit this proposal and to the best of my knowledge the information provided is true and accurate.

Parcel List

Explain the process used to select, rank and prioritize the parcels:

Lake George Dam was brought to our attention by the fact that the DNR's assessment of its condition gave it a poor rating. Upon a site visit and review by an engineering firm, it was determined that the dam is deteriorating on a yearly basis and is likely to fail soon. At the time of the DNR assessment they put it at number 10 of their list of dams that need replacement. The Rum River bank erosion as noted in the 2011 survey of the Upper Rum River by the Anoka Conservation District. These two sites have bare near vertical banks that rise about 10 feet above the normal summer river level.

Section 1 - Restore / Enhance Parcel List

Anoka

Name	TRDS	Acres	Est Cost	Existing Protection?
Lake George Dam	03324215	1	\$0	Yes
Rum River Bank repair	03224206	1	\$0	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

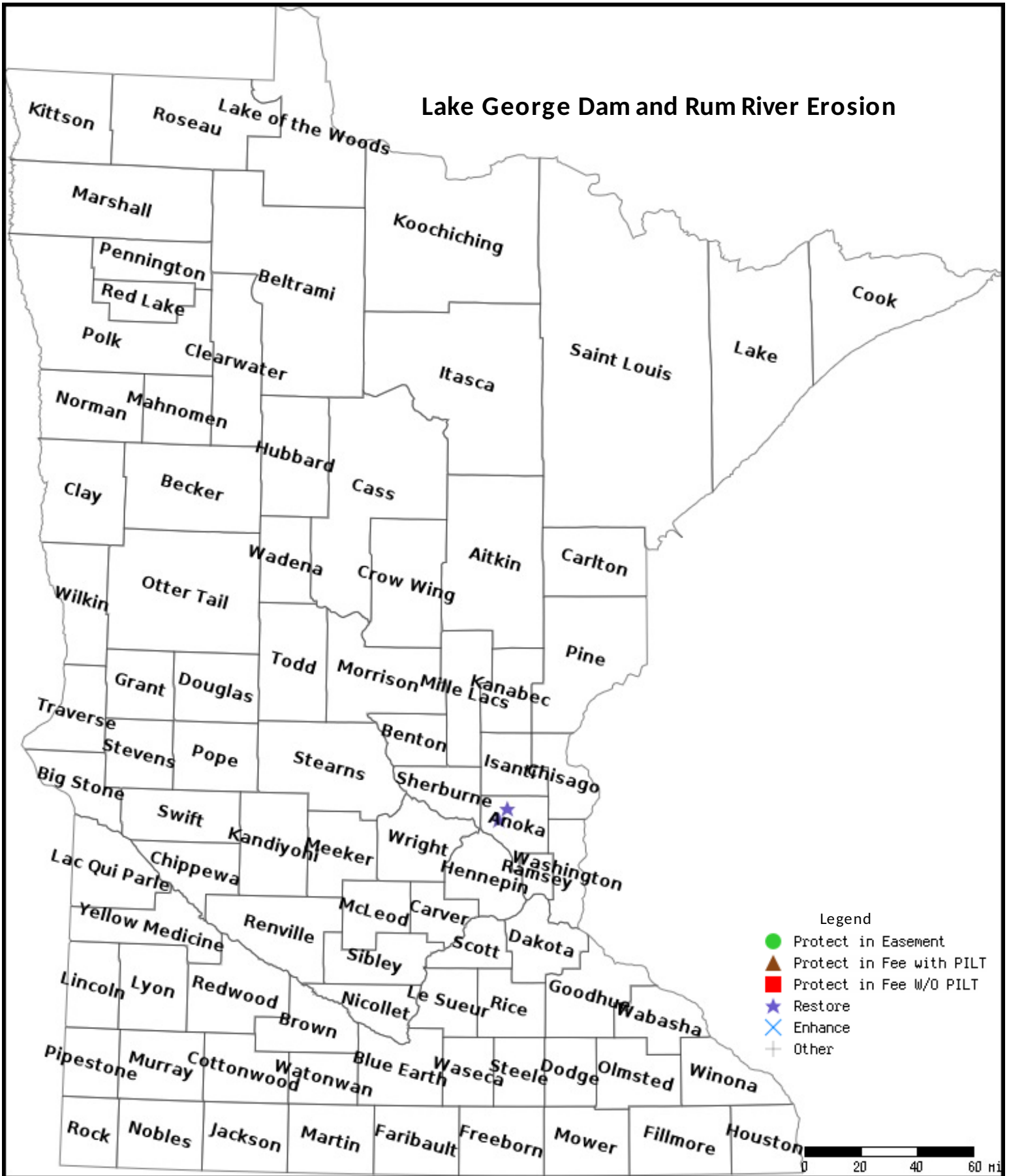
No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Parcel Map

Lake George Dam and Rum River Erosion



Data Generated From Parcel List

Lake George Dam Replacement & Rum River Erosion Repair Projects



View of the current dam at Lake George. Note the fish barrier has all but disappeared. The steel sheet dam shows extensive deterioration due to rust and deformation from ice and trees at the dam site. The dam supports 150 acres of wetland habitat and 88 acres of littoral zone in Lake George



The upstream erosion site on the Rum River is 380' long and contributes about 173 tons of sediment to the river each year



The downstream erosion site on the Rum River is 320' long and contributes about 145 tons of sediment to the river each year



This is an erosion site on the Rum River that looked like the above sites prior to repair. This picture was taken the spring after the late fall repair was made



This is the above site part way through the repair of the erosion showing how the Flex-a-mat material is installed

All three of the proposed sites are in Anoka County. The Lake George Dam site is in the City of Oak Grove, while the two erosion sites on the Rum River are in the City of Ramsey within the Rum River Central Regional Park.

