



## Lessard-Sams Outdoor Heritage Council

Accelerated Shallow Lakes and Wetland Enhancements Phase 15

ML 2023 Request for Funding

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### General Information

**Date:** 05/31/2022

**Proposal Title:** Accelerated Shallow Lakes and Wetland Enhancements Phase 15

**Funds Requested:** \$12,428,000

### Manager Information

**Manager's Name:** Ricky Lien

**Title:** Wetland Habitat Team Supervisor

**Organization:** Minnesota DNR

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### Location Information

**County Location(s):** Waseca, Murray, Mahnommen, Rice, Chippewa, Lyon, Aitkin, Anoka, Mille Lacs, Chisago and Roseau.

**Eco regions in which work will take place:**

- Northern Forest
- Metro / Urban
- Prairie
- Forest / Prairie Transition

**Activity types:**

- Enhance
- Restore

**Priority resources addressed by activity:**

- Wetlands

## Narrative

### Abstract

This proposal will accomplish shallow lake and wetland enhancement and restoration work on almost 14,000 acres. The proposal is comprised of two components - (1) Twelve projects to engineer and construct infrastructure such as water control structures, dikes, and fish barriers that will lead to enhanced or restored wetland wildlife habitat, plus aerial cattail spraying of hybrid cattails and activities to enhancement of wild rice habitat; (2) Continued funding for four shallow lakes specialists.

### Design and Scope of Work

Minnesota wetlands and shallow lakes, besides being critical for waterfowl, also provide other desirable functions and values - habitat for a wide range of species, groundwater recharge, water purification, flood water storage, shoreline protection, and economic benefits. An estimated 90% of Minnesota's prairie wetlands have been lost and more than 50% of our statewide wetlands. In the wetlands that remain, benefits are often compromised by degraded quality. This programmatic proposal will accomplish wetland habitat work throughout Minnesota and is comprised of two components - (1) projects and (2) Shallow Lakes Program.

1. Projects identified on the parcel list were proposed and reviewed by DNR Area and Regional supervisors. Planned work includes replacement/renovation of wetland infrastructure to bring about habitat enhancement, wetland restorations, and direct wetland management activities.

- Engineering and construction of ten infrastructure projects will provide 3,136 acres of enhancement.
- One project will provide restoration work totaling nineteen acres.
- Efforts will continue to spray dense stands of monotypic hybrid cattails, with 10,000 acres planned for treatment on parcels that will be identified by wildlife staff and listed in the Final Report.
- OHF funds will be used to expand wild rice enhancement activities which are extremely valuable to waterfowl and other wetland wildlife. Funding will be targeted to wild rice enhancement work such as seeding and channel cleanouts to manage water-levels. Eight hundred acres of wild rice work are anticipated. Cattail spraying sites and wild rice enhancement sites will be determined annually, with parcels listed in the Final Report.

2. The Minnesota Shallow Lakes Plan identified the overall poor water quality and habitat condition of shallow lakes in Minnesota. This deteriorated quality dramatically reduced wildlife use. The Minnesota DNR has developed a unique programmatic approach to shallow lake management. This programmatic approach is an example of how staff dedicated to a specific task and provided with additional finances can successfully implement a clear strategic plan. Data shows that actively managed shallow lakes have dramatic habitat improvements and better waterfowl use. Past management of shallow lakes was limited until an investment was made in dedicated shallow lakes specialists to support our area wildlife staff and who only worked on shallow lake management. Work by these specialists includes conducting habitat evaluations, guiding the designation of wildlife management lakes, identifying lake problems, recommending lake management strategies and developing management plans, and, alongside property managers, implementing shallow lake management. Past OHF funding made it possible to expand the number of shallow lake specialists available to do work. This proposal would continue funding four Shallow Lakes Specialists. The Shallow Lakes Program has celebrated the 60th designated lake and has been recognized with a DNR Commissioner's Award, and the USFWS Blue-winged Teal Award for the quality and scope of its work.

The parcel list may be modified as needed by the program manager. The Final Report must reflect an accurate and

complete parcel list. To improve efficiency and meet mutual goals, projects may be done cooperatively with Ducks Unlimited.

### **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?**

Roughly 50% of all federally endangered animal are wetland-related. As a measure of the importance of wetlands to Minnesota Species of Greatest Conservation Need (SGCN), the word 'wetland' appears 127 times in Minnesota's Wildlife Action Plan 2015-2025 (WAP). Conservation Focus Areas are priority areas for working with partners to identify, design, and implement conservation actions and report on the effectiveness toward achieving the goals and objectives defined in the Wildlife Action Plan. Target Habitat Complexes within Conservation Focus Areas commonly include Prairie Wetland Complexes and other wetland community types.

The protection and management of wetlands and wetland/grassland complexes are listed extensively in the discussion of Conservation Focus Area Target, Conservation Issues and Approaches. Specific management actions mentioned include reed canary grass and invasive cattail control, "natural disturbance management" (i.e. water level management, prescribed fire, woody vegetation removal). Target Habitat Complexes within Conservation Focus Areas commonly include Prairie Wetland Complexes and other wetland community types.

As noted in the WAP, wet meadows and fens typically provide optimal habitat for sedge wrens, yellow rails, Nelson's sharp-tailed sparrows and numerous other SGCN. Wetland Management Options to support SGCN include prevention of wetland degradation, restoration of wetland complexes, and management of invasives.

For shallow lakes, examples of SGCN include lesser scaup, northern pintail, common moorhen, least bitterns, American bitterns, marsh wrens, and Virginia rails. Shallow lake management actions to benefit SGCN include the restoration of large complexes of shallow lakes and wetlands, with attention to the habitat features required by SGCN, management for a natural water regime in shallow lakes, and management of invasives.

See a list of SGCN associated with wetlands included as an attachment to this proposal.

Management of wetlands and shallow lakes as noted above will be accomplished through the work described in this proposal.

### **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 Status and Trends of Wetlands in Minnesota: Depressional Wetland Quality Assessment (2007 – 2012), produced by the Minnesota Pollution Control Agency, noted that in the central and former prairie regions of the state degraded vegetation communities dominate. Vegetation communities in more than half of these depressional wetlands are in poor condition (56% ), with only 17% in good condition, similar to the quality of all wetland types in the central hardwood and former prairie regions. Non-native invasive plants are having the greatest impact. In other words, not only have most wetlands been lost in much of the prairie and forest-transition areas of Minnesota, what remains are degraded and need management action to produce quality habitat. Work as described in this proposal will provide needed habitat, while also provide the other benefits found in healthy wetlands - water quality, floodwater storage, places to hunt and recreate, etc.

**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:**

The Minnesota Duck Recovery Plan goals include boosting the state's breeding duck population. The most productive prairie waterfowl habitat is a mix of wetland and grassland as a habitat complex. A complex could be 4 - 9 square miles and should be comprised of 10% temporary/seasonal wetlands, 10% permanent wetlands, and 40% grasslands, with the remaining 40% available for crops. In addition to mixes of grasslands and healthy wetlands, The Duck Plan also called for accelerated efforts to restore 1,800 shallow lakes, including wild rice lakes.

The Minnesota Prairie Conservation Plan, which is a plan for both uplands and wetlands in the prairie region of Minnesota, outlines focal areas (Core Areas and Habitat Complexes) where we can build on an existing base of conservation lands and improve the habitat there. The Prairie Wetland Initiative component of this OHF proposal would contribute to these identified Core Areas and Habitat Complexes by working to actively manage and improve small wetlands on public lands, especially on those lands contributing to the Minnesota Comprehensive Prairie Plan. The Status and Trends of Wetlands in Minnesota: Depressional Wetland Quality Assessment (2007 – 2012), produced by the Minnesota Pollution Control Agency, noted that while most wetlands in northern Minnesota are in good condition, the opposite is true in the central and former prairie regions of the state, where degraded vegetation communities are predominant. Vegetation communities in more than half of these depressional wetlands are in poor condition (56% ), with only 17% in good condition, similar to the quality of all wetland types in the central hardwood and former prairie regions. Non-native invasive plants are having the greatest impact.

The projects and initiatives called for in this OHF proposal will directly contribute to expanded and healthy wetland complexes and increased shallow lakes work. Work will renovate existing wetland infrastructure and establish new management, especially in the critical prairie region of Minnesota. More specifically, the work done by the Wetland Management Program is targeted to identify key wetland complexes in the prairie region and bring management actions to the wetlands of those complexes.

**Which two sections of the Minnesota Statewide Conservation and Preservation Plan are most applicable to this project?**

- H4 Restore and protect shallow lakes
- H5 Restore land, wetlands and wetland-associated watersheds

**Which two other plans are addressed in this proposal?**

- Long Range Duck Recovery Plan
- Other : Minnesota Duck Action Plan

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

Work described in this proposal will provided enhanced shallow lakes and wetlands through infrastructure establishment and implementation of active management activities that will benefit wetland wildlife populations and provide recreational opportunities and the other benefits associated with healthy wetland ecosystems.

**Which LSOHC section priorities are addressed in this proposal?**

**Forest / Prairie Transition**

- Protect, enhance, and restore wild rice wetlands, shallow lakes, wetland/grassland complexes, aspen parklands, and shoreland that provide critical habitat for game and nongame wildlife

## **Metro / Urban**

- Protect, enhance, and restore remnant native prairie, Big Woods forests, and oak savanna with an emphasis on areas with high biological diversity

## **Northern Forest**

- Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas

## **Prairie**

- Protect, enhance, or restore existing wetland/upland complexes, or convert agricultural lands to new wetland/upland habitat complexes

## **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:**

Three elements relate to this proposal's ability to produce a significant and permanent conservation legacy.

First, the scale of this proposal is significant - 13,956 wetland acres. Projects of this size are able to produce results locally and statewide.

Second, the infrastructure (water control structures, dikes, fish barriers) projects proposed for construction or renovation will be worked on by DNR engineers who will design and oversee construction and renovation to achieve long-lasting results. A typical goal is to have constructed water control structures, dikes and fish barriers with a life expectancy of last a minimum of 30-40 years. These projects will be on public waters or publicly-owned or eased lands.

Third, the type of work being done through this proposal, Shallow lake enhancement and wetland restoration, are key components of all significant conservation plans for Minnesota affecting Minnesota. The work is needed to restore wetlands, 90% of which have been lost in the prairies and many of the remaining ones are degraded. Key state conservation plans such as Minnesota's Prairie Conservation Plan, Long Range Duck Recovery Plan, Minnesota Duck Action Plan, and Shallow Lake Plan call for the active management of shallow lakes and the restoration/management of wetlands to Minnesota's landscape.

## **What other fund may contribute to this proposal?**

- N/A

## **Does this proposal include leveraged funding?**

Yes

## **Explain the leverage:**

Projects completed through this proposals will often be leveraged against a variety of funding sources, including Minnesota duck stamp funds, NGO resources, DNR funding sources such as Game and Fish funding, and other funding sources. Leveraging amounts and sources are often not know when proposals are prepared making it impossible to detail specific amounts.

**Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.**

This request is an acceleration of the Minnesota DNR's Section of Wildlife wetland habitat work to a level not attainable but for the appropriation.

**Non-OHF Appropriations**

Year	Source	Amount
2021	Game and Fish Account	20,166,000
2021	Dedicated Accounts	10,641,000
2021	Heritage Enhancement Account	4,120,000

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

DNR engineers, or private engineers contracted to work with oversight of DNR engineers, will design and oversee construction and renovation of infrastructure to achieve long-lasting results. A typical goal is to have water control structures, dikes and fish barriers last a minimum of 30-40 years. The management of completed infrastructure projects will fall on existing staff of the Department of Natural Resources. Periodic enhancements such as invasive species removal, supplemental vegetation planting, or water control structure installation, maintenance, or replacement, will be accomplished through annual funding requests to a variety of funding sources including, but not limited to, the Game and Fish Fund, bonding, gifts, the Environmental and Natural Resources Trust Fund, the Outdoor Heritage Fund, and federal sources such as North American Wetlands Conservation Act grants and Pittman-Robertson funds. Wetland enhancement projects such as cattail control, prescribed burns, rough fish management and the like are implemented to achieve quality, long-lasting habitat benefits, but the benefit lifespan may be variable due to conditions imposed by climate, physical factors, etc. Monitoring by area wildlife staff and shallow lakes specialists will ensure that follow-up management is employed as needed.

**Actions to Maintain Project Outcomes**

Year	Source of Funds	Step 1	Step 2	Step 3
10-12 months post-completion of engineered infrastructure	DNR	DNR engineers conduct warranty inspection of project.	-	-
1 year post-implementation of management action	DNR	Shallow Lakes Program and areas wildlife staff evaluate management effectiveness.	-	-

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

Mallards are a commonly used indicator species for numerous waterfowl plans due to (1) extensive research that has occurred with this species on many aspects of its life history, habitat requirement and response to management, and (2) the fact that it is representative of the "typical" upland nesting duck. Both Joint Venture waterfowl plans that cover Minnesota – the Prairie Pothole Joint Venture and the Upper Mississippi River and Great Lakes Region Joint Venture (UMRG LRJV) – use the mallard as a focal species. The biological model used in the UMRG LRJV to estimate habitat needs to support mallard population growth uses a simple but accepted rate of 1 mallard pair per hectare (1 pair per 2.47 acres) of wetland habitat (noting that upland habitat for nesting is also obviously needed). Trumpeter swans could also be used as an indicator species relative to assessing wetland habitat work. Trumpeter swans are a recognizable feature on wetlands and their restoration is a modern wildlife management success story. Trumpeter swans are strictly territorial on their breeding areas with shoreline complexity and food availability being factors in defining the area being defended. Though reported territories can

range in size from 1.5 - >100 hectares, a reasonable expectation is that one additional trumpeter swan pair would be supported by each 50 acres of wetlands protected, restored, or enhanced.

### **How will the program directly involve, engage, and benefit BIPOC (Black, Indigenous, People of Color) and diverse communities:**

The DNR Acceleration Shallow Lakes and Wetlands Enhancements Phase 15 has the following specific ties to BIPOC and diverse communities:

- Wild rice seeding has tribal support to re-establish culturally valuable wild rice. A potential partnership regarding this effort is being discussed.

DNR's OHF projects aim to serve all Minnesotans. At the same time, we are bringing more focus in all our work to BIPOC and diverse communities. The Minnesota DNR has adopted advancing diversity, equity and inclusion (DEI) as a key priority in its 2020-22 strategic plan. The plan focuses on increasing the cultural competence of our staff, creating a workforce that is reflective of Minnesota, continuing to strengthen tribal consultation and building partnerships with diverse communities.

The OHF funds high quality habitat projects that provide ecosystem services like clean water and carbon sequestration that support environmental justice. OHF also supports public access and recreational opportunities on these lands. OHF projects and outcomes benefit BIPOC and diverse communities through recreational opportunities that are close-to-home, culturally responsive and accessible to Minnesotans with disabilities.

The DNR has diversity, equity and inclusion strategies that benefit all OHF projects:

- Multilingual and culturally specific hunting and fishing education programs take place on public lands.
- All hiring is equal opportunity, affirmative action, and veteran-friendly. Contracting seeks out Targeted Group, Economically Disadvantaged and Veteran-Owned businesses.
- Public engagement seeks out BIPOC voices and involves diverse communities. Outreach and marketing of projects has this focus as well.
- Partnerships are at the center of all projects. Tribes in particular are consulted in all pertinent areas of the DNR's work, under EO 19-24.

## **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 restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15?**

Yes

**Where does the activity take place?**

- Public Waters



- WPA
- County/Municipal
- State Forests
- WMA
- Other : National Forest

## Land Use

Will there be planting of any crop on OHF land purchased or restored in this program?

No

## Other OHF Appropriation Awards

Have you received OHF dollars in the past through LSOHC?

Yes

Approp Year	Approp Amount Received	Amount Spent to Date	Leverage Reported in AP	Leverage Realized to Date	Acres Affected in AP	Acres Affected to Date	Complete/Final Report Approved?
12	\$2,630,000	\$2,630,000	\$6,000,000	\$8,478,000	5,100	5,100	Yes
16	\$2,000,000	\$2,000,000	-	-	5,100	0	Yes
21	\$2,589,000	\$6,954	-	-	5,149	-	No
20	\$1,676,000	\$369,800	-	-	4,190	-	No
14	\$1,050,000	\$877,700	-	-	6,788	19,365	Yes
13	\$1,790,000	\$1,766,600	-	-	15,355	13,811	Yes
12	\$3,870,000	\$3,644,000	-	-	1,982	10,085	Yes
11	\$936,000	\$808,000	-	-	5,841	7,262	Yes
19	\$845,000	\$174,100	-	-	2,072	-	No
19	\$3,541,000	\$1,336,100	-	-	3,616	-	No
18	\$2,759,000	\$1,359,900	-	-	25,297	-	No
17	\$1,755,000	\$1,536,800	-	-	5,135	-	No
16	\$2,167,000	\$2,027,600	-	-	9,425	22,142	Yes
15	\$2,130,000	\$1,966,400	-	-	8,756	28,101	Yes

## Timeline

Activity Name	Estimated Completion Date
Survey and engineer only projects	2028
Construction of infrastructure projects	2028
Shallow lake and wetland management actions	2028
aerial spraying of cattails / wild rice enhancements	2028



**Budget****Totals**

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	\$1,900,000	-	-	\$1,900,000
Contracts	\$8,520,000	-	-	\$8,520,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	\$240,000	-	-	\$240,000
Professional Services	\$870,000	-	-	\$870,000
Direct Support Services	\$303,000	-	-	\$303,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	\$35,000	-	-	\$35,000
Other Equipment/Tools	\$20,000	-	-	\$20,000
Supplies/Materials	\$540,000	-	-	\$540,000
DNR IDP	-	-	-	-
<b>Grand Total</b>	<b>\$12,428,000</b>	<b>-</b>	<b>-</b>	<b>\$12,428,000</b>

**Personnel**

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Shallow Lake Specialist (NR Spec WL)	4.0	5.0	\$1,900,000	-	-	\$1,900,000

**Capital Equipment**

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Trimble Survey Unit	\$35,000	-	-	\$35,000

**Amount of Request:** \$12,428,000**Amount of Leverage:** -**Leverage as a percent of the Request:** 0.0%**DSS + Personnel:** \$2,203,000**As a % of the total request:** 17.73%**Easement Stewardship:** -**As a % of the Easement Acquisition:** -**Does this proposal have the ability to be scalable?**

Yes

**If the project received 70% of the requested funding****Describe how the scaling would affect acres/activities and if not proportionately reduced, why?**

Projects and activities in this proposal would be evaluated by regional and central office staff based on

strategic value, cost, acres impacted, availability of needed ancillary resources (engineering, area staff, etc.), and project challenges to determine which projects would be undertaken with the available funding.

**Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?**

The ability of added personnel to accelerate wetland/shallow lake habitat work would be weighed against the value of individual projects and management actions. Direct Support Services is determined by a standard DNR process taking into account the amount of funding and the number of allocations made with that funding.

**If the project received 50% of the requested funding**

**Describe how the scaling would affect acres/activities and if not proportionately reduced, why?**

Projects and activities in this proposal would be evaluated by regional and central office staff based on strategic value, cost, acres impacted, availability of needed ancillary resources (engineering, area staff, etc.), and project challenges to determine which items would be undertaken with the available funding.

**Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?**

The ability of added personnel to accelerate wetland/shallow lake habitat work would be weighed against the value of individual projects and management actions.

Direct Support Services is determined by a standard DNR process taking into account the amount of funding and the number of allocations made with that funding.

**Personnel**

**Has funding for these positions been requested in the past?**

Yes

**Please explain the overlap of past and future staffing and position levels previously received and how that is coordinated over multiple years?**

This proposal seeks funding for four Shallow Lake Specialist. These specialist are all currently funded with OHF appropriations that expire in FY23. The requested funding will allow them to continue their work beginning in FY24.

**Contracts**

**What is included in the contracts line?**

Contract funding will be used to obtain needed construction, engineering, and/or management actions to construct shallow lake and wetland infrastructure projects or to implement wetland management activities.

**Travel**

**Does the amount in the travel line include equipment/vehicle rental?**

No

**Explain the amount in the travel line outside of traditional travel costs of mileage, food, and lodging**

\$240,000 is shown in the Travel line of the budget and will be used traditional travel costs of mileage, food, and lodging. The total cost is determined by an estimated travel expense of \$12,000 per shallow lake specialist annually. This cost is verified by past expenditures.

**I understand and agree that lodging, meals, and mileage must comply with the current MMB Commissioner Plan:**

Yes

### **Direct Support Services**

**How did you determine which portions of the Direct Support Services of your shared support services is direct to this program?**

Direct Support Services is determined by a standard DNR process taking into account the amount of funding and the number of allocations made with that funding.

### **Other Equipment/Tools**

**Give examples of the types of Equipment and Tools that will be purchased?**

Equipment and tools would be typical tools used by someone working in wetland environments to develop projects and could include waders, canoe, flagging, personal protective equipment (PPE), etc.

### **Federal Funds**

**Do you anticipate federal funds as a match for this program?**

Yes

**Are the funds confirmed?**

No

**What is the approximate date you anticipate receiving confirmation of the federal funds?**

Past OHF work has been used for match in federal grants (such as NAWCA, Pittman-Robertson) and it's probable the same opportunity will present itself, but the amounts are unavailable to report at this time.

Output Tables**Acres by Resource Type (Table 1)**

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	19	0	0	0	19
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	13,937	0	0	0	13,937
<b>Total</b>	<b>13,956</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,956</b>

**Total Requested Funding by Resource Type (Table 2)**

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	\$164,100	-	-	-	\$164,100
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	\$12,263,900	-	-	-	\$12,263,900
<b>Total</b>	<b>\$12,428,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$12,428,000</b>

**Acres within each Ecological Section (Table 3)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	-	-	0	19	0	19
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	760	5,850	0	5,687	1,640	13,937
<b>Total</b>	<b>760</b>	<b>5,850</b>	<b>0</b>	<b>5,706</b>	<b>1,640</b>	<b>13,956</b>

**Total Requested Funding within each Ecological Section (Table 4)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	\$164,100	-	\$164,100
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	\$6,590,700	\$670,700	-	\$2,652,900	\$2,349,600	\$12,263,900
<b>Total</b>	<b>\$6,590,700</b>	<b>\$670,700</b>	<b>-</b>	<b>\$2,817,000</b>	<b>\$2,349,600</b>	<b>\$12,428,000</b>

**Average Cost per Acre by Resource Type (Table 5)**

Type	Wetland	Prairie	Forest	Habitat
Restore	\$8,636	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	\$879	-	-	-

**Average Cost per Acre by Ecological Section (Table 6)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	\$8,636	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	\$8,671	\$114	-	\$466	\$1,432

### Target Lake/Stream/River Feet or Miles

## Outcomes

### Programs in forest-prairie transition region:

- Wetland and upland complexes will consist of native prairies, restored prairies, quality grasslands, and restored shallow lakes and wetlands ~ *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

### Programs in metropolitan urbanizing region:

- Protected habitats will hold wetlands and shallow lakes open to public recreation and hunting ~ *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

### Programs in the northern forest region:

- Improved availability and improved condition of habitats that have experienced substantial decline ~ *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

### Programs in prairie region:

- Protected, restored, and enhanced shallow lakes and wetlands ~ *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

## Parcels

### Sign-up Criteria?

[Yes](#)

### Explain the process used to identify, prioritize, and select the parcels on your list:

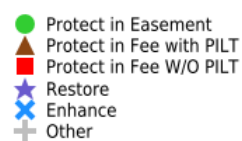
Proposals for individual projects are submitted by DNR Area Wildlife Staff and Shallow Lake Specialists. Projects are reviewed at the regional and central office and appropriate projects are selected for inclusion in this OHF proposal. The parcel list may be modified by the program manager as needed and the Final Report must reflect an accurate and complete parcel list.

In addition to the projects shown on the parcel list, additional projects will be selected for aerial cattail spraying using the attached "Guidelines Aerial Cattail Spraying.docx." Wild rice enhancement projects will be determined annually. Consultation will be conducted as appropriated with tribal biologists to find quality projects that are mutually beneficial and/or provide opportunities for partnership. The Final Report will accurately show all parcels.

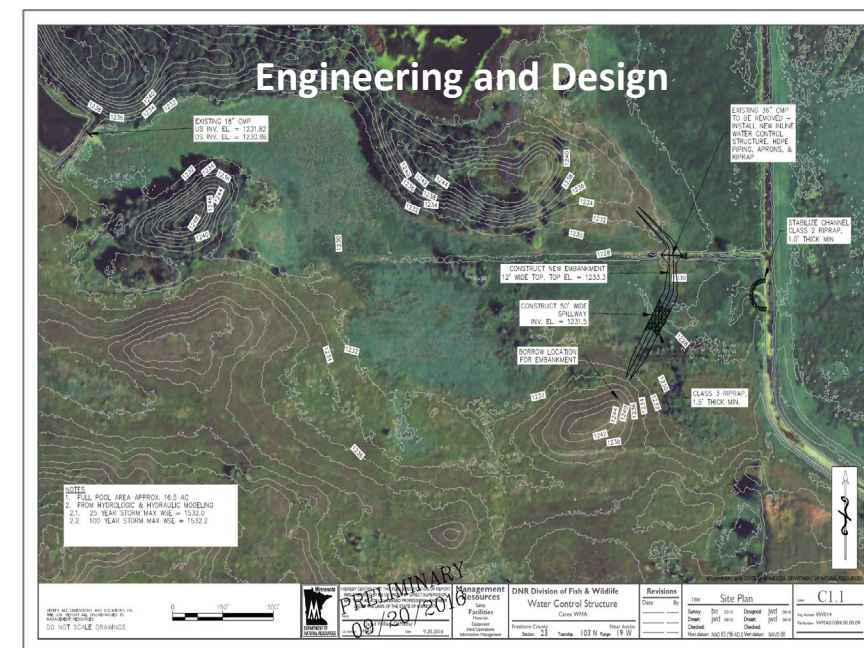
### Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Kimberly Marsh	Aitkin	04724212	330	\$300,000	Yes
Carlos Avery Pool 1	Anoka	03322233	93	\$180,000	Yes
Rosemoen Island Managed Wetland	Chippewa	11942234	30	\$500,000	Yes
Carlos Avery Sunrise Dams	Chisago	03421234	667	\$6,250,000	Yes
Clifton WMA	Lyon	11140207	19	\$160,000	Yes
Waubun Marsh Water Control Structure	Mahnomen	14342234	17	\$135,000	Yes
Mille Lacs WMA Structures (Townhall and Section 3)	Mille Lacs	04026209	510	\$300,000	Yes
Nelson's Marsh Water Control Structure	Murray	10843202	177	\$60,000	Yes
Esker Marsh Water Control Structure	Rice	11221222	20	\$65,000	Yes
Circle Lake Wetland Water Control Structure	Rice	11121216	46	\$70,000	Yes
Roseau River WMA Pool 2 Hemi-Marsh	Roseau	16343211	850	\$100,000	Yes
Silver Lake Dam	Waseca	10621219	397	\$650,000	Yes









# DNR Shallow Lakes and Wetland Enhancement Phase 15

### Component 1: Shallow Lakes / Wetland Projects

**– 13,956 acres of wetland enhancement.**

Upgrading and installing wetland infrastructure, enhancing wetlands and shallow lakes through active management, and providing engineering and design work.



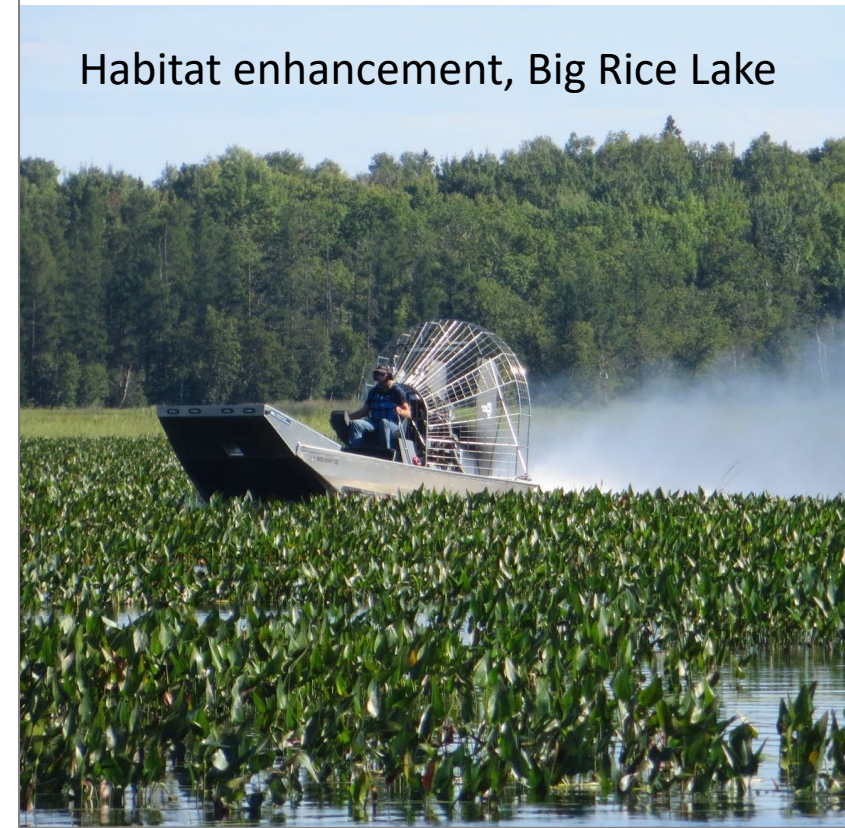
Feasibility  
topo survey



Habitat assessment



Habitat enhancement, Big Rice Lake



## DNR Shallow Lakes and Wetland Enhancement Phase 15

**Component 2: Maintain Shallow Lakes Program Staff.** Staff are dedicated to working only on shallow lake enhancement projects including habitat assessments to identify management need and success, gathering feasibility information, writing management plans, conducting public input, obtaining permits and implementing management on shallow lakes.

Habitat enhancement  
with drawdown

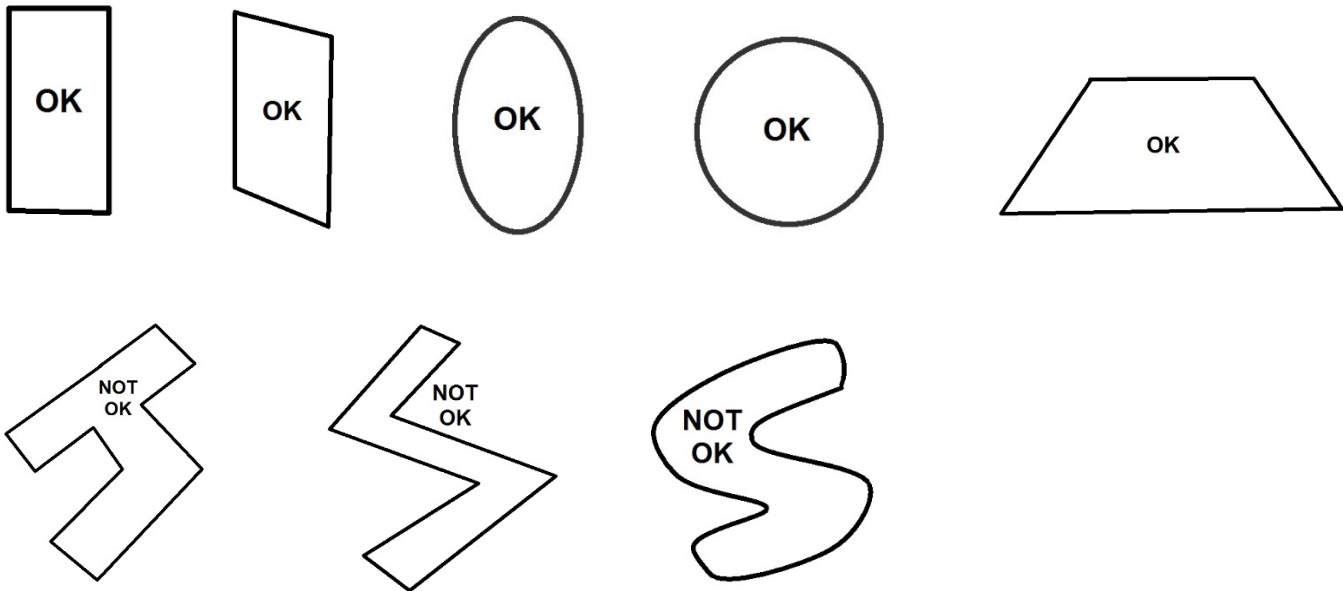




## Guidelines and Protocols for Aerial Cattail Spraying

The following items below are intended to be used as guidelines and protocols in selecting cattail choked wetlands to spray with the helicopter.

- Size – area to be sprayed should be greater than 15 acres in size unless located in relatively close proximity (5 miles or less) to several other spray areas. Spray areas less than 15 acres in size and relatively isolated are more efficiently completed by the roving crews utilizing amphibious equipment.
- Shape – the helicopter is generally limited to spraying areas that have longer, linear shapes. Areas with curvy or zig zag boundaries will not work. Create spray area patterns with “smooth” boundaries. Spray paths are typically done along the area’s longest line. Spray area shape and wind direction are key to efficiently and effectively completing a project. The objective of spraying cattail choked wetlands is to reclaim open water habitats, it is usually not possible to spray every acre of cattail in a wetland. Area staff will be requested to send us shapefiles of the area they wish to spray on each basin. See examples of acceptable and not acceptable spray area shapes.



- Helispot/Landing zone – a dry, level, firm site will need to be established and prepped in order to accommodate the helicopter safely landing and taking off, and to accommodate 2 vehicles with at least one vehicle towing the large water trailer. The total size of the helispot should be at least 200 ft in diameter. An area of at least 50 ft in diameter, where the helicopter will be landing to load chemical, must be mowed as close to ground level as possible. The area mowed for the helicopter must be level, free of gopher mounds or other protrusions and free of loose dirt and gravel. There cannot be any mature trees within 400-500 ft of the helicopter landing site that would interfere with take-off or approach. It is best if helispots are located directly adjacent to the spray area but no farther than 3 miles from the spray area. It is most efficient to have the helispot close to the spray area to reduce ferry time between the helispot and spray area. Selecting good helispot sites is important. Don't wait until the last minute to figure these out and get them prepped. Using private property for helispot sites is acceptable, obtaining written permission is advised. You can request help from the roving crews to verify the site will work and to help prep helispots with advanced notice.
- Turkeys and other livestock – Turkeys react (freak out) negatively to helicopter noise. All active turkey barns within 1 mile of the proposed spray site need to be identified in advance of the final selection of sites to be sprayed. Area staff should make field visits and GPS all active turkey barns and put these in a point shapefile then send to Donovan, Nate or Mandy. We will plot these against the size and shape of the spray area in order to determine if we can mitigate disturbance to turkeys by adjusting the spray pattern or direction of spraying. Keep in mind that the helicopter must make relatively large turns at the end of each pass. It is possible that a site won't be completed if possible disturbance to turkeys cannot be mitigated. Hog barns, cattle feedlots or other livestock operations should

also be noted when making site visits. Although hogs and cattle may not react as much to the helicopter as turkeys, problems can exist if the helicopter comes in close proximity to these operations.

- Snags – any snags or live trees that protrude above the cattails in or directly adjacent to the spray area must be cut down. These are an obvious safety issue for the helicopter. Area staff should make all efforts to visit proposed wetlands and cut down these obstacles prior to wetland thaw. If necessary, request help from the roving crews. The frozen time of the year is the best time to take care of this.
- Adjacent trees – trees located directly adjacent to the proposed spray area are an issue, especially those located on the ends of the longest side where the helicopter will be turning for the next spray path. There should be at least 400-500 ft of distance between the end of the spray area and trees. Wetlands surrounded by trees will either be dropped from spraying or the size of the spray area will be reduced to mitigate for trees. Do not choose smaller wetlands for aerial spraying if they have trees surrounding the wetland in close proximity. These areas should be treated with amphibious equipment.
- Working weekends and long days – in many respects aerial spraying is much like prescribed burning, you need the right environmental conditions in order to get it done. It is very likely the pilot and roving crews may work weekends and long days to get all the work done. If the weekend provides good spray weather, it is possible spraying will proceed. Please plan accordingly if area staff wish to assist or be present on site. It is not necessary that area staff are on site when the spraying is occurring. We'll take it on a case by case basis if there might be interference with an open hunting season.
- Public notice—public notice and site posting requirements (label and FAW guidelines-DNR sign NRM8.6.12), see OP Order 59 language below
  - FAW Pesticide guidelines (pg 12) say **“Special” pesticide applications projects determined by the Area/Application Supervisor and Regional/Asst Regional Manager to be in the public interest need to provide adequate public notification by publishing an article in local newspapers, which cover the area where applications(s) will occur**” Aerial cattail spraying is considered “Special” application. Work with regional or contract admin staff to develop a newspaper notice.
  - OP Order 59 language

**5. Public notice will be given when and where aerial applications of pesticides will take place on DNR-administered lands or in public waters. Notification methods may include, but are not limited to, articles in local legal newspapers, posting at entrances to DNR management units or trailhead bulletin boards, written letters to adjacent landowners, radio and television announcements, and other effective methods.**

**6. All treatment sites\* will be posted as specified by the pesticide label\*, and as required by discipline guidelines.**

- APM permits
  - If project meets the exemptions covered under general permit—you do not need an APM permit
  - APM permit is needed if the project is not covered under general permit provisions (i.e. basin is not fully contained within state property boundary).
  - Will need a DOW# in order to submit permit application in MPARS
  - Will need to request DOW#s for those basins that don't already have DOW#s at least a couple weeks in advance of submitting applications in MPARS—Your shallow lakes staff can help with acquiring the DOW#s. We will need to solidify spray sites well in advance, adding sites at the spur of the moment will be tough unless they fall under the GP or already have DOW#s
- Pesticide use approval forms—all aerial work needs to go through Regionals then to the Chief for signature—maps of the spray sites need to be attached!
  - Get all paperwork done in winter or late-spring, do not wait until the last minute. Nate and I should have most of the sites figured out by early-spring and will need polygons from managers to proceed with DOW#s, etc.

- Spray period – We are planning to start spraying cattail in mid-July and end around the first week of September. Pending the stage of phenology of the cattail, we could possibly go a little later.