Lessard-Sams Outdoor Heritage Council

DNR Accelerated Shallow Lakes and Wetland Enhancements - Phase 16

ML 2024 Request for Funding

General Information

Date: 06/23/2023

Proposal Title: DNR Accelerated Shallow Lakes and Wetland Enhancements - Phase 16

Funds Requested: $12,713,000

Confirmed Leverage Funds: -

Is this proposal Scalable?: Yes

Manager Information

Manager's Name: Ricky Lien
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Location Information

County Location(s): Rice, Yellow Medicine, Lyon, Kandiyohi, Redwood, Swift, Cottonwood, Martin, Le Sueur, Meeker, Mahnomen, Todd, Freeborn, Nicollet, Aitkin, Mille Lacs, Chisago and Douglas.

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 establish shallow lake and wetland enhancement and restoration work on 13,191 acres. This programmatic proposal has two components - (1) Twenty-eight projects to construct infrastructure such as water control structures, dikes, and fish barriers leading to enhanced or restored wetland habitat, plus aerial spraying of hybrid cattails and activities to enhance wild rice habitat; (2) Continued funding for two wetland habitat specialists. This work supports the goals of Minnesota habitat and species plans, but specifically supports the Minnesota Long-Range Duck Recovery Plan, Minnesota Duck Action Plan, and Managing Minnesota's Shallow Lakes Plan for Waterfowl and Wildlife.

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) Wetland Management Program.

1. CONSTRUCTION/ENGINEERING/MANAGEMENT PROJECTS - Projects identified on the parcel list were proposed and reviewed by DNR Area and Regional supervisors. Planned work includes adding and improving wetland infrastructure to bring about habitat enhancement, wetland restorations, and direct wetland management activities. Engineering and construction of 17 infrastructure projects will provide 4,415 acres of enhancement. Work will involve replacement or major renovation of water control structures, dikes, and fish barriers and lead to enhanced wetland habitat. Six wetland restoration projects totaling 145 acres are planned. Two projects will involve survey and design work to prepare for future construction. Herbicide treatments will continue on at least 7500 acres of dense stands of monotypic hybrid cattails. Specific parcels will be listed in the Final Report. Funds will be used to enhance wild rice through seeding efforts at Swamp Lake in Aitkin County.

2.WETLAND MANAGEMENT PROGRAM - Numerous plans pertaining to wetlands call for effective management of existing habitat to provide maximum benefits for wildlife. The 2020 Minnesota Duck Action Plan notes the need to expand the Wetland Management Program (WMP) in Minnesota. The WMP assesses wetlands and implements management to improve wetland wildlife habitat. The WMP addresses needed management needed for smaller wetlands that were often overlooked on the landscape including in our Wildlife Management Areas. This proposal will continue funding for two Wetland Management Specialist and allow continued work in the prairie region of Minnesota. Management work includes water level manipulation, removal of undesirable fish and controlling invasive plants, and will be focused in wetland complexes. It is conservatively estimated that each Natural Resource Specialist working in the WMP impacts 1,000 acres of small wetlands over the life of an appropriation.

To improve efficiency and meet mutual goals, projects may be done in cooperation with Duck Unlimited.

Parcels may be added, modified, or deleted from the parcel list to accommodate engineering feasibility results, provide resources to new opportunities, or to address the challenges associated with complex shallow lake and

wetland projects. All changes shall be in keeping with the scope of the project and will be fully reported in the Final Report.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

Approximately 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 noted 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 lake habitat, examples of SGCN include lesser scaup, northern pintail, common moorhen, least bitterns, American bitterns, marsh wrens, and Virginia rails. Wetland 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 are the elements of this proposal that are critical from a timing perspective?

The Status and Trends of Wetlands in Minnesota: Depressional Wetland Quality Assessment (2007 – 2012), produced by the Minnesota Pollution Control Agency, noted that the prairie and central regions of the state wetlands are dominated by degraded vegetation communities. 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, and carbon sequestration.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

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 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

- Long Range Duck Recovery Plan
- Minnesota's Wildlife Action Plan 2015-2025

Explain how this proposal will uniquely address habitat resilience to climate change and its anticipated effects on game, fish & wildlife species utilizing the protected or restored/enhanced habitat this proposal targets.

Highlighting just how important wetlands are to adaptation and climate action, the Global Center on Climate Adaptation noted, "Wetlands capture CO_2 from the atmosphere, making them nature's own solution to the climate emergency. In fact, they store more carbon than any other ecosystem on Earth, and peatlands alone store twice as much as all the world's forests. According to Ramsar's Scientific and Technical Review Panel, wetlands cover only nine percent of the planet's surface, but store up to 35 percent of terrestrial carbon." Additionally, wetlands and shallow lakes provide the ability to hold precipitation and run-off that occur from major storm events that occur more frequently due to climate change.

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 this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife, and if not permanent outcomes, why it is important to undertake at this time:

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 qualified 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 Managing Minnesota Shallow Lakes for Waterfowl and Wildlife Plan call for the active management of shallow lakes and the restoration/management of wetlands to Minnesota's landscape.

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.*

What other dedicated funds may collaborate with or contribute to this proposal?

- N/A

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.

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

Qualified 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	Qualified engineers conduct warranty inspection of project.	-	-
1 year post-implementation of	DNR	Wetland Management Program and Area	-	-

management action		Wildlife staff evaluate management effectiveness.		

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

The DNR Acceleration Shallow Lakes and Wetlands Enhancements Phase 16 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 or on lands to be acquired in this program?
Yes

Where does the activity take place?

- Public Waters

- WPA
- County/Municipal
- State Forests
- WMA
- Other : National Forest
- Permanently Protected Conservation Easements
- Refuge Lands

Land Use

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

Will neonicotinoid pesticide products be used within any activities of this proposal?
No

Other OHF Appropriation Awards

Have you received OHF dollars in the past through LSOHC that are current OPEN appropriations?
Yes

Approp Year	Funding Amount Received	Amount Spent to Date	Funding Remaining	% Spent to Date
2023	$3,695,000	-	-	-
2022	$2,301,000	$15,648	$2,285,352	0.68%
2021	$2,589,000	$422,654	$2,166,346	16.32%
2020	$1,676,000	$561,433	$1,114,567	33.5%
2019	$845,000	$178,446	$666,554	21.12%
2019	$3,541,000	$2,016,177	$1,524,823	56.94%
2018	$2,759,000	$1,649,592	$1,109,408	59.79%
Totals	$17,406,000	$4,843,950	$12,562,050	27.83%

Timeline

Activity Name	Estimated Completion Date
Survey and engineer only projects	2029
Construction of infrastructure projects	2029
Wetland Management Program actions	2029
aerial spraying of cattails / wild rice seeding	2028

Budget

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	$940,000	-	-	$940,000
Contracts	$9,029,000	-	-	$9,029,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	$120,000	-	-	$120,000
Professional Services	$2,085,000	-	-	$2,085,000
Direct Support Services	$229,000	-	-	$229,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	$35,000	-	-	$35,000
Other Equipment/Tools	$15,000	-	-	$15,000
Supplies/Materials	$260,000	-	-	$260,000
DNR IDP	-	-	-	-
Grand Total	**$12,713,000**	**-**	**-**	**$12,713,000**

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
Wetland Specialists (NR Specialist-WL)	2.0	5.0	$940,000	-	-	$940,000

Capital Equipment

Item	Funding Request	Total Leverage	Leverage Source	Total
UTV and trailer	$35,000	-	-	$35,000

Amount of Request: $12,713,000
Amount of Leverage: -
Leverage as a percent of the Request: 0.0%
DSS + Personnel: $1,169,000
As a % of the total request: 9.2%
Easement Stewardship: -
As a % of the Easement Acquisition: -

Does this proposal have the ability to be scalable?
Yes

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 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 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 30% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?
Projects and 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 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 two Wetland Management Specialists. These specialists are currently funded with an OHF appropriation that will expire. The requested funding will allow them to continue their important wetland habitat work uninterrupted by a lapse in funding.

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.

Professional Services

What is included in the Professional Services line?

- Design/Engineering
- Other : The majority of the Professional Services costs associated with this proposal is associated with needed engineering that results from doing wetland infrastructure work and includes typical surveys and design activities. Also included in this proposal are two other activities that the DNR views as professional

services. (1) Helicopter and pilot costs associated with aerial spraying of invasive cattails and (2) State Historical Preservation Office (SHPO) permits.

- Surveys

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 Wetland Habitat 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	145	0	0	0	145
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	13,191	0	0	0	13,191
Total	**13,336**	**0**	**0**	**0**	**13,336**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	$1,099,800	-	-	-	$1,099,800
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	$11,613,200	-	-	-	$11,613,200
Total	**$12,713,000**	**-**	**-**	**-**	**$12,713,000**

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	4	0	141	0	145
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	1,047	4,350	0	6,992	802	13,191
Total	**1,047**	**4,354**	**0**	**7,133**	**802**	**13,336**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	$66,200	-	$1,033,600	-	$1,099,800
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	$3,274,000	$1,108,000	-	$6,034,000	$1,197,200	$11,613,200
Total	**$3,274,000**	**$1,174,200**	**-**	**$7,067,600**	**$1,197,200**	**$12,713,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	$7,584	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	$880	-	-	-

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	$16,550	-	$7,330	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	$3,127	$254	-	$862	$1,492

Target Lake/Stream/River Feet or Miles

Parcels

Sign-up Criteria?
Yes - Sign up criteria is attached

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." The Final Report will accurately show all parcels.

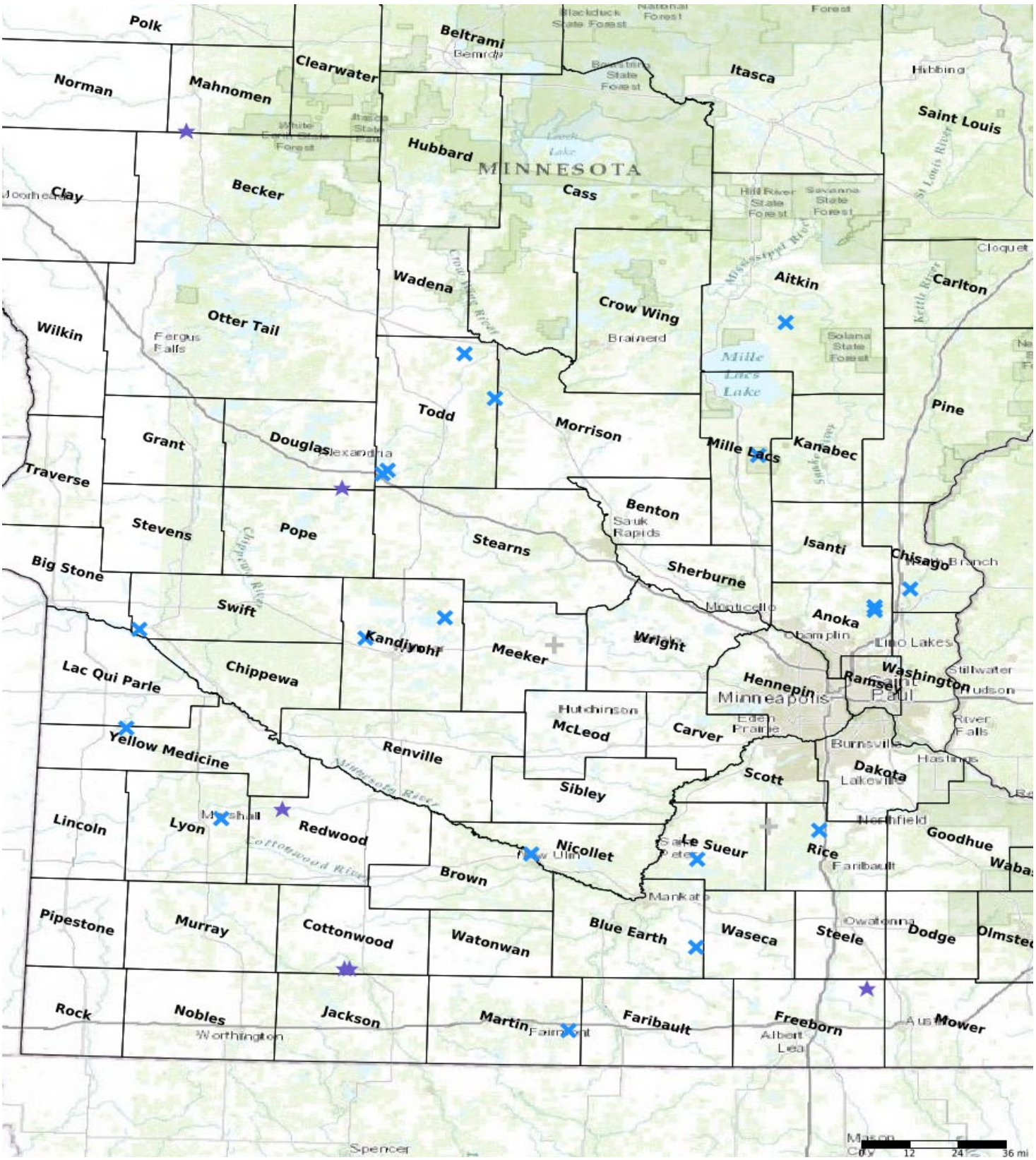
Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Swamp Lake Wild Rice	Aitkin	04625226	276	$71,400	Yes
Pool 9 Diamond WCS	Chisago	03322233	130	$120,000	Yes
Carlos Avery Dams	Chisago	03421234	667	$2,900,000	Yes
Carlos Avery Pool 3 WCS	Chisago	03322228	250	$195,000	Yes
String Lakes Tract 1 Restoration	Cottonwood	10536229	22	$600,000	Yes
String Lakes Tract 11 Restoration	Cottonwood	10536228	15	$110,000	Yes
Englebrecht NE	Douglas	12737236	4	$65,000	Yes
Wo Wacintanka	Freeborn	10419216	30	$60,000	Yes
Lake Calhoun WCS	Kandiyohi	12133228	1,212	$2,000,000	Yes
RIM Memorial WMA Enhancement	Kandiyohi	12036226	9	$120,000	Yes
Silver Lake Fish Barrier	Le Sueur	10625223	415	$320,000	Yes
Scotch Lake	Le Sueur	11025223	417	$650,000	Yes
Rolling Hills Enhancement	Lyon	11140206	8	$30,000	Yes
Detroit Lake - Reitan Restoration	Mahnomen	14342234	65	$155,000	Yes
Luedtke WCS	Martin	10229215	52	$230,000	Yes
Mille Lacs 5 WCS (Mille Lacs WMA/Rum River State Forest)	Mille Lacs	04026234	500	$900,000	Yes
Fritsche Creek WMA WCS	Nicollet	11030217	58	$30,000	Yes
Phyllis Voosen WMA Restoration	Redwood	11238219	9	$90,000	Yes
Paulson Marsh	Rice	11121211	55	$195,000	Yes
Lac qui Parle WMA: Main Unit Big Culvert	Swift	12043220	33	$40,000	Yes
Ruff-Nik Paycer Pool WCS	Todd	13132225	26	$204,300	Yes
Quistorff Wetland	Todd	12735204	10	$237,300	Yes
Staples Dike	Todd	13333225	600	$803,000	Yes
Aurzada Wetland	Todd	12735208	5	$183,000	Yes
Teardrop Enhancement	Yellow Medicine	11544201	26	$55,000	Yes

Other Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Powers Lake	Meeker	12030236	0	$50,000	Yes
Sand Creek Fish Barrier Design	Rice	11122206	0	$60,000	Yes

Parcel Map


Polk
Norman
Mahnomen
Clearwater
Beltrami
Itasca
Hubbard
MINNESOTA
Becker
Clay
Cass
Wadena
Crow Wing
Aitkin
Carlton
Saint Louis
Wilkin
Otter Tail
Fergus Falls
Brainerd
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Alexandria
Traverse
Stevens
Pope
Stearns
Benton
Sauk Rapids
Isanti
Chisago
Big Stone
Swift
Sherburne
Anoka
Kandiyohi
Meeker
Wright
Lac Qui Parle
Chippewa
Hennepin
Minneapolis
Ramsey
Saint Paul
Washington
Yellow Medicine
Renville
McLeod
Carver
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Spencer
Protect in Easement
Protect in Fee with PILT
Protect in Fee W/O PILT
Restore
Enhance
Other

Proposal Outline:

- Shallow lake and wetland enhancements and restorations in the Metro/Urban, Prairie, Forest/Prairie Transition, and Northern Forest ecoregions.
  - Enhancement and restoration of at least 13,191 acres
  - 17 wetland and shallow lake infrastructure projects
  - 6 wetland restorations
  - 7500 acres of cattail treatments
  - Engineering feasibility for 2 larger-scale projects
- Programmatic support for the Wetland Management Program
  - Funding for 2 Wetland habitat specialists for 5 years (each expected to impact hundreds of acres of wetland complexes during the duration of the appropriation)

Previous Program Accomplishments:

Appropriation	Proposed acres	Actual acres
ML13 Accelerated Wetland and Shallow Lake Enhancement, Phase 5	15,355	13,811
ML14 Accelerated Wetland and Shallow Lake Enhancement, Phase 6	6,788	19,365
ML15 Accelerated Wetland and Shallow Lake Enhancement, Phase 7	8,756	28,101
ML16 Accelerated Wetland and Shallow Lake Enhancement, Phase 8	9,415	22,142
ML17 Accelerated Wetland and Shallow Lake Enhancement, Phase 9	5,135	5,024
AVERAGE	9,090	17,689

Highlighted Project: Gopher Ridge WMA, Kandiyohi County, Enhancement of a 15-acre partially drained wetland. $149,730.00 Combination of LSOHC and Prairie Pothole Joint Venture funds

Topography survey to plan wetland habitat work:

Wetland specialists use Trimble GPS units to gather on-site data and design wetland projects.

Construction:

Contractors or roving crew members follow detailed plans and do the work needed for wetland enhancements and restorations.

Restored Wetlands:

Today's resources allow DNR wetland specialist to enhance or restore wetlands to their historic footprint, form, and function.

Other Enhancement Activities

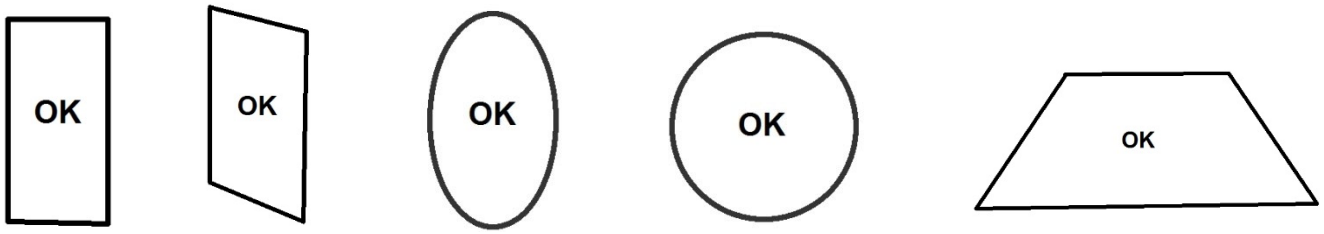
A combination of prescribed burns in wetlands, managing water levels, and herbicide treatments with the DNR Helicopter help manage monotypic stands of hybrid cattail.

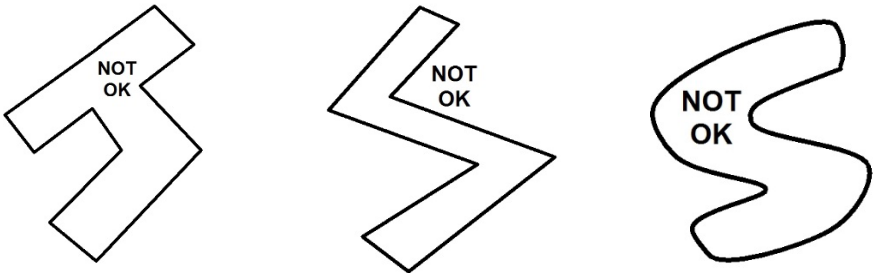
Guidelines and Protocols for Aerial Cattail Spraying

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 (freek 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 chose 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.