



Lessard-Sams Outdoor Heritage Council

Nelson Slough - East Park WMA

Laws of Minnesota 2024 Accomplishment Plan

General Information

Date: 06/26/2024

Project Title: Nelson Slough - East Park WMA

Funds Recommended: \$4,174,000

Legislative Citation: ML 2024, Ch. 106, Art. 1, Sec. 2, Subd. 4(f)

Appropriation Language: \$4,174,000 the second year is to the commissioner of natural resources for an agreement with the Middle-Snake-Tamarac Rivers Watershed District to restore and enhance wetland and upland wildlife habitat on Nelson Slough and East Park Wildlife Management Area in Marshall County, Minnesota.

Manager Information

Manager's Name: Morteza Maher

Title: Administrator

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Location Information

County Location(s): Marshall.

Eco regions in which work will take place:

- Forest / Prairie Transition

Activity types:

- Enhance

Priority resources addressed by activity:

- Habitat

- Wetlands

Narrative

Abstract

Upon completion of the Nelson Slough project, wildlife managers will be able to more effectively manage flood waters to reduce “bounce,” thereby improving habitat conditions for nesting and migrating waterfowl and other wetland wildlife on this nearly 2,482-acre impoundment. This goal will be achieved through

- 1) replacement of the existing outdated water control structure which also doesn't have the needed conveyance capacity; and
- 2) increase embankment heights by three and a half feet to provide more freeboard during large flood events, thus improving management capacity and overall safety of the project to meet the current Dam Safety Codes.

Design and Scope of Work

What is the issue:

Nelson Slough is an on-channel impoundment on Judicial Ditch 19 (JD19) built in 1971. In its over 50-year lifespan, the project has provided wetland wildlife habitat benefits and flood damage reduction benefits on East Park Wildlife Management Area (WMA). However, flood waters come more frequently than anticipated, and slow release of those flood waters is impeding wildlife production on the WMA. The structure has also passed its expected life span and doesn't meet the design standards of today.

What is the solution:

A project team established according to the 1998 Red River Basin Mediation Agreement to discuss how the project could best fit current needs. The Project Team consists of representatives from the Middle Snake Tamarac Rivers Watershed District (MSTRWD), the Minnesota Department of Natural Resources (DNR), and other local stakeholders, and settled upon the proposed design. The Watershed District along with the DNR is now looking forward to construction.

The project has two primary purposes:

1. Improve wetland wildlife habitat within the impoundment. Wildlife habitat, in particular for migratory waterfowl and wetland birds, will be managed to provide both forage and resting areas during the migration seasons, but also nesting habitat for those over-water nesting birds.
2. Improve the water storage capacity of the impoundment. In the new design the impounding capacity is not expected to change, but rather timing is expected to be utilized more effectively so the flood damages downstream are expected to be reduced with the improvements to the project.

Design and Scope of work:

MSTRWD-DNR partnership is proposing to replace the existing water control structure with a structure more capable of handling current flood events that feature the below changes:

The existing 6' primary and 70' secondary spillway will be changed to overall 250' spillway, with a 40' primary and 30' of secondary spillway, providing additional capacity that the existing structure lacks to manage the water elevation.

In addition, the existing embankments will be raised approximately 3.5' above the existing embankments to provide additional freeboard for expected flood events and to meet today's design standards.

Managers will be able to manage water elevation and release timing more effectively with the completion of this project. Currently flood waters are slow to leave the impoundment, flooding out water bird nesting attempts and

negating potential storage for follow-up flood events. Furthermore, the current embankments leave little freeboard, limiting the volume of flood waters that may be stored during any one event. With the replacement of the water control structure, the improved embankments, and improvements to correct stability issues downstream on JD 19, flood waters can be effectively stored and metered out following downstream flood peaks to decrease damages caused to infrastructure and adjacent farmlands.

Through improvements to the JD 19 system to improve stability, proposers of the project also expect to see improvements in water quality downstream in the legal ditch system as well as in the Tamarac River and Red River.

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

Wetlands and shallow lakes in Minnesota provide habitat for more than 20 bird Species of Greatest Conservation Need (SGCN), eight or more amphibians and reptiles, and numerous invertebrates, including mussels, snails, and dragonflies. The Wildlife Action Network ranks the quality of terrestrial and aquatic habitat of East Park WMA as High and Medium-High.

Nelson Slough provides habitat for waterfowl, migratory water birds, and other wetland wildlife. Current operation limits the rate at which flood waters can be released from the impoundment leading to unacceptable levels of “bounce” following large rain events. This bounce can in turn flood nests of over-water nesting birds, reduce light penetration necessary for submerged aquatic vegetation to grow, and dislodge floating cattail bogs which further limit habitat availability and plant growth.

Species of Greatest Conservation Need (SGCN) located at Nelson Slough could include lesser scaup, northern pintail, trumpeter swans, American and least bitterns, black terns, Franklin’s gulls, and other over-water colonial nesting birds. Reduced bounce upon completion of the project should lead to better nesting success by SGCN and other waterfowl and over-water nesting birds. Specifically in the Aspen Parklands, Minnesota’s Wildlife Action Plan 2015-2025 (WAP) notes that management of shallow lakes is important for Forster’s terns, red-necked grebes, and western grebes.

Managing submerged aquatic vegetation for the benefit of migrating waterfowl is key to the Minnesota Shallow Lakes Program Plan. Many species of waterfowl and other wetland-associated birds migrate through the area each spring and fall and benefit from the lake maintained in the clear-water state dominated by submerged aquatic vegetation. A state endangered species, sheathed pondweed (*Stuckenia vaginata*) is found within the impoundment. This submerged plant species can be negatively affected by prolonged deep water, as light penetration needed for plant growth decreases with water depth and turbidity. Completion of the project is expected to allow managers to better maintain water levels that would benefit this and other submerged aquatic vegetation species.

What are the elements of this plan that are critical from a timing perspective?

The existing facility is losing its attraction to wetland wildlife due to extreme water level fluctuations. It is also degrading due to invasive species taking over the majority of the Nelson Slough Shallow lake. This project including its two main components are equally critical for the impoundment ecosystem to survive.

The original Nelson Slough structure is already past its expected lifespan of 50 years. Failure of the water control structure or associated embankments would eliminate habitat management capacity of a nearly 2,482-acre impoundment and may also lead to increased flood damages to downstream infrastructure and adjoining farmlands. The Project Team associated with this project has identified the chosen project as the preferred

alternative. This project will benefit the wetland wildlife and residents of northwestern Minnesota, along with all those who use East Park WMA for recreational activities.

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

The Minnesota Duck Recovery Plan goals include boosting the state's breeding duck populations. The most productive prairie wetland 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. The Nelson Slough Project will contribute to management of permanent wetlands within these complexes as well as management of a shallow lake.

The Minnesota Prairie Conservation Plan (2nd edition, 2018) 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 Nelson Slough Project lies within the East Park Core Area identified in the Minnesota Prairie Conservation Plan. With the improvements to the site, wetland acres will be preserved within the East Park Core Area, where there is currently a shortfall in goal acres.

The Minnesota Biological Survey (MBS) lists areas adjacent to the project of Outstanding and Moderate Biodiversity, while the impoundment itself is listed as Below. Upon completion of this project, management will continue to improve wetland habitat conditions within Nelson Slough providing habitat for SGCN such as lesser scaup, northern pintail, least bitterns, American bitterns, marsh wrens, Virginia rails, trumpeter swans and Forster's terns, as well as state endangered species such as sheathed pondweed.

Which top 2 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

- Long Range Duck Recovery Plan
- North American Waterfowl Management Plan

Explain how this plan 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.

The new outlet structure will provide improved flexibility to store and release water necessary to improve habitat for wildlife in response to ever-changing climate conditions and altered hydrology. Expected increases in both precipitation and frequency of extreme precipitation events, leading to increased runoff and flooding, would lead to deteriorating habitat conditions in absence of improvements from this project. Stable water level will improve nest success in this 2,482-acre impoundment.

Which LSOHC section priorities are addressed in this program?

Forest / Prairie Transition

- Protect, restore, and enhance habitat for waterfowl, upland birds, and species of greatest conservation need

Outcomes

Programs in forest-prairie transition region:

- Improved aquatic habitat vegetation ~ *Pre-project submerged aquatic plant conditions have been documented on Nelson Slough by the Shallow Lakes Program of the DNR. We anticipate these surveys to continue. With this data, managers will be able to compare post-project conditions to those from past years to better guide management into the future.*

Remote data loggers have been documenting water levels continuously throughout the open-water season for multiple years at Nelson Slough. Since prolonged high water can negatively affect submerged aquatic vegetation (SAV), managers will be able to estimate how the impacts to SAV would have differed without the completion of the project.

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.

There is no previous State funding used for this project!

There is an application to State FHM funding for this project that has not been allocated yet. In case that funding will become available, OHF and local cost share will decrease accordingly.

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

A typical goal is to have water control structures and embankments last a minimum of 30-40 years. Completed infrastructure will be jointly managed by DNR and MSTRWD through a joint powers agreement that includes an operation and maintenance plan. Periodic enhancements such as invasive species removal and water control structure and embankment 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, and federal sources such as the North American Wetlands Conservation Act grants. Enhancement projects, such as cattail control, prescribed burns, and the like are implemented to achieve quality, long-lasting habitat benefits. Monitoring by area wildlife staff, shallow lakes specialists, and Watershed District staff 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
2025-2065	Any other funding become available	Operation and Maintenance of new structures	Cattail Control, Prescribed Burn on as needed basis	Structural inspection on as needed basis
2025-2065	Any other funding become available	Collection of maintenance records and plan for improvements on an annual basis accordingly	-	-
2025-2065	DNR - MSTRWD	Collection of maintenance records and plan for improvements on an annual basis accordingly	-	-
2025-2065	DNR - MSTRWD	Operation and Maintenance of new structures	Cattail Control, Prescribed Burn on as needed basis	Structural inspection on as needed basis

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

Black, Indigenous, and People of color and diverse communities make up about 20% of the population of Minnesota, but only about 5% of the state park visitors, suggesting that there are barriers to use of public lands by BIPOC.

The Nelson Slough Project is located within East Park WMA in Marshall Co. This is a rural area of the state with low population densities, and a large portion (97% during the last census) of white residents. While as a WMA it is publicly accessible by all residents of Minnesota and visitors to the state, we recognize that most users of the WMA will likely not come from diverse communities. There are no tribal lands in Marshall Co., though the Red Lake Nation is about 35 miles from East Park WMA, providing reasonable access to those inhabitants.

The MSTRWD adheres to non-discriminatory practices when awarding contracts for construction. We at the project management level will do all we can to provide equal opportunity and encourage BIPOC to be involved in this project.

Activity Details

Requirements

If funded, this program 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?

- WMA
- Public Waters

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program, either by the proposer or the end owner of the property, outside of the initial restoration of the land?

No

Will insecticides or fungicides (including neonicotinoid and fungicide treated seed) be used within any activities of this program either in the process of restoration or use as food plots?

No

Timeline

Activity Name	Estimated Completion Date
Operation and Maintenance Starts from	2025
Construction	2024-2025

Date of Final Report Submission: 11/01/2026

Availability of Appropriation: Subd. 7.

Availability of Appropriation

(a) Money appropriated in this section may not be spent on activities unless they are directly related to and necessary for a specific appropriation and are specified in the accomplishment plan approved by the Lessard-Sams Outdoor Heritage Council. Money appropriated in this section must not be spent on indirect costs or other institutional overhead charges that are not directly related to and necessary for a specific appropriation. Money appropriated for fee title acquisition of land may be used to restore, enhance, and provide for public use of the land acquired with the appropriation. Public-use facilities must have a minimal impact on habitat in acquired lands.

(b) Money appropriated in this section is available as follows:

- (1) money appropriated for acquiring real property is available until June 30, 2028;
- (2) money appropriated for restoring and enhancing land acquired with an appropriation in this section is available for four years after the acquisition date with a maximum end date of June 30, 2032;
- (3) money appropriated for restoring or enhancing other land is available until June 30, 2029;
- (4) notwithstanding clauses (1) to (3), money appropriated for a project that receives at least 15 percent of its funding from federal funds is available until a date sufficient to match the availability of federal funding to a maximum of six years if the federal funding was confirmed and included in the original approved draft accomplishment plan; and
- (5) money appropriated for other projects is available until the end of the fiscal year in which it is appropriated.

Budget

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan.

Totals

Item	Funding Request	Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	\$3,763,500	-	-	\$3,763,500
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	\$110,500	MSTRWD and RRWMB	\$110,500
Easement Stewardship	-	-	-	-
Travel	-	\$5,000	MSTRWD and DNR	\$5,000
Professional Services	\$310,500	\$1,307,600	RRWMB, MSTRWD and BWSR	\$1,618,100
Direct Support Services	-	\$30,000	MSTRWD and RRWMB	\$30,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	\$100,000	\$100,000	RRWMB, MSTRWD and BWSR	\$200,000
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	\$4,174,000	\$1,553,100	-	\$5,727,100

Amount of Request: \$4,174,000

Amount of Leverage: \$1,553,100

Leverage as a percent of the Request: 37.21%

DSS + Personnel: -

As a % of the total request: 0.0%

Easement Stewardship: -

As a % of the Easement Acquisition: -

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount?

It will be phased: Ph#1 will complete the remaining activities of engineering, permitting and easement acquisition, Ph#2 will focus on construction of the Outlet Structure and channel stabilization and Ph#3 will be focused on Construction of levee improvement. This appropriation will aid Ph#1 and 2.

Detail leverage sources and confirmation of funds:

RRWMB, MSTRWD and BWSR's WBIF are committed to support the project, their contribution would be \$2,848,500 in total. RRWMB and MSTRWD have committed their local tax basis income to this project. BWSR's WBIF is available through 1W1P.

Does this project 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?

Scaling to 30%, increases the risk of economy inflation effect on the whole project.

Risk mitigation plan could be: phase1: removal of existing and install new outlet structure, and phase 2-3: raising the levee and channel stabilization work.

Cost will not be reduced proportionately, due to 2-3 times mobilization & drawdown.

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

Funding 30%, means extra engineering cost to adjust scope and design accordingly, three times bidding, public notices, etc, three times mobilization and drawdown which means increased staff time on monitoring and doing QA/QC on site.

Contracts

What is included in the contracts line?

Contracts line includes mainly the removal and new build of the outlet structure and channel stabilization. Which includes but not limited to mobilization, clearing and preparation of the site, and structural elements, such as reinforced sheet piling at the outlet, concrete and steel structures and channel stabilization.

Professional Services

What is included in the Professional Services line?

- Appraisals
- Design/Engineering
- Surveys
- Title Insurance and Legal Fees

Other Equipment/Tools

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

water monitoring systems, Surveillance Cameras, Gate operating tools, and software to integrate those systems together. Note these are examples of equipment and tools and the complete list can be issued when the design is complete.

Federal Funds

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

No

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

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	1,067	-	-	285	1,352
Total	1,067	-	-	285	1,352

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	\$2,087,000	-	-	\$2,087,000	\$4,174,000
Total	\$2,087,000	-	-	\$2,087,000	\$4,174,000

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	1,352	-	-	-	1,352
Total	-	1,352	-	-	-	1,352

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	\$4,174,000	-	-	-	\$4,174,000
Total	-	\$4,174,000	-	-	-	\$4,174,000

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	\$1,955	-	-	\$7,322

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	\$3,087	-	-	-

Target Lake/Stream/River Feet or Miles

Parcels

Parcel Information

Sign-up Criteria?

No

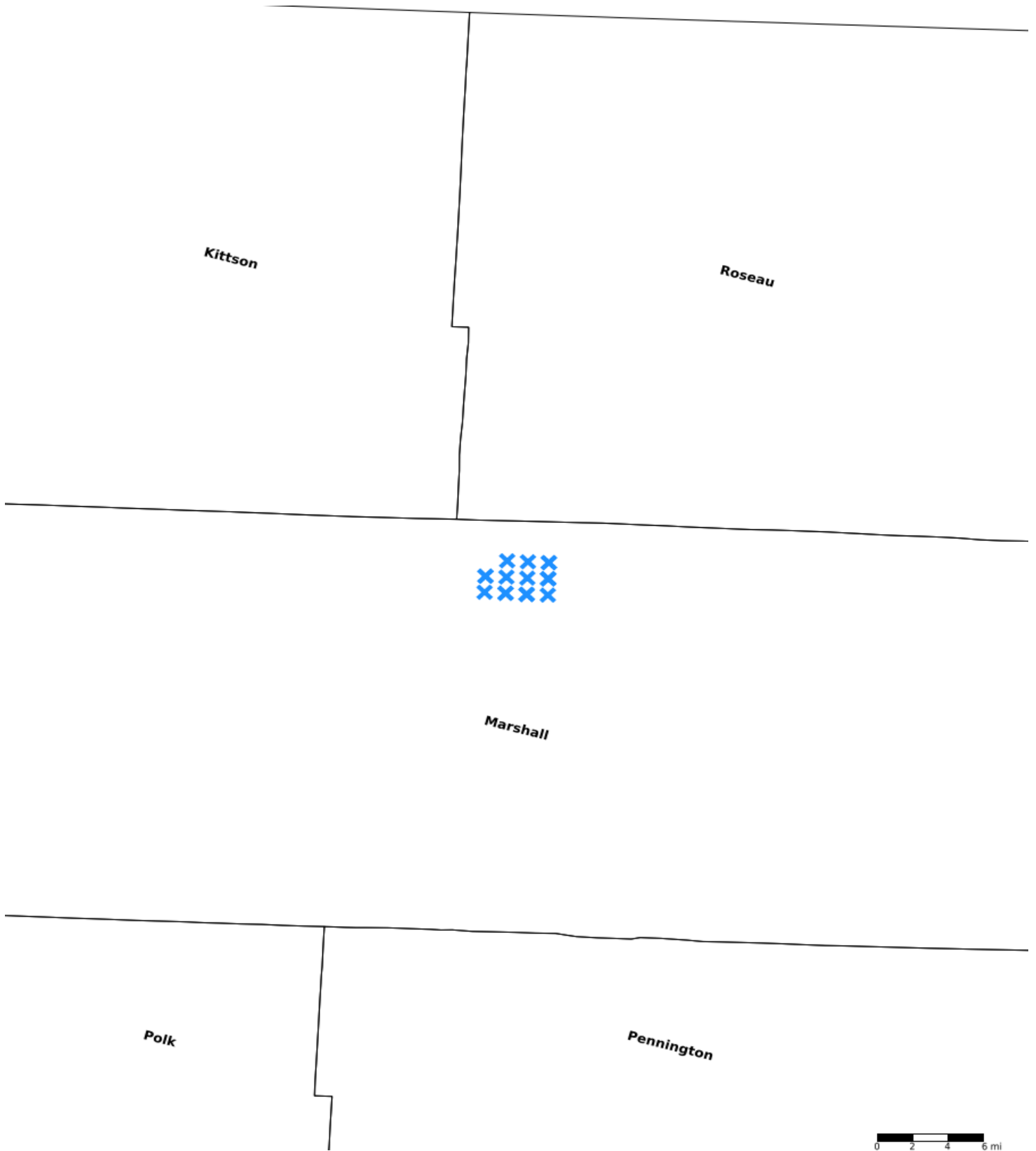
Explain the process used to identify, prioritize, and select the parcels on your list:

The parcels identified are those that are within the 100 year flood plain and the footprint on Nelson Slough within East Park WMA.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
127087003	Marshall	15844228	466	-	Yes	-
126087201	Marshall	15844227	378	-	Yes	-
127074002	Marshall	15844222	658	-	Yes	-
127068003	Marshall	15844216	1	-	Yes	-
126087004	Marshall	15844229	4	-	Yes	-
126074004	Marshall	15844220	17	-	Yes	-
126075001	Marshall	15844223	3	-	Yes	-
125087301	Marshall	15844228	36	-	Yes	-
126074002	Marshall	15844221	618	-	Yes	-
126068002	Marshall	15844215	31	-	Yes	-
124087202	Marshall	15844227	54	-	Yes	-
126068004	Marshall	15844214	46	-	Yes	-
125087002	Marshall	15844227	41	-	Yes	-
120077000	Marshall	15844223	262	-	Yes	-
124074001	Marshall	15844220	66	-	Yes	-
124068001	Marshall	15844214	99	-	Yes	-
120087000	Marshall	15844226	6	-	Yes	-
120075000	Marshall	15844223	75	-	Yes	-

Parcel Map



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other