

ADAPTIVE MANAGEMENT IMPLEMENTATION PLAN

Section 1. Contacts

1. Date submitted 5 April 2008	2. Region 3	3. Regional Biologist Pat Heglund
4. Refuge Supervisor Jim Leach	5. Refuge/Station Name Morris WMD	6. Station Project Leader Steve Delehanty Signature:
7. Contact person Sara Vacek	8. Contact phone number 320-589-4973	9. Brief title Managing Temporary and Seasonal Wetlands

10. Biological Monitoring Team Contacts

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Section 2. Synopsis of adaptive management workshop

11. Date & location of workshop: **Windom WMD, March 11-12, 2008**

12. Workshop Participants, including Refuge staff.

Participants	Agency	E-mail / phone number / notes
Todd Arnold	University of Minnesota	arnol065@umn.edu , 612-624-2220
Kim Bousquet	USFWS - Big Stone NWR/WMD	Kim_Bousquet@fws.gov , 320-273-2191 x102
Melinda Knutson	USFWS - BMT	Melinda_Knutson@fws.gov , 608-781-6339
Jim Lutes	USFWS - Leopold WMD	Jim_Lutes@fws.gov , 608-742-7100
Richard Miller	USFWS - St. Croix WMD	Rich_Miller@fws.gov , 715-246-7784
Jim Peterson	USGS GA Coop F&W Research Unit	Peterson@warnell.uqa.edu , 706-743-0075
Scott Ralston	USFWS/Ducks Unlimited - Devil's Lake WMD	Scott_Ralston@fws.gov , 701-62-8911 x322
Dave Rave	MN Dept. Natural Resources	Dave.Rave@dnr.state.mn.us , 218-380-2289
Chris Trosen	USFWS - Minnesota Valley NWR/WMD	Chris_Trosen@fws.gov , 952-585-0729
Sara Vacek	USFWS - Morris WMD	Sara_Vacek@fws.gov , 320-589-4973
Mark Vaniman	USFWS - Windom WMD	Mark_Vaniman@fws.gov , 507-831-4119

13. Brief problem description.

Vegetation choked temporary and seasonal wetlands do not attract enough waterfowl. Managers want to know if changing the vegetation structure (not necessarily composition) is a cost effective way to improve waterfowl habitat in these systems.

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14. Objectives.

Goal (fundamental objective):

1. Increase reproductive success for waterfowl.

Means objectives:

1. Improve temporary and seasonal wetland conditions for spring migratory and breeding waterfowl (i.e., increase open water in wetlands choked by vegetation).
2. Increase dabbling pair density.

15. Management alternatives & expected response of the resource. Who makes decisions about what management actions to implement? When & how often are these decisions made?

Treatment options:

- Nothing
- Mowing/Haying/Flattening
- Grazing
- Burning
- Any of previous 3 + disking
- Sediment excavation

We suspect that some treatments will have a longer lasting effect but this is one thing we'll explore with the project. Each station will determine which actions to implement on their own sites. We will revisit the wetlands every two years to assess what treatment should be assigned next (if a wetland is still in good condition the treatment may be "nothing" for that time step).

16. Competing models & key uncertainties.

Our key uncertainties are whether opening up vegetation-choked temporary and seasonal wetlands will even help to attract more pairs, and how long the vegetation effect will persist. The latter will be important for helping us to assess the cost effectiveness of various treatment options. Our project will involve two sets of competing models:

Habitat Effect - does it work to manage temporary and seasonal wetlands?

1. No: wetland cover type does not affect waterfowl pair density.
2. Yes: wetland cover type does affect waterfowl pair density.

System Response - how long does it take for these wetlands to go back to a closed canopy state?

1. Slow: wetland condition will persist for many years after a treatment
2. Fast: wetland condition will not persist for many years after a treatment

17. Decision support & modeling tools.

We used Netica software to build a model. Not sure yet if we will develop a separate spreadsheet like the other consultations.

18. Monitoring metrics.

- **Future Cover Type:** Cover types as described by Stewart and Kantrud (1971).
- **Dabbling Pair Density:** Indicated breeding pairs/acre. Again, the four-square mile survey provides a standardized protocol for counting ducks, as well as regressions for each wetland type.
- **Observed Stratum or State Duck Population Levels:** This might help account for poor duck use even if we achieve good habitat (we can't directly control duck populations in the whole flyway).
- **Current Cover Type:** The current condition will influence the future condition.

19. Time step for updating models.

Two years.

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20. Briefly, how will this project improve management at your station & elsewhere?

This project will allow us to learn about managing these wetlands that are so important to waterfowl during the spring migration and breeding period. Many in our group and beyond have wondered about the quality of our temporary and seasonal wetlands for years, but were uncertain about how to proceed. By having several stations testing various management techniques will be an effective way to more quickly resolve our uncertainties about this approach to wetland management. Having multiple stations participating is also useful because we will be able to simultaneously test several techniques, all of which may not be possible at every station every year (e.g., because of staffing or weather conditions).

Section 3. Implementation Plan

21. Monitoring Partners (all Refuge stations and others who will be implementing the plan).

Partner	Agency	E-mail / phone number / notes*
Kim Bousquet	Big Stone NWR/WMD	
Jim Lutes	Leopold WMD	
Richard Miller	St. Croix WMD	
Scott Ralston	Devil's Lake WMD	Cami Dixon may be contact for Devil's Lake
Dave Rave	MN Dept. Natural Resources	Dave's group is currently monitoring effects of biomass removal, fire and grazing treatments at some WPAs and state WMAs
Chris Trosen	Minnesota Valley NWR/WMD	
Sara Vacek	Morris WMD	Project coordinator
Mark Vaniman	Windom WMD	

*contact information for all partners is listed in #12 above.

22. Timeline for implementation. Estimate when assistance will be needed from modeler, database expert, BMT, or Regional Biologist.

Approx. Date	Task	Responsible Person
Done	Finalize management alternatives	group
?	Draft decision support spreadsheet	Eric Lonsdorf
Done	Draft Netica decision support diagram	Jim Peterson, group
Summer 2008	Test monitoring protocols	Contractor, group
Fall 2008	Finalize monitoring protocols	Contractor
Fall/winter 2008	Create monitoring database	Todd Sutherland
?	Finalize decision support spreadsheet	Eric Lonsdorf
Fall/winter 2008	Finalize Netica diagram (parameterize tables)	Group
Fall 2008	Begin AM Project	Group

23. Budget.

Total request from Regional Office: **\$0**

Note: This group and the Sediment Excavation AM Project are jointly requesting \$15,000 to hire a contractor to finalize our monitoring and treatment protocols and develop data forms. We are currently in the process of writing a scope of work and identifying contractors with the correct skills and knowledge to complete this work. For the sake of simplicity, the request for funding is formally coming from Lori Stevenson for the Sediment Excavation group, but the contractor will be working for both groups.

Station(s) proposed to receive the funds (if multiple stations indicate the budget breakdown by station).

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If grants or other funding sources are being used for the project, indicate the sources & amounts (add a column).

The respective stations will fully support all staff time, equipment, and travel associated with this project, including but not limited to assisting with monitoring and treatment protocol development, and implementing monitoring and management treatments this fall. It is difficult to estimate the cost of these actions considering the number of stations participating and the variety of treatments that could be applied.

Item	Hours	Station \$\$	Regional Office \$\$	Total \$\$
Staffing				
Refuge Managers and Biologists	160			
Operations				
Travel		2000		
Equipment/supplies				
Contractors to implement treatments				
Total				

Section 4. Attachments

24. Please attach the summary or minutes from the workshop. Also attach any proposals for contracts or other requests.

Section 5. Instructions

25. After your adaptive management workshop, the workshop recorder will summarize the minutes of the workshop and distribute to all interested persons (participants, partners, managers). The planning team will meet to finalize any items not completed during the workshop. These include refining the descriptions of the alternative management actions and defining the monitoring metrics and how they will be interpreted. The planning team or representatives will meet with the modeler to work out details of drafting a decision support tool (spreadsheet). The planning team also needs to estimate when they need help creating a project database to hold the monitoring data. If the services of a contractor are needed (specialized expertise or reviews), solicit needed contracts.

The planning team will draft this Implementation Plan & discuss the plan with the Project Leaders (PL) at each station proposing to implement. The Team Leader will finalize the Implementation Plan and forward to the Regional Biologist (RB), with cc to the PL. The PL will e-mail the RB to indicate their concurrence with the Plan. (Alternatively, send a hard copy with PL signature to the RB; the RB still needs the digital file.) The Regional Office will determine whether or not additional funds are available to support implementation of the project. A revised plan with updated budget should be submitted on or before 1 March each year that the project is operational if Regional Office funding is desired. Projects should be designed to be feasible with or without this funding.