

Project title: Developing a management and restoration strategy for the Manning Lake Wetland Complex

Comment [GB1]: Throughout this document, note how the authors make information easy to see. Visual cues are important to readability, and this first page is very easy to see.

Priority areas addressed: National:
Priority A: Regulation (Enhancing wetland protection)
Priority B: Wetland monitoring and assessment
Regional:
Priority B: Watershed focus

Comment [GB2]: Linking grant proposals to the funder's priorities is key. Note how this information is presented at the beginning of the document and explained in greater detail later.

Applicant: Fort Peck Tribes Fish and Game Department
Manning Lake Wetlands Tribal Wildlife Refuge Project

Key personnel: Jeanne Spaur
Project coordinator/wildlife biologist
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Geographic Location: HUC: 1006006
Watershed: Big Muddy

Project costs: Total: \$260,860.00
Requested: \$195,627.00

Comment [GB3]: Note the clarity of the financial requirements. Audiences can figure out exactly what is being requested.

Abstract:

The Fort Peck Tribes are working toward the protection, management, and restoration of the Manning Lake Wetland Complex. First we will work with the Montana Natural Heritage Program to develop maps of the complex area examining wetland types, ground cover, and land use. Secondly we will expand upon our work to identify and prioritize acquisition, management, and restoration opportunities. Thirdly we will partner with Montana Natural Heritage Program, Montana Department of Environmental Quality, the Confederated Salish and Kootenai Tribes, and the Fort Peck Tribes' Office of Environmental Protection to develop wetland monitoring strategies, building upon current work. Finally, we will develop a wetland management reference collection through collaboration with other tribal, state, and federal wetland programs. Outputs will include: 1) ground-truthed, detailed maps of all wetlands, ground cover, and land use within the MLWC; 2) a list of identified and prioritized restoration, management, and acquisition opportunities; 3) a Reservation-specific rapid assessment protocol for wetland function and condition monitoring; 4) an inclusive plant species-list; 5) a vegetation map of the MLWC; 6) a baseline bird and amphibian list species-list; 7) baseline water quality data; and 8) a collection of wetland management reference publications.

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2. PROJECT DESCRIPTION:

a. Environmental issues of concern:

This project offers a great opportunity to conserve what may be one of the most unique and valuable wetland complexes in Montana. While the Manning Lake Wetlands Complex (MLWC) is currently in near pristine condition due to its remote location and limited usefulness for agricultural purposes, NWI has identified six drained wetlands of approximately 2,100 acres in the project's northern side. This number is believed to be conservative however, based upon initial ground truthing of the area. Additional threats include drought, energy development (including biomass production), overgrazing, additional drainage, breaking of native prairie for farming, and climate change. Management of the complex is also complicated by a diverse mix of tribal, fee, and allotted lands. A high degree of land fractionalization is present, where a 40 acre parcel may have up to 60 owners, all owning varying percentages of undivided land interest.

Comment [GB4]: Notice the clarity of this chunk of words that states **why** the grant is needed. It's only 142 words.

One place investigators, technical people and "insiders" often get lost is in over-explaining a problem. Audiences usually do not want to understand a problem in great detail. It makes their eyes glaze over. Therefore, work to distill the problem. Give your audience the gift of "specific brevity."

b. Project Goals and Objectives: This project has 4 specific goals:

1) Develop a map of the MLWC examining wetland types, ground cover, and land use through collaboration with Montana Natural Heritage Program (MTNHP); 2) identify restoration, management, and acquisition opportunities; 3) development of strategies to monitor and assess wetland condition and function through partnerships with MTNHP, Montana Department of Environmental Quality (MTDEQ) Medicine Lake National Wildlife Refuge (MLNWR), and Confederated Salish and Kootenai Tribes (CSKT); and 4) build a wetland management reference library.

Comment [GB5]: Again, notice how concisely the goals and objectives, that is, the "what" of the document, are stated. If audiences can't grasp the "what" and "why" of a project, then they are less likely to release the dollars.

i. Link to EPA Strategic Plan: This project is linked to 00a14, Sub-Objective 4.3. Wetland assessments, carried out pursuant to a long-term wetland monitoring and assessment strategy, to provide information on the degree to which a specific wetland meets (or departs from) the full health and integrity typical of that wetland ecological system. Assessments also allow wetland program managers to evaluate the status of wetlands in a given watershed or basin, and facilitate informed decisions about wetland mitigation and creation while providing a sound basis for evaluating activities that may result in wetland degradation or loss. The identification of restoration, management, and acquisition opportunities will lead to the increasing of wetland acres, linking the project to Sub-Objective 4.3.1.

Comment [GB6]: Here the authors are doing the mental work of making connections for the audience. If you rely on an audience to make mental connections for you, you will likely be disappointed because they won't do it.

ii. Results of Activities (Outputs): This project will have 8 outputs: 1) ground-truthed, detailed maps of all wetlands, ground cover, and land use within the MLWC; 2) a list of identified and prioritized restoration, management, and acquisition opportunities; 3) a Reservation-specific rapid assessment protocol for wetland function and condition monitoring; 4) an inclusive plant species-list; 5) a vegetation map of the MLWC; 6) a baseline bird and amphibian list species-list; 7) baseline water quality data; and 8) a collection of wetland management reference publications. Progress towards meeting these outputs will be assessed by adhering to a timeline of tasks and milestones, as specified under (f) below.

Comment [GB7]: Being able to provide a specific list of deliverables builds audience confidence that the money will be used wisely.

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iii. Anticipated Environmental Improvement (Outcomes): As immediate outcomes of this project tribal managers will: 1) have an improved, updated GIS database and increased understanding of the wetland complex watershed; 2) be able to prioritize restoration, management, and acquisition opportunities within the complex; 3) have access to maps to help with decision making related to conservation, restoration, and management activities that will lead to improved water quality on the Reservation; 4) have baseline information for helping to determine progress related to increasing or decreasing function, condition, and quantity of wetlands within the complex; 5) be able to link results to wetland monitoring beyond the complex to encompass wetlands Reservation wide; and 6) have access to wetland publications to help make management decisions that will lead to improved water quality on the Reservation. Long term outcomes of this project will be the acquisition, restoration, and management of identified opportunities within the complex; all of which lead to the increase of wetland quality and quantity.

Comment [GB8]: Note how the authors detail both short-term and long-term outcomes

iv. Established Baseline for Measurement: 1) We lack 1: 12000 wetland maps, maps of non-wetland riparian areas, and clipped regional gap analysis program (ReGAP) vegetation maps of the complex, which are designed to map land cover at 30m resolution. We also do not have wetland types linked to functions. Success will be measured by the creation of such maps; 2) Within the complex we have compiled a list of landownership and contact information. NWI has identified six drained wetlands of approximately 2,100 acres. However, we do not have a list of identified acquisition and/or restoration opportunities. Success on this element of the project will be measured by the development of a list of identified and prioritized acquisition and restoration opportunities; 3) Although we have monitoring strategies for other surface waters on the Fort Peck Reservation, we do not have strategies for wetland monitoring. Development of such strategies will be the benchmark for success; 4) We lack a wetland management reference library therefore the development of such a collection will be the benchmark of success.

Comment [GB9]: Notice that the author cites measurable – i.e., countable -- goals. Audiences usually feel better about providing money when outcomes can be measured.

c. Describe how the project will address one or more of the National and/or Regional Priority Areas identified in Section 1.C of this announcement:

The Fort Peck Tribes have identified the conservation of the Missouri River and its floodplain as a focus of concern. The MLWC lies within the Big Muddy Creek Floodplain which empties into the Missouri River. As such, this project addresses several National and Regional Priorities: First, it squarely addresses National Priority A (enhancing wetland protection) as identification of potential acquisition and management opportunities of vulnerable wetlands is a key component of the proposal. Identification of potential restoration opportunities leads toward the development of wetland goals and management plans that will increase the quantity and quality of wetlands within a geographic focus area. Second, this proposal fits within National Priority B (wetland monitoring and assessment) as it supports several elements of a monitoring and assessment strategy while demonstrating the use of wetland monitoring surveys to evaluate and report trends in wetland areas and condition for specific watersheds. Third, the project contributes toward capacity building as it focuses in the geographic area of the Big Muddy Creek floodplain thereby integrating the Regional Priority of focusing in a geographic area and utilizing a watershed approach.

Comment [GB10]: The authors cite both national and regional priority areas

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d. Describe the need for the project and how the project activities support and build on tribal wetland programs.

1) As noted before, we lack 1: 12000 wetland maps, maps of non-wetland riparian areas, and clipped ReGAP vegetation maps for the MLWC. We also lack linkage of wetland types to functions. Random NWI map sites have been previously ground truthed on the eastern 2/3rd of the Fort Peck Reservation but MLWC sites were not included. Ground truthing results found NWI maps to be roughly 60% accurate in regards to wetlands on the Fort Peck Reservation.

2) The MLWC includes 5,277 acres of tribal land, 4,302 acres of fee land and 11,673 acres of allotted land. Tribal lands within 7.5 sections around Manning Lake proper have been designated by the Tribes as a tribal wildlife refuge (please see attached map). To date we have identified and prioritized non-tribal lands within the core project area for lease or purchase, contacted landowners about potential participation in the project, and initiated the appraisal process on such properties. We are currently in the process of purchasing 240 acres. Acquisition opportunities outside of the core area have not been identified or prioritized. By contacting and working with the approximately 1,323 land owners of these lands management and acquisition opportunities can be identified and prioritized.

3) The Tribes have a wetlands program quality assurance project plan and a MLWC management plan has been initiated but needs to be completed. Previous wetland vegetation sampling has provided a starter collection of 25 identified specimens although none were collected from the MLWC. Adding to this collection will increase tribal capacity through the creation of a complete MLWC plants species list and the development of a detailed vegetation map.

4) We lack a collection of wetland management reference publications. The development of a wetland reference library will provide tribal managers with supporting reference materials in order to make sound plans and management decisions for the protection and conservation of all Reservation wetlands.

Comment [GB11]: Providing visuals as attachments can help the grant reviewers better understand the problem at hand

e. Project Tasks outline the steps you will take to meet the project goals.

Goal 1. Develop map of wetland complex area examining wetland types, ground cover, and land use.

NWI maps at 1:24K may not accurately capture the diversity of the MLWC. We will partner with MTNHP to do a change detection assessment. Original maps and imagery will be compared to current imagery to see if wetland extent and type has changed since the 1980s, or if apparent changes are simply artifacts of image quality. We will also have MTNHP produce 1: 12000 maps of the wetland complex, following FDGC-endorsed standards, and including HGM functional attributes and riparian area coverage. MTNHP will also provide land cover and land use maps, drawn from 2007 ReGAP mapping. Tribal staff will do all ground truthing work.

Goal 2. Identify restoration, management, and acquisition opportunities within the complex.

Restoration and management opportunities will be identified based upon results of our mapping project and compiled into a list. From our complete list of 1,323 allotment owners and their contact information a database will be created. Each allottee will be contacted, by regular post, and introduced to the Manning Lake Wetlands Tribal Wildlife Refuge (MLWTWR) project and asked if they would be interested in selling their allotment interest to the tribes to be

Comment [GB12]: Clear specificity of the tasks organized by goal.

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included in the MLWTWR project, if and when acquisition funding is secured, It is common for tribal member land owners to consult with family members and take time in considering land transaction opportunities, After 1 month non-responsive owners will be sent a second letter. A list of interested owners will be compiled, making note of their ownership percentage and property location and condition. Interested owners will be kept informed of acquisition funding progress.

Goal 3. Development of strategies to monitor wetland condition and function.

We have several strategies building on current work to develop monitoring strategies:

1. During the summer of 2008, we will collaborate with MTNHP to create a wetland reference network on the Reservation, MTNHP scientists will identify poor, fair, good and excellent examples of Great Plains Open Depression Wetlands and Western Great Plains Closed Depression Wetlands. They will also train tribal staff in the use of their Level II assessment methods.

Because vegetation integrates effects of multiple stressors, and is an excellent way to assess and monitor condition, many assessment methods require plant identification skills, At a minimum, we need to train tribal staff to recognize key native and non-native plants, disturbance-sensitive plants, disturbance-tolerant plants, and plants of special concern, To build this capacity, we will expand our wetland plant collection through collaboration with the Maka Flora chapter of the Montana Native Plant Society in 2008, making reference to the 2000 Natural Heritage Program's *Plant Species of Special Concern and Plant Species Association in Sheridan County, Montana*, by Bonnie Heidel, Stephen V. Cooper, and Catherine Jean. With these two critical pieces in place, we will be able to begin developing a Reservation-specific rapid assessment method in 2009.

First, we will review several popular methods (e.g. North Dakota's RAM, MDT's RAM, the USARAM, if available, Natureserve's Ecological Integrity Assessments, the Blackfeet Level II Assessment, CSK's level II+ method, etc), and evaluate them on several criteria: 1) Are they appropriate for our tribal wetland types? 2) Are they easy to use? 3) Are they repeatable over time and consistent among observers? 4) Do they capture the information we need for decision-making? 5) What level of skill do they require? We will pick three candidate methods and field-test each method on the reference network. From the field test, we will determine if we should adopt one of the methods or draw from several to build our own.

Second, to ensure that we continue to build capacity in plant identification, we will hire a professional field botanist to prepare a species list of plants of the wetland complex and to prepare a detailed vegetation map.

2. Presence/absence of invertebrates and the presence/absence, health and reproductive success of water birds and amphibians are also indicators of wetland health and water quality. MLWC supports one of Montana's three known nesting colony of Franklin's gull, a Montana species of concern and BLM Sensitive Species (MTNHP and MTFWP. 2006. Montana animal species of Concern. Helena, MT: 17 p.). The Tribes have been monitoring the Franklin's gull nesting colony in partnership with Medicine Lake NWR since 1997.

In 2008 Franklin gull nest counts will continue; and we will partner with MTDEQ and MLNWR to create a baseline count of additional birds, focusing on species of conservation concern, and amphibian species. In addition we will partner with the Glasgow, MT, Chamber of Commerce to have MLWC as a featured field trip for their 2008 Feather Fest in order to promote the importance of wetland protection and add to the bird species baseline. We will also partner

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with Fort Peck Tribes' Office of Environmental Protection's (OEP) department of water quality to begin a baseline reference to invertebrate presence and population at various wetland sites within the MLWC. In 2009, we will expand the inventory and monitoring to additional sites in the .complex and other selected pm1s of the Reservation (if possible). We will use the wetland condition data we have gathered from our assessments to identify links between wetland type and condition and amphibian / bird presence absence, using descriptive statistics. We will present our survey results at a tribal and a non-tribal conference during the winter of 2010.

3. Contaminant levels within waters. We began partnering with OEP's department of water quality in 2007 to create a baseline reference of water condition at various wetland sites within the MLWC. This partnership will continue in 2008 when we begin to look at selenium levels, which at high concentration can lead to reproductive failure in birds. Monitoring and partnership will continue in 2009. We will conduct assessments at 20 different wetland sites. We will also analyze the water quality data to determine if there are correlations between water quality and wetland condition as measured by our rapid assessments.

Goal 4. Development of a wetland management reference collection.

We will identify appropriate wetland reference books through consultation with the wetland ecologists and biologists at the MNHP, USFWS refuge biologists, tribal biologists at CSKT, Rocky Boys, Blackfoot, and Fort Belknap, the Montana Native Plant Society, and Universities in Montana and the Dakotas. We will use the Region 8 website to identify past WPDG award grantees, and will contact them for suggestions as well. When we have compiled an initial list of resources, we will resubmit them by email to all who participated in the initial reconnaissance, and will use Survey Monkey to tabulate results. The reference books that receive the highest scores will be acquired up to the budget limit for this goal.

f. Milestone Schedule:

- 1) Assemble project teams to a) meet with partners to plan data collection and share protocols; b) coordinate with Manning Lake Working Group and identify any collaboration opportunities: **1/16/09-4/30/09**
- 2) Build wetland reference library by a) identifying appropriate reference books; b) research best purchase options; c) acquire books: **1/16/09-3/15/09**
- 3) Prepare for field season by a) selecting sample sites, b) contacting landowners as necessary to secure permission; c) preparing and printing data collection protocols, QAQC plan, and invasive species identification and prevention plan; and d) hiring and training field technician: **3/01/09-5/15/09** with landowner contact ongoing.
- 4) Develop prioritized list of acquisition, management, and restoration opportunities by a) identifying restoration opportunities from groundtruthing of NWI maps; b) identification of management opportunities from assessment and monitoring results; and c) identification of acquisition opportunities from contacting and working with land owners: **1/1/09-10/01/10** with landowner contact ongoing.
- 5) Ground truthing of NWI maps and development of wetland, ground cover, and landuse maps: **8/01/09-12/30/09**

Comment [GB13]: That the author can articulate a timeline speaks to an ability to deliver. The dates for each step are clearly articulated. This information can also be displayed in an attached Gantt chart.

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6) Develop a Reservation specific rapid assessment protocol for wetland function and condition monitoring by a) researching available methods; b) selection and field trial of best candidates; c) analyze data; and d) selecting permanent monitoring sites using selected method: **5/01/09-9/01/09 and 5/01/10-9/01/10**

7) Creation of a complex specific plant species list and vegetation map: **7/01/09-8/29/09**

8) Monitoring of species presence and condition and water quality: **5/01/09-1/15/11**

9) Report results by a) presenting at tribal and non-tribal conference and b) transmitting final report to partners, working group members, and EPA. **10/01/10-1/15/11**

g. Provide a brief description of staffing and funding resources:

The Manning Lake Tribal Wildlife Refuge project staff consists of the fulltime project coordinator/biologist. The Manning Lake Working Group regularly devotes time and assistance to the project and consists of 9 natural resource professionals from tribal, state, and federal agencies and programs. Current funding for the project comes from the US Fish and Wildlife Services' Tribal Landowner Incentive Grant and ends this year.

h. Applicant's organization, experience and infrastructure:

The Manning Lake Tribal Wildlife Refuge project works to protect, manage, and enhance the Manning Lake Wetland Complex. The project was officially established January 2006 with the hiring of the project coordinator/biologist. The project is under the supervision of the Fort Peck Tribal Fish and Game department, which is under the Natural Resource division.

Our physical infrastructure is office space located in the Norman Hollow Natural Resource Center, in Poplar, MT.

i. Partnership and outreach activities:

We will partner directly with MTNHP, CSKT, MTDEQ, Ducks Unlimited (DU), MLNWR, Montana Audubon, the Glasgow Chamber of Commerce, and the Montana Native Plant Society. Also members of the Manning Lake Working Group which includes representatives from tribal, state, and federal natural resource agencies and programs. Educational outreach activities will be geared toward project landowners and community schools.

Comment [GB14]: The authors describe a project team consisting of tribal, state, local and private entities.

j. Roles and responsibilities of any identified partners:

MTNHP will produce 1:2000 maps of the wetland complex, following FDGC endorsed standards, and including HGM functional attributes and riparian area coverage. MTNHP will also provide land cover and land use maps, drawn from 2007 ReGAP mapping.

k. Transfer of results and methods:

Methods and results will be shared through training, presentations at tribal, state, regional, and national meetings, through participation in the Native American Fish and Wildlife Society and the Western Wetland Monitoring and Assessment Workgroup. All reports and results will be communicated to tribal, state, and federal agency partners through email updates,

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partners' meeting, and professional meetings. Also, all data and reports will be linked to Region 8's website and the Montana Wetland Council website.

1. QA/QC:

i. Data collection QA/QC will include the following basic principles: all sites will be GPS'd and the GPS coordinates will be written into assessment sheets as well as being stored in the GPS unit with identifiable site numbers; photographs will be numerically sequenced and their numbers entered onto the accompanying assessment sheets and notebooks; field surveys will check all data sheets before leaving the assessment site to ensure all fields have been completed and are legible; any summary scores will be double checked for math errors. Data will be entered into password-protected computer databases subject to both on-site and off-site routine backups, and hard copies of assessment data will be maintained. Field data is currently collected on hard copy forms; if it is collected electronically during the course of this project, printouts will be made and stored separately, and data will also be backed up on the appropriate storage media.

ii. Field personnel will be provided with identification materials to ensure that all any invasive species from any taxa can be identified. After completing assessments at any site, field crews will check clothing, boots, shoes and equipment to ensure that no plant materials or noxious weed seeds are transmitted from one assessment location to another. When aquatic sites are surveyed, field crews will rinse all equipment and protective gear (waders, boots etc) in a disinfectant solution before proceeding to the next site. In all cases, and at a minimum, crews will identify invasive species, record the coordinates of the infestation on datasheets following National Association of Weed Managers standards, and will transmit datasheets to the appropriate weed management entity.

3. BUDGET NARRATIVE:

Our total project budget is \$260,860 of which \$195,627(75%) is requested from the EPA. We estimate the cost of mapping and detection of change at \$58,432.64, the identification and prioritization of restoration, management, and acquisition opportunities at \$104,344.00, development of monitoring and assessment strategies at \$90,779.28, and building a wetland management reference library at \$7,304.08. Included in these estimates are all indirect costs and overhead.

By expense category, the biggest cost is labor. There will be two people involved in various aspects of this project, including the project coordinator / biologist and a seasonal field technician. Our second highest cost is travel. We use a tribal vehicle, which gets about 10mpg. We roughly estimate \$700 in monthly fuel costs during the field season and some travel to meetings and trainings outside this period. We have also included \$6,600 for travel to attend conferences and meetings. Contractual costs represent a fund of \$8000 to allow us to hire MTNH to create wetland type, ground cover, and land use maps, and to hire a professional botanist to develop a plant species list and vegetation map.

Supplies are estimated at \$2,800 and include purchase of a laptop computer, field sampling equipment and supplies and general office supplies. "Other" includes \$500 for wetland management reference literature, \$250 for meeting expenses, \$3,000 for wetland training fees, \$250 for advertising/public relations, and \$250 for printing expenses. Postage costs are based upon needing to send multiple documents to over 1300 owners and are estimated at \$1,500.

Match of \$65,233 (25%) is provided. \$2,250 is from in-kind labor by DU and MTNHP. \$62,938 is from tribal in-kind including project supervision, support, and office and field

Comment [GB15]: A budget spreadsheet was also included in the materials package. Here, the authors explain the cost first in terms of activity and then in terms of budget line item. They provide a justification for each expense item.

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supplies. Indirect on those costs are also included as match and is pursuant to the 11.54% negotiated indirect cost agreement between the Fort Peck Tribes and the EPA.

4. PROGRAMMATIC PAST PERFORMANCE:

1) 2005 USFWS Tribal Wildlife Grant "Reintroduction of Swift Fox to the F011 Peck Reservation." This granting cycle was for 3 years and was successfully managed and completed. Reporting requirements included quarterly financial reports, bi-annual project progress reports, and a final technical report and were successfully met.

2) 2007 USFWS Tribal Landowner Incentive Grant "Manning Lake Wetland Tribal Wildlife Refuge Project." This granting cycle is for 2 years and is still in progress. It is being successfully managed with reporting requirements including annual progress and financial reports. All required reports are being successfully met.

5. ENVIRONMENTAL RESULTS PAST PERFORMANCE:

1) 2005 USFWS Tribal Wildlife Grant "Reintroduction of Swift Fox to the Fort Peck Reservation." Progress for this project was documented through updates to the Tribal Council and project partners, and through quarterly and final reports to the USFWS.

2) 2007 USFWS Tribal Landowner Incentive Grant "Manning Lake Wetland Tribal Wildlife Refuge Project." Progress for this project is being documented and reported on through updates to the Tribal Council, Working Group members, and through yearly reports to the USFWS.