

# RECLAMATION

*Managing Water in the West*

DK-5000-14-01

**Finding of No Significant Impact  
and  
Final Supplemental  
Environmental Assessment  
for**

**Partial Funding of Design and Construction of an Expansion  
Water Treatment Plant in the City of Dickinson, North Dakota  
and Associated Water Transmission Facilities in Southwest  
North Dakota**

Dakotas Area Office  
Bismarck, North Dakota



March 2015

U.S. Department of the Interior  
Bureau of Reclamation

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION  
DAKOTAS AREA OFFICE  
BISMARCK, NORTH DAKOTA

FINDING OF NO SIGNIFICANT IMPACT

Of

FINAL SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

FOR

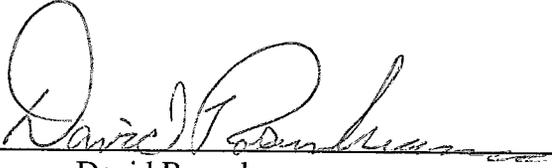
Partial Funding of Design and Construction of an Expansion Water Treatment  
Plant in the City of Dickinson, North Dakota and Associated Water Transmission  
Facilities in Southwest North Dakota

SOUTHWEST PIPELINE PROJECT

NO. DK-5000-14-01

Recommended:  Date: 23 March 2015  
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## **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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## INTRODUCTION

Issuance of this Finding of No Significant Impact (FONSI) follows the completion of the Final Supplemental Environmental Assessment for **Partial Funding of Design and Construction of an Expansion Water Treatment Plant in the City of Dickinson, North Dakota and Associated Water Transmission Facilities in Southwest North Dakota, Southwest Pipeline Project.**

The FONSI describes the reasons for finding the proposed action's anticipated impacts insignificant. This document contains both the FONSI and Final Supplemental Environment Assessment (SEA).

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**Finding of No Significant Impact  
For  
Supplemental Environmental Assessment  
Partial Funding of Design and Construction of an Expansion Water  
Treatment Plant in the City of Dickinson, North Dakota and Associated  
Water Transmission Facilities in Southwest North Dakota, The Southwest  
Pipeline Project (SWPP)**

The proposed Expansion Water Treatment Plant (wtp) and main transmission line improvements are part of a regional municipal, rural, and industrial (MR&I) water system improvement project. The Proposed Action would increase the treatment capabilities of the Dickinson wtp that would allow SWPP to meet the growing demand for potable water in the Dickinson area and greater southwest North Dakota.

Originally the SWPP began construction in the 1980's replacing the use of Heart River water from the William Patterson Reservoir with Missouri River Water from Renner Bay on Lake Sakakawea west of Garrison dam. This expansion and improvement project is needed to address the growing population demands of western North Dakota and an aging treatment plant.

SWPP – Dickinson WTP would include (**Figure 1**):

- a) Construct a 6 million gallon per day (mgd) water treatment plant (wtp) at the site adjacent to Dickinson's existing 12 mgd wtp capable of future expansion to a full 18 mgd.
- b) Construct raw water transmission line and pump station upgrades.
  - a. Construct approximately 31 miles of 30" main transmission line upgrades adjacent to and within 100 yards of the existing line and three associated pumping stations.
- c) Construct an additional 1.3 mg water storage tank adjacent to or near the existing Richardton storage tank on a 1 acre plot (to be obtained) and a 4.3 mg storage tank adjacent to the existing Dickinson storage tank on an existing 5.1 acre site east of Dickinson.
- d) The project would be constructed according to the Environmental Mitigation Commitments as described in the Preferred Action Community Alternative.

***7 supportive agency responses and one private party response were received regarding the preparation of the SEA in response to Reclamation's scoping notice. Only a single agency response was received regarding the release of the final SEA.***



## ***Agency Decision***

**No Action.** If Reclamation would adopt the No Action alternative, then no federal funds from the Garrison Diversion Municipal, Rural, and Industrial Water Grant program would be made available to the State Water Commission and Southwest Water Authority in support of their proposed project. Neither the purpose and need or the objectives of the Congressional authorization for the SWPP would be served. In addition the project would not be required to abide by Reclamation's long established and tested environmental mitigation commitments. Therefore this alternative was rejected.

**Proposed Action.** Reclamation has determined that the Proposed Action, Reclamation's preferred alternative and the Community Alternative, as described in the supplemental environmental assessment (SEA) DK-5000-14-01 will not result in significant impacts to the human and natural environment; therefore, an environmental impact statement will not be prepared. A complete description and analysis of the project's anticipated environmental impacts is contained in the SEA.

***Reclamation defines significance relative to context and intensity in accordance with CEQ Regulations, 40 CFR 1508.27.***

The reasons for the FONSI determination are summarized as follows:

1. All requirements of the National Environmental Policy Act have been met, including public involvement and coordination with Federal, State, and local agencies.
2. The planned use of directional boring as the preferred method for crossing rivers, streams, and wetlands will significantly reduce, and in most cases eliminate, disturbance or damage to these habitats.
3. No threatened or endangered species or designated critical habitat will be adversely affected by the proposed action.
4. Potential impacts that cannot be eliminated by avoidance measures will be minimized or offset by implementation of the environmental commitments to render effects insignificant and discountable.
5. All stipulations of the National Historic Preservation Act and other applicable Federal laws, regulations, and guidelines concerning cultural resources will be satisfied prior to construction. Avoidance measures have been incorporated into the project's design to reduce or eliminate impacts to historic properties.
6. The project area will not impact any potential Indian Trust Asset (legal interests in property or resources held in trust by the United States for Indian Tribes or individuals because of their status as Native Americans).
7. All applicable Federal and State environmental laws, regulations, and executive orders will be adhered to.

8. Reclamation is including a list of environmental commitments as part of the proposed action to be implemented in order to (a) prevent, minimize, or offset the occurrence of potential adverse environmental effects and (b) ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

## Environmental Mitigation Commitments of the Community Alternative

This section presents environmental commitments which have been developed in consultation with Federal and State agencies, the Tribes, and public through construction and responses to scoping over the last decade of rural water system development in North Dakota by Reclamation and the project sponsor. These commitments are included as an inseparable component of this Proposed Action and are designed to offset potential for significant environmental effects resulting from the Proposed Action.

As sponsor of the SWPP WTP Project, State Water Commission's Southwest Water Authority will be responsible for complying with these commitments. Should this project be constructed, Reclamation will ensure that these commitments are implemented and followed prior to and/or during construction of the Project. Appropriate environmental commitments will be incorporated into the designs and construction contracts and specifications of the pipeline project.

An Interagency Environmental Review Team, with appropriate agency representation, would be assembled to review environmental compliance in the field, as needed.

These environmental commitments will be implemented to (1) prevent, minimize, or offset the occurrence of potential for adverse environmental effects and (2) ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

<b>To Minimize impacts to surface waters and wetlands</b>
Contractors will be required to make at least two boring attempts before using an alternative stream or river crossing method.
When pipeline construction through a wetland basin is unavoidable existing basin contours will be restored and trenches will be sufficiently compacted to prevent any drainage along the trench or through bottom seepage.
Project proponent and contractor will be responsible to comply with Section 404 of the Clean Water Act and avoid permanent impacts to isolated wetlands to the extent practicable.
For unavoidable impacts to wetland habitats credit for equal value or environmental equivalent: (a) would be applied toward the impact and deducted from Reclamation's Mitigation Enhancement Ledger (MEL) <sup>1</sup> <b>or</b> (b) the Project proponent may develop separate acceptable mitigation.
Intermittent streams will be crossed only during low-flow periods and preferably when the streambeds are dry.

<sup>1</sup> Reclamation has credits for created and restored wetlands in the (MEL) that can be used to mitigate impacts to wetlands. The Garrison Diversion Unit (GDU) Mitigation and Enhancement Ledger (MEL) was developed according to the 1985 memorandum of understanding between Reclamation, the U.S. Fish and Wildlife Service (Service), and the North Dakota Game and Fish Department regarding the establishment of mitigation and enhancement debits and credits for wildlife purposes. The MEL documents GDU project impacts, mitigation requirements, and concurrence for planning purposes and for review by other agencies and the public. Projected impacts listed were first presented in the GDU Commission Report. The GDU Reformulation Act of 1986 resulted in the adjustment of the projected impacts to reflect modifications to the project. Impacts to date reflect modifications to the project.

### To Minimize impacts to surface waters and wetlands - continued

Woody species including those bordering wetlands, shelterbelts, riparian woodlands, woody draws, or woodland vegetation will be avoided to the extent possible. For unavoidable impacts to woody habitats credit for equal value or environmental equivalent:

(a) would be applied toward the impact and deducted from Reclamation's Mitigation Enhancement Ledger (MEL)(see earlier)

or

(b) the Project proponent may develop separate acceptable mitigation.

Native prairie will be avoided to the extent possible. However, if native prairie sod is broken during pipeline construction, existing topsoil will be carefully salvaged and replanted with native grasses in a timely manner, with a seed mix recommended by the local National Resources Conservation Service (NRCS) and approved by the landowner.

### To Minimize Impacts to fish and wildlife species and their habitats

To the extent possible, construction will avoid:

- Wetlands
- Federal, State, and Local wildlife areas and refuges
- Designated critical habitats
- Migratory bird habitats during the nesting brood rearing season

Construction around wildlife habitats will be timed to avoid migratory bird nesting and wildlife parturition dates.

- Avoid work around wetlands April 1 – July 15
- Avoid work in Class II or higher waters (fisheries – confirm with ND Game and Fish Department) April 15 – June 1, or directionally bore. (ND Century Code: CHAPTER 33-16-02.1 STANDARDS OF QUALITY FOR WATERS OF THE STATE)

Project power lines will be:

a) Buried (Service 2010a) to minimize electrocution hazards to raptors and minimize impacts to all birds, bats, and particularly benefit whooping cranes. Use Suggested Practices for Avian Protection on Power Lines - The State of the Art in 2006, Avian Power Line Interaction Committee, Edison Electric Institute, Raptor Research Foundation, Washington, D.C., or similar standards will be used.

<http://www.eei.org/ourissues/TheEnvironment/Land/Documents/AvianProtectionPlanGuidelines.pdf>

(see pages 30 through 42)

or

b) any new, above ground power lines and an additional equal length of existing power lines in the same vicinity must be marked with visibility enhancement devices to benefit migrating whooping cranes as well as all migratory birds and bats.

Project sponsor and contractor are responsible for compliance with the Migratory Bird Treaty Act. Pipeline segment construction will be selected to minimize potential for environmental impacts to nesting migratory birds.

Construction within 660 feet of visible nesting bald eagles will be avoided from February through August.

To minimize impacts to fisheries resources any stream identified as a fishery (confer with ND Game and Fish Department) that cannot be directionally bored will be avoided from April 15 to June 1 and crossed later in the summer or fall when flows are low or the stream is dry.

Project proponent will coordinate with the Service's (USFWS) appropriate Refuges and Wetland Management Districts and provide the latest-map version of the pipeline delivery system to avoid impacts to Service lands, including wetland and grassland easements, national wildlife refuges (NWR), waterfowl production areas or other Service lands interface, allowing for identification of an avoidance route for the contractor.

If threatened or endangered species are identified and encountered during construction, all ground-disturbing activities in the immediate area will be stopped until Reclamation can consult with the Service to determine appropriate steps to avoid impacting the species.

Pipeline construction work is prohibited within ½ mile of designated critical habitat during the piping plover and Least tern breeding season (April 15 through August 31) when birds are present.

### **To Minimize Impacts to fish and wildlife species and their habitats - continued**

If forested habitat is identified prior to construction activities the Impact Mitigation Assessment team would determine if bat surveys are required. If any tree (with a diameter of greater than 3 inches) removal activities cannot be avoided between April and September, then northern long-eared bat surveys would be conducted to confirm absence of the species. If any suitable roost sites, possible hibernacula, or the species are observed during the onsite meeting, then any steps taken to avoid and minimize disturbance of this habitat would be documented.

### **Miscellaneous Commitments**

Valve boxes will be left above grade in cultivated fields if agreeable to the landowner, or moved to the nearest fence or right-of-way. Valves will not be located adjacent to or in close proximity to a paved or graveled road and will be painted a neutral color that blends with the background, reduces visibility, and maintains the view-shed.

Established ground water monitoring wells will be avoided. However, if any monitoring wells are inadvertently damaged or impacted during project construction, the Water Appropriation Division of the North Dakota State Water Commission will be contacted.

If established survey bench marks must be removed or should any monuments be dislodged or damaged during construction, the National Geodetic Survey (Attn: N/CG 162, Rockville, Maryland 20852) will be contacted.

No above ground structures that will interfere with the above ground movement of floodwaters will be placed in the flood plain.

Prior to beginning construction through Conservation Reserve Program lands, program or private wetlands, the project proponents will consult with:

- (a) respective landowners, NRCS, U.S. Department of Agriculture Farm Services Agency to ensure that landowner eligibility in farm subsidy programs (if applicable) will not be jeopardized by project actions and
- (b) ensure that Swampbuster requirements will not be violated by construction activities.

The Project proponent will use project funds to reimburse landowners for crop damage and hay loss caused by construction.

Reclamation will complete and submit a Farmland Conversion Form (AD-1006) to the NRCS in compliance with the Farmland Protection Policy Act.

### **Construction Practices**

Comply with all appropriate Federal, State, and Local laws.

Follow recommended practices for construction, restoration, and maintenance.

Maintain in-stream flows during stream crossing construction.

Use the shortest practicable alignment to minimize disturbance in crossing streams.

Spoil, debris piling, construction materials, and any other obstructions will be removed from stream crossings to preserve normal water flow.

Erosion control measures will be employed as appropriate and at stream crossings at all times:

- (a) Care will be exercised to preserve existing trees along the streambank.
- (b) Stabilization, erosion controls, restoration, and re-vegetation of all streambeds and embankments will be performed as soon as a stream crossing is completed and maintained until stable.
- (c) Riparian woody shrubs and trees will be replanted where and as necessary to preserve the shading characteristics of the watercourse and the aesthetic nature of the streambank.

Dump grounds, trash piles, and potential hazardous waste sites will be avoided.

All construction waste materials and excess or unneeded fill associated with construction will be disposed of on uplands, non-wetland areas.

Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities. Any complaints that may arise will be dealt with in a timely and effective manner.

New pipeline, to the extent possible, will be placed just outside and parallel to the rights

### **To Avoid impacts to Historic Properties and Culturally Sensitive Areas**

All cultural resource investigations will be performed according to the procedures specified in the programmatic agreement among Reclamation, the SHPO, and the Advisory Council on Historic Preservation for Reclamation activities in North Dakota. Cultural resource inventories will be performed under the direction of an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9). All appropriate cultural resource activities will be completed prior to the commencement of ground-disturbing activities, including Class I and Class III surveys and consultation with the SHPO. All cultural resources, except those exempted in the programmatic agreement, will be avoided if their significance cannot be established prior to disturbance. If avoidance is not practicable, Reclamation, in consultation with the SHPO would determine if the site is eligible for nomination to the National Register of Historic Places [36CFR800.4(c) and 36CFR60.4]. If the site is eligible as a historic property, initially Reclamation, SHPO, and other interested parties, depending on the type of property, will consult to determine a plan of mitigation. If an adverse effect cannot be avoided, the Advisory Council on Historic Preservation will be contacted. All ensuing activities will comply with the NHPA, as amended, and the Archaeological Resource Protection Act.

The Tribes will be consulted concerning the locations of unmarked burials or cemeteries. All such burials or cemeteries will be avoided to the extent possible. If a burial or cemetery cannot be avoided or is encountered during construction, Reclamation will comply with the Native American Graves Protection and Repatriation Act if graves are discovered on Federal or trust lands or within reservation boundaries. Reclamation will comply with North Dakota Century Code 23-06-27: "Protection of Human Burial Sites, Human Remains, and Burial Goods" for graves on private or State-owned lands.

If unrecorded cultural resources or traditional cultural properties are encountered during construction, all ground disturbance activity within the area will be stopped, Reclamation and appropriate authorities will be notified, and all applicable stipulations of the NHPA will be followed. Activities in the area will resume only when compliance has been completed.

### **To Minimize impacts to Paleontological Resources**

All previously recorded paleontological resources and paleontologically sensitive zones within the path of the proposed action will be inspected in the field by a qualified paleontologist. Avoidance measures will be developed to avoid significant resources.

Reclamation will consult with North Dakota Geological Survey to identify areas for paleontological survey where significant fossils are likely. Paleontological surveys will be completed prior to construction. Based upon survey data, Reclamation will consult with a qualified paleontologist about revising routes to avoid damaging significant fossil locations.

## **Future Modifications and Changes to the System**

Reclamation is not authorized to fund maintenance of GDU Grant, State MRI systems. Additions, extensions, or extraordinary maintenance to completed systems would be addressed through additional NEPA and NHPA compliance on a case by case basis if federal Reclamation funds be used.

# RECLAMATION

*Managing Water in the West*

DK-5000-14-01

## **Final Supplemental Environmental Assessment**

**for**

**Partial Funding of Design and Construction of an Expansion  
Water Treatment Plant in the City of Dickinson, North Dakota  
and Associated Water Transmission Facilities in Southwest  
North Dakota**

Dakotas Area Office  
Bismarck, North Dakota



February 2015

U.S. Department of the Interior  
Bureau of Reclamation

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## **Mission Statements**

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# **Final Supplemental Environmental Assessment**

**for**

**Partial Funding of Design and Construction of an Expansion Water  
Treatment Plant in the City of Dickinson, North Dakota and Associated  
Water Transmission Facilities in Southwest North Dakota**

**SOUTHWEST PIPELINE PROJECT**

**NO. DK-5000-14-01**

**Dakotas Area Office  
Bismarck, North Dakota**



FEBRUARY 2015

**U.S. Department of the Interior  
Bureau of Reclamation**

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION  
DAKOTAS AREA OFFICE  
BISMARCK, NORTH DAKOTA

FINAL  
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

FOR

Partial Funding of Design and Construction of an Expansion Water Treatment  
Plant in the City of Dickinson, North Dakota and Associated Water Transmission  
Facilities in Southwest North Dakota

SOUTHWEST PIPELINE PROJECT

NO. DK-5000-14-01

Recommended:



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Dakotas Area Office

Date: 13 Feb 2015

Concur:



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Dakotas Area Office

Date: 13 Feb 2015

Approved:



David Rosenkrance  
Area Manager  
Dakotas Area Office

Date: 18 Feb 2015

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# List of Acronyms and Definitions

**Action Area** - All areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (i.e. Logan and McIntosh Counties and appropriate surrounding area in Emmons County).

**Affected Area** - also area affected, under NEPA analysis, Logan, McIntosh, and Stutsman Counties (in the vicinity of Streater) represent the affected area.

**BMPs** - Best Management Practices

**Corps** - U.S. Army Corps of Engineers

**Critical Habitat** - It is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection.

**Connected Actions** - Connected actions are those actions that are “closely related” to the proposal and alternatives. Connected actions automatically trigger other actions, they cannot or will not proceed unless other actions have been taken previously or simultaneously, or they are interdependent parts of a larger action and depend on the larger action for their justification.- 40 CFR Part 1508.25

**Constituent Elements** - where those physical and biological features of a landscape that a species needs to survive and reproduce, are present

**EA** – Environmental Assessment

**EIS** - Environmental Impact Statement

**Environmental Mitigation Commitments** - These are commitments included as an inseparable component of this Proposed Action. They are designed to offset potential for significant environmental effects resulting from the Proposed Action. These commitments will be implemented to (1) prevent, minimize, or offset the occurrence of potential for adverse environmental effects and (2) ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

**ES** - U.S. Fish and Wildlife Service, Ecological Services Office

**ESA** - Endangered Species Act of 1973

**FONSI** - Finding of No Significant Impact, the decision document that concludes an EA

**Garrison Diversion** - Garrison Diversion Conservancy District

**GDU** - Garrison Diversion Unit

**GDGD** - Garrison Diversion Conservancy District

**MR&I** - Municipal Rural and Industrial (water supply)

**MTL** - Main Transmission Line

**NDDH** - North Dakota Department of Health

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**NEPA** - National Environmental Policy Act of 1969 as amended

**NHPA** - National Historic Preservation Act of 1966 as amended

**NRCS** - U.S. Department of Agriculture, Natural Resources Conservation Service

**O, M & R** - Operation, Maintenance & Replacement

**Primary Constituent Elements** - Primary constituent elements are those physical and biological features of a landscape that a species needs to survive and reproduce.

**Project** - The subject of this SEA, SWPP Dickinson Expansion Water Treatment Plant and Main Transmission Line Improvements including 2 water storage reservoirs.

**Reclamation** - U.S. Department of the Interior, Bureau of Reclamation

**Refuges** - U.S. Fish and Wildlife Service, National Wildlife Refuges

**ROW** - Public transportation road right of way.

**SDWA** - Safe Drinking Water Act.

**Service** - U.S. Department of the Interior, U.S. Fish and Wildlife Service

**SEA** – Supplemental Environmental Assessment

**SWA** - Southwest Water Authority

**SWC** - North Dakota State Water Commission

**SWPP** – Southwest Pipeline Project

**The Project** - The subject of this SEA, SWPP Dickinson Expansion Water Treatment Plant and Main Transmission Line Improvements including 2 water storage reservoirs and 31 miles of 30" pipe.

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# Chapter 1 - Introduction and Background

This document is a Supplemental Environmental Assessment to the Southwest Pipeline Project EA. Reclamation has participated in various ways in the construction of the SWPP since the mid 1980's, including the preparation of environmental documents. State Water Commission has requested to use congressionally authorized Garrison Diversion Unit Grant funding for part of the costs of this project.

In a collaborative effort with Garrison Diversion Conservancy District (Garrison Diversion), the instrumentality of the State of North Dakota, North Dakota State Water Commission (SWC), the Southwest Water Authority (SWA) and Bureau of Reclamation have proposed to partially fund design and construction of an expansion water treatment plant (WTP) in the City of Dickinson, North Dakota and associated water transmission facilities to serve the expanding population in Southwest North Dakota. An expansion WTP would ultimately replace the existing 60 year old WTP that serves much of the southwest portion of the state. The Proposed Project includes construction of five pipe segments totaling 31 miles of additional Main Transmission Line (depicted in red in **Figure 1**) that would run parallel to the existing SWPP Main Transmission Line within 100 yards or within the existing right of way easement if space is available. This additional pipe and two storage reservoirs are necessitated by the projected demand that exceeds the existing MTL capabilities of the system. Proposed pipelines, storage tanks, and pumping facilities are clearly depicted in **Figure 1**.

Demand for potable water, primarily in response to population expansion including the effects of Bakken oil play, has increased beyond the capabilities of the nearly 60 year old WTP. Bartlett & West and AECOM (2013) combined estimates by Bureau of Census and State of North Dakota to develop projected need. To meet this projected demand of 2038 Southwest Pipeline Project (SWPP) needs a WTP with the capacity to produce at least 18 million gallons per day (mgd) of potable water or 6 million gallons per day (mgd) greater than current capacity when under peak demand. In order to achieve the 18 mgd capacity the existing SWPP raw water transmission facilities (main transmission lines or MTL) will also require expansion.

Historically, Dickinson's raw water source for treatment was Reclamation's Patterson Reservoir. However, since October 1991 SWPP project has delivered Lake Sakakawea water to the Dickinson WTP. In response to the change in raw water source the WTP has received numerous modifications in order to better treat Missouri River water. The existing Dickinson Water Treatment Plant provides treated water to the SWPP and the City of Dickinson and points west and south. The Dickinson WTP was originally designed only to serve the Dickinson and immediate surrounding area but the system has experienced dramatic expansion. SWPP, in full service, is designed to deliver treated water to 33 cities with public water systems, individual residents located within village communities without public water supply systems, numerous bulk customers, and approximately 4,900 rural water users in southwestern North Dakota.

Southwest Pipeline Project Lake Sakakawea raw water source is permitted by the State Water Commission Permit to SWPP (Permit No. 3688; <http://www.swc.state.nd.us/4dlink7/4dcgi/GetPermit/Map%20and%20Data%20Resources/48509-32.3593> [last visited December 10, 2014]) is currently for 17,100 acre feet of water annually.

Maximum annual diversion by SWPP was 4,166 acre-feet as recently as 2010 (State Water Commission Water Permit Database). By 2012 the Zap WTP came on line and water use in 2013 was recorded as 6,128 acre feet. The need for the project is based on projections for domestic water demand to meet the estimated population projections for the Dickinson area that would require a peak capacity to treat 18 mgd by year 2038 (Bartlett & West and AECOM 2014) an increase of 6mgd beyond current peak production capacity of 12 mgd or approximately 2,500 acre feet per year in excess of current use by the year 2038 the project target date.

## Project Area

The project planning area which lies within the Northwestern Great Plains ecoregion (<http://www.npwrc.usgs.gov/resource/habitat/ndsdeco/43b.htm>) includes the city of Dickinson, those areas of southwest North Dakota served by the Dickinson WTP through the SWPP and several outlying areas where supporting transmission facilities would be constructed including Richardton where an additional storage tank would be constructed adjacent to or near the existing tank and several areas of the existing transmission pipeline where parallel pipe would be up-sized within the existing project easement right-of-way to increase the transmission capacity for the new WTP (**Figure 1**).

The area is primarily classified as *Missouri Plateau* and *Little Missouri Badlands* (<http://www.npwrc.usgs.gov/resource/habitat/ndsdeco/43a.htm> and <http://www.npwrc.usgs.gov/resource/habitat/ndsdeco/43b.htm> –accessed 12/10/2014). The *Missouri Plateau* is commonly semiarid undulating shale and sandstone dotted by the occasional butte, a very open landscape. The grasslands of this southwestern corner have been replaced by dryland farms of wheat or forage crops such as alfalfa. Climate is frigid with a mean 95-130 frost free days. Mean high temperatures are 21°F in January and 83°F in August. Low temps range from -3°F to 55°F for the same months. Limited annual precipitation ranges from 15-17 inches. The *Little Missouri Badlands* reflect a more broken and steep topography and more irregular precipitation pattern. Farming is very limited in this more western reach where cattle ranching and different forms of recreation represent the land use. More of the frigid climate, where frost free days range from 110-120 and mean high temperatures range from 24°F in January to 85°F in July. Lows range from 1°F to 56°F for the same months. Again limited annual precipitation ranges from 14-16 inches per year. The southwestern region of North Dakota was unglaciated.

The entire SWPP project lies west of the Missouri River starting at Renner Bay on Lake Sakakawea (**Figure 1**). Dickinson, where the new WTP would be constructed, lies just south and east of the Killdeer Mountains. Ranches are sparsely dispersed throughout the area and communities other than Dickinson itself are relatively small rural populations separated by considerable distances.

Construction of the expansion WTP would assure availability of water that is of reliable quality and quantity that meets Safe Drinking Water Act standards for the southwest corner of North Dakota Project area residents and the growing community of Dickinson.

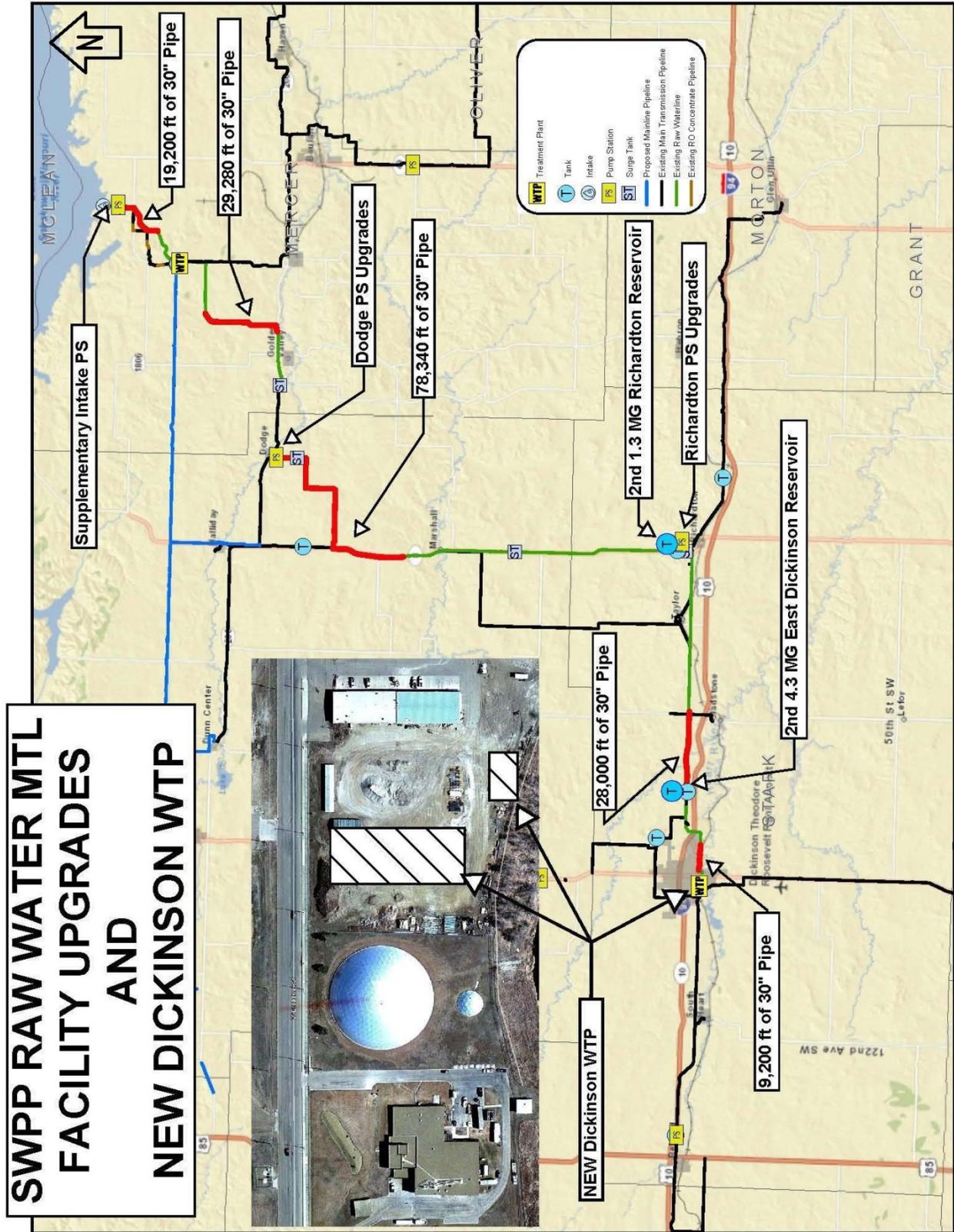


Figure 1. Depiction of New Dickinson Water Treatment Plant Location and Five Associated Main Transmission Line (MTL) Upgrade Segments (red) Including 2 New Storage Tanks. The small 'T' round blue symbols represent existing tanks.

## **Authority**

Congress authorized the Southwest Pipeline Project in the Garrison Reformulation Act of 1986 and again through the Dakota Water Resources Act of 2000. If constructed, the Dickinson Water Treatment Project would be funded through the Garrison Diversion Unit MR&I Grant Program (as amended and authorized by the Dakota Water Resources Act, P.L. 106-554) which receives Federal monies transferred through Reclamation . The funds are administered by the SWC through the Garrison Diversion Conservancy District. The SWPP's Dickinson Water Treatment Plant project is sponsored by the SWA and SWC. SWC would be responsible for project design, construction, and compliance with the environmental commitments. Reclamation will not fund Operation and Maintenance of the project. Ultimately, SWA will serve as the owner, operator, and manager of the completed system and thus responsible for operations and maintenance.

## **National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) Process**

Since federal funds include GDU grant funds and would be transferred through Reclamation to the State of North Dakota, Reclamation serves as the lead federal agency with responsibility for environmental compliance including the NEPA. This supplemental environmental assessment (SEA) is being prepared in compliance with NEPA and is a supplement to the original Southwest Pipeline Project EA completed for the project in the 1980's and supplements completed for additional service areas. Reclamation has conducted previous NEPA relative to the SWPP. These include the original EA for SWPP (1989A), Addendum to the EA for SWPP (1989B), EA for the SWPP Medora-Beach Service Area (Reclamation 2003), the EA for the Oliver, Mercer, and North Dunn Counties Service Area of the SWPP (Reclamation 2009 A) currently under construction, the EA for the SWPP, Medora-Beach Phase-3 Project - In the Fairfield, Grassy Butte, And Killdeer Mountains Service Area (Reclamation 2009 B), and a Categorical Exclusion Checklist for Minor Construction of a Supplemental Intake and Geologic Testing at Renner Bay to Serve the Southwest Pipeline Project(Reclamation 2012), and All of these actions were also partially funded by Reclamation grant monies through Garrison Diversion.

Alternative or additional funding sources may include but are not limited to the following programs:

- (a) Department of Agriculture, Rural Utilities Service;
- (b) Environmental Protection Agency - Drinking Water State Revolving Fund;
- (c) State of North Dakota Garrison Diversion MR&I Water Program; and/or
- (d) State of North Dakota Safe Drinking Water Revolving Fund.
- (e) State of North Dakota General Fund

Because the Project would be partially funded with Federal funds, project proponents must comply with Federal laws and regulations concerning cultural resources. Compliance activities associated with Section 106 of the NHPA of 1966, as amended, follow Reclamation's MR&I grant program, which is administered in accordance with stipulation III(C) of the Programmatic Agreement between Reclamation, the Advisory Council on Historic Preservation, and the North Dakota State Historic Preservation Officer (SHPO). As with NEPA, Reclamation is the lead Federal agency under the terms of this agreement for compliance with NHPA. This agreement fulfills the agency's Section 106 responsibilities for the proposed action. The agreement specifies that information exchanged will be agreed upon in consultation with the Tribes, SHPO, Bureau of Indian Affairs as appropriate, and other interested publics.

This Supplemental EA (SEA) may lead to a Finding of No Significant Impact if impacts are found to be insignificant or, if significant environmental impacts are identified, Reclamation may proceed with the preparation of an environmental impact statement. Reclamation defines significance in accordance with 40 CFR 1508.27 in reference to context and intensity. This SEA is being prepared to assist the involved Federal agencies and the responsible official in determining what environmental impacts are likely to occur as a result of proceeding with the construction of the Dickinson Water Treatment Plant and Main Transmission Line Upgrade project.

## **Purpose And Need For The Action**

The purpose of the proposed action, to partially fund design and construction of an expansion WTP at Dickinson and the associated supporting Main Transmission Line facilities and providing a sustainable and sufficient water supply to southwest North Dakota residents and subscribers to the SWPP through the year 2038. This water supply must be in compliance with the Safe Drinking Water Act- (SDWA). For purposes of this Supplemental EA, acceptable quality means water that complies with the primary water quality standards adopted under the SDWA. The SWC desires that as many citizens of the State of North Dakota be served with a reliable source of SDWA quality water as possible (Jeffrey Mattern, SWC, pers. comm.).

According to B&W and AECOM (2013) need for the project is directly driven by the population expansion in the Dickinson area as a result of the Bakken and Three Forks Oil Shale play in the Williston Basin which is expected to continue to change the landscape. The increase in domestic and commercial and industrial water demand have resulted in limited water conservation restrictions due to the aging water treatment facility's production capability limits.

Bartlett & West and AECOM (2013) reported that some developers in the oil industry have predicted the expansion phase for drilling could last another decade. Even if this represents speculation the product is there and exploitation is limited by the going price per barrel of oil. Since Dickinson is located directly adjacent to the oil fields it has been the logical place for oil workers' families to settle resulting in a significant increase in the population. With population and demand for industrial water uses growing simultaneously and a WTP nearing its useful potential, demand is reaching the plants treatment capabilities. With the predicted continued increase in potable water demand the system could exceed daily treatment needs by 6mgd by the year 2038 which is now less than 25 years away. Additional treatment capacity is essential to meeting the growing demand for potable water and additional raw water from Lake Sakakawea must be delivered to Dickinson in order that it may be treated.

# Chapter 2 – Proposed Action and Alternatives Considered

## Proposed Action – the Preferred and Community Alternative

The Proposed Action, which is Reclamation’s preferred and Community alternative is to partially fund design and construction of an expansion WTP at Dickinson and modifications to approximately 31 miles of the MTL and two storage facilities with associated pumps. The project sponsors’ (SWA and SWC) engineers calculated a completed construction cost of \$100 million primarily funded through means other than Reclamation’s MRI Grant funds.

The project would include:

- a) Construct a 6 mgd water treatment plant (WTP) at the site adjacent to Dickinson’s existing 12 mgd WTP capable of future expansion to a full 18 mgd.
- b) Construct raw water transmission line and pump station upgrades.
  - a. Construct approximately 31 miles of 30” main transmission line upgrades adjacent to and within 100 yards of the existing line and three associated pumping stations.
- c) Construct an additional 1.3 mg water storage tank adjacent to or near the existing Richardton tank on a 1 acre plot (to be obtained) and a 4.3 mg storage tank adjacent to the existing Dickinson storage tank on a 5.1 acre site east of Dickinson.
- d) The project would be constructed according to the Environmental Mitigation Commitments as described in the Preferred Action Alternative.

Reclamation’s Grant MRI program was authorized by Congress. Project decisions are up to the project sponsors. Alternatives are identified by the sponsors and ultimately the community alternative is identified and pursued. Therefore the only alternatives available to the deciding official are to select the preferred community alternative or the no action alternatives. The impacts for these alternatives are often similar and sometimes difficult to differentiate. This is due to the fact that under the No Action alternative there are numerous other federal and state grant programs available for funding. This SEA will describe the impacts of constructing the water treatment plant, pipeline, and storage tanks to the human and natural environment in comparison with the impacts of the No Action Alternative.

## Environmental Mitigation Commitments of the Community Alternative

This section presents environmental commitments which have been developed in consultation with Federal and State agencies, the Tribes, and public through construction and responses to scoping over the last decade of rural water system development in North Dakota by Reclamation and the project sponsor. These commitments are included as an inseparable component of this Proposed Action and are designed to offset potential for significant environmental effects resulting from the Proposed Action.

As sponsor of the SWPP WTP Project, State Water Commission's Southwest Water Authority will be responsible for complying with these commitments. Should this project be constructed, Reclamation will ensure that these commitments are implemented and followed prior to and/or during construction of the Project. Appropriate environmental commitments will be incorporated into the designs and construction contracts and specifications of the pipeline project.

An Interagency Environmental Review Team, with appropriate agency representation, would be assembled to review environmental compliance in the field, as needed.

These environmental commitments will be implemented to (1) prevent, minimize, or offset the occurrence of potential for adverse environmental effects and (2) ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

<b>To Minimize impacts to surface waters and wetlands</b>
Contractors will be required to make at least two boring attempts before using an alternative stream or river crossing method.
When pipeline construction through a wetland basin is unavoidable existing basin contours will be restored and trenches will be sufficiently compacted to prevent any drainage along the trench or through bottom seepage.
Project proponent and contractor will be responsible to comply with Section 404 of the Clean Water Act and avoid permanent impacts to isolated wetlands to the extent practicable.
For unavoidable impacts to wetland habitats credit for equal value or environmental equivalent: (a) would be applied toward the impact and deducted from Reclamation's Mitigation Enhancement Ledger (MEL) <sup>1</sup> <b>or</b> (b) the Project proponent may develop separate acceptable mitigation.
Intermittent streams will be crossed only during low-flow periods and preferably when the streambeds are dry.

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<sup>1</sup> Reclamation has credits for created and restored wetlands in the (MEL) that can be used to mitigate impacts to wetlands. The Garrison Diversion Unit (GDU) Mitigation and Enhancement Ledger (MEL) was developed according to the 1985 memorandum of understanding between Reclamation, the U.S. Fish and Wildlife Service (Service), and the North Dakota Game and Fish Department regarding the establishment of mitigation and enhancement debits and credits for wildlife purposes. The MEL documents GDU project impacts, mitigation requirements, and concurrence for planning purposes and for review by other agencies and the public. Projected impacts listed were first presented in the GDU Commission Report. The GDU Reformulation Act of 1986 resulted in the adjustment of the projected impacts to reflect modifications to the project. Impacts to date reflect modifications to the project.

### To Minimize impacts to surface waters and wetlands - continued

Woody species including those bordering wetlands, shelterbelts, riparian woodlands, woody draws, or woodland vegetation will be avoided to the extent possible. For unavoidable impacts to woody habitats credit for equal value or environmental equivalent:

- (a) would be applied toward the impact and deducted from Reclamation's Mitigation Enhancement Ledger (MEL)(see earlier)

or

- (b) the Project proponent may develop separate acceptable mitigation.

Native prairie will be avoided to the extent possible. However, if native prairie sod is broken during pipeline construction, existing topsoil will be carefully salvaged and replanted with native grasses in a timely manner, with a seed mix recommended by the local National Resources Conservation Service (NRCS) and approved by the landowner.

### To Minimize Impacts to fish and wildlife species and their habitats

To the extent possible, construction will avoid:

- Wetlands
- Federal, State, and Local wildlife areas and refuges
- Designated critical habitats
- Migratory bird habitats during the nesting brood rearing season

Construction around wildlife habitats will be timed to avoid migratory bird nesting and wildlife parturition dates.

- Avoid work around wetlands April 1 – July 15
- Avoid work in Class II or higher waters (fisheries – confirm with ND Game and Fish Department) April 15 – June 1, or directionally bore. (ND Century Code: CHAPTER 33-16-02.1 STANDARDS OF QUALITY FOR WATERS OF THE STATE)

Project power lines will be:

- a) Buried (Service 2010a) to minimize electrocution hazards to raptors and minimize impacts to all birds, bats, and particularly benefit whooping cranes. Use Suggested Practices for Avian Protection on Power Lines - The State of the Art in 2006, Avian Power Line Interaction Committee, Edison Electric Institute, Raptor Research Foundation, Washington, D.C., or similar standards will be used.

<http://www.eei.org/ourissues/TheEnvironment/Land/Documents/AvianProtectionPlanGuidelines.pdf>

(see pages 30 through 42)

or

- b) any new, above ground power lines and an additional equal length of existing power lines in the same vicinity must be marked with visibility enhancement devices to benefit migrating whooping cranes as well as all migratory birds and bats.

Project sponsor and contractor are responsible for compliance with the Migratory Bird Treaty Act. Pipeline segment construction will be selected to minimize potential for environmental impacts to nesting migratory birds.

Construction within 660 feet of visible nesting bald eagles will be avoided from February through August.

To minimize impacts to fisheries resources any stream identified as a fishery (confer with ND Game and Fish Department) that cannot be directionally bored will be avoided from April 15 to June 1 and crossed later in the summer or fall when flows are low or the stream is dry.

Project proponent will coordinate with the Service's (USFWS) appropriate Refuges and Wetland Management Districts and provide the latest-map version of the pipeline delivery system to avoid impacts to Service lands, including wetland and grassland easements, national wildlife refuges (NWR), waterfowl production areas or other Service lands interface, allowing for identification of an avoidance route for the contractor.

If threatened or endangered species are identified and encountered during construction, all ground-disturbing activities in the immediate area will be stopped until Reclamation can consult with the Service to determine appropriate steps to avoid impacting the species.

Pipeline construction work is prohibited within ½ mile of designated critical habitat during the piping plover breeding season (April 15 through August 31) when piping plovers are present.

### **To Minimize Impacts to fish and wildlife species and their habitats - continued**

If forested habitat or potential bat inhabited structures are identified prior to or during construction activities an Impact Mitigation Assessment team would determine if bat surveys are required. If any tree (with a diameter of greater than 3 inches) removal activities cannot be avoided between April and September, then northern long-eared bat surveys would be conducted to confirm absence of the species. If any suitable roost sites, possible hibernacula, or the species are observed during the onsite meeting, then any steps taken to avoid and minimize disturbance of this habitat would be documented.

### **Miscellaneous Commitments**

Valve boxes will be left above grade in cultivated fields if agreeable to the landowner, or moved to the nearest fence or right-of-way. Valves will not be located adjacent to or in close proximity to a paved or graveled road and will be painted a neutral color that blends with the background, reduces visibility, and maintains the view-shed.

Established ground water monitoring wells will be avoided. However, if any monitoring wells are inadvertently damaged or impacted during project construction, the Water Appropriation Division of the North Dakota State Water Commission will be contacted.

If established survey bench marks must be removed or should any monuments be dislodged or damaged during construction, the National Geodetic Survey (Attn: N/CG 162, Rockville, Maryland 20852) will be contacted.

No above ground structures that will interfere with the above ground movement of floodwaters will be placed in the flood plain.

Prior to beginning construction through Conservation Reserve Program lands, program or private wetlands, the project proponents will consult with:

- (a) respective landowners, NRCS, U.S. Department of Agriculture Farm Services Agency to ensure that landowner eligibility in farm subsidy programs (if applicable) will not be jeopardized by project actions and
- (b) ensure that Swampbuster requirements will not be violated by construction activities.

The Project proponent will use project funds to reimburse landowners for crop damage and hay loss caused by construction.

Reclamation will complete and submit a Farmland Conversion Form (AD-1006) to the NRCS in compliance with the Farmland Protection Policy Act.

### **Construction Practices**

Comply with all appropriate Federal, State, and Local laws.

Follow recommended practices for construction, restoration, and maintenance.

Maintain in-stream flows during stream crossing construction.

Use the shortest practicable alignment to minimize disturbance in crossing streams.

Spoil, debris piling, construction materials, and any other obstructions will be removed from stream crossings to preserve normal water flow.

Erosion control measures will be employed as appropriate and at stream crossings at all times:

- (a) Care will be exercised to preserve existing trees along the streambank.
- (b) Stabilization, erosion controls, restoration, and re-vegetation of all streambeds and embankments will be performed as soon as a stream crossing is completed and maintained until stable.
- (c) Riparian woody shrubs and trees will be replanted where and as necessary to preserve the shading characteristics of the watercourse and the aesthetic nature of the streambank.

Dump grounds, trash piles, and potential hazardous waste sites will be avoided.

All construction waste materials and excess or unneeded fill associated with construction will be disposed of on uplands, non-wetland areas.

Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities. Any complaints that may arise will be dealt with in a timely and effective manner.

New pipeline, to the extent possible, will be placed just outside and parallel to the rights

**To Avoid impacts to Historic Properties and Culturally Sensitive Areas**

All cultural resource investigations will be performed according to the procedures specified in the programmatic agreement among Reclamation, the SHPO, and the Advisory Council on Historic Preservation for Reclamation activities in North Dakota. Cultural resource inventories will be performed under the direction of an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards (48 FR 44738-9). All appropriate cultural resource activities will be completed prior to the commencement of ground-disturbing activities, including Class I and Class III surveys and consultation with the SHPO. All cultural resources, except those exempted in the programmatic agreement, will be avoided if their significance cannot be established prior to disturbance. If avoidance is not practicable, Reclamation, in consultation with the SHPO would determine if the site is eligible for nomination to the National Register of Historic Places [36CFR800.4(c) and 36CFR60.4]. If the site is eligible as a historic property, initially Reclamation, SHPO, and other interested parties, depending on the type of property, will consult to determine a plan of mitigation. If an adverse effect cannot be avoided, the Advisory Council on Historic Preservation will be contacted. All ensuing activities will comply with the NHPA, as amended, and the Archaeological Resource Protection Act.

The Tribes will be consulted concerning the locations of unmarked burials or cemeteries. All such burials or cemeteries will be avoided to the extent possible. If a burial or cemetery cannot be avoided or is encountered during construction, Reclamation will comply with the Native American Graves Protection and Repatriation Act if graves are discovered on Federal or trust lands or within reservation boundaries. Reclamation will comply with North Dakota Century Code 23-06-27: “Protection of Human Burial Sites, Human Remains, and Burial Goods” for graves on private or State-owned lands.

If unrecorded cultural resources or traditional cultural properties are encountered during construction, all ground disturbance activity within the area will be stopped, Reclamation and appropriate authorities will be notified, and all applicable stipulations of the NHPA will be followed. Activities in the area will resume only when compliance has been completed.

**To Minimize impacts to Paleontological Resources**

All previously recorded paleontological resources and paleontologically sensitive zones within the path of the proposed action will be inspected in the field by a qualified paleontologist. Avoidance measures will be developed to avoid significant resources.

Reclamation will consult with North Dakota Geological Survey to identify areas for paleontological survey where significant fossils are likely. Paleontological surveys will be completed prior to construction. Based upon survey data, Reclamation will consult with a qualified paleontologist about revising routes to avoid damaging significant fossil locations.

**No Action Alternative**

The No Action Alternative is defined as the same action as the Preferred Community Alternative minus financial aid of Reclamation’s Federal Garrison Diversion Unit Municipal, Rural & Industrial Grant Program funds. In addition, should the deciding official choose the No Action Alternative, the project proponents SWA and SWC, would not be obligated to follow the environmental mitigation commitments described in the Preferred Alternative established through more than a decade of rural water project development by Reclamation.

The need for additional treated water has been identified by the State Water Commission and SWC has designated the project as their priority to partially fund with GDU MRI Grant fund in order to meet the growing human population of the area served by the Southwest Pipeline Project, Dickinson and Stark County area the project would likely be completed using funding alternatives available through other State and federal grant programs should the GDU MRI Grant funds be withheld.

## **Other Alternatives Considered Prior to Scoping**

**Upgrade the existing Water Treatment Plant or construct new.** State Water Commission funded a study through Bartlett and West/AECOM (2013) to examine four alternatives available to meet the increased water needs of the Dickinson area including rehabilitation of the existing plant and three alternative location projects. The existing plant and site is aged, inadequate to serve an upgraded treatment plant and lacks the necessary water source, operating parts, and electrical systems necessary for a new up to date WTP. Construction of a new plant east of Dickinson or adjacent to the Zap WTP would require additional land purchase, pumping facilities, more storage than the preferred community alternative, and finished water pipelines since the only lines running to Dickinson serve raw water.

## **Future Modifications and Changes to the System**

Reclamation is not authorized to fund maintenance of GDU Grant, State MRI systems.

Operation and maintenance is the responsibility of the project sponsor. Additions, extensions, or extraordinary maintenance to completed systems would be addressed through additional NEPA and NHPA compliance on a case by case basis if Reclamation funds are used.

# Chapter 3 - What Would Be Affected And How Would It Be Affected As A Result of Constructing the Project?

The affected area encompasses the communities, land, water, and air-sheds that might be impacted by the project. The boundaries of the affected area for each resource extend to where effects can be reasonably and meaningfully measured. In light of Reclamation's vetted Environmental Commitments (Chapter 2) and the topics previously addressed in the previous related EA (Bartlett and West 2009, Reclamation 2009a) Reclamation will consider the following resources in this EA, including: Socio-economics, Land Use, Endangered Species and critical habitat, Missouri River Depletions, Climate Change, Environmental Justice, and Indian Trust Assets.

The expansion WTP would provide potable water to the people of the community of Dickinson and those communities south and west of Dickinson that do not have treatment capabilities. The proposed project area is relatively dispersed, characterized primarily by agriculture, existing farms, ranches, temporary and permanent water basins, widely dispersed buildings and home sites, relatively small rural communities and the community of Dickinson, the third largest community in North Dakota.

The Bakken and Three Forks Oil Shale play in the Williston Basin is most responsible for the changes reshaping western North Dakota. The discovery of oil in the Basin in 1951 led to a short lived, low key level of development primarily due to the low success rate of wells drilled (Bartlett & West / AECOM 2013). Horizontal drilling techniques changed the complexion of the oil field. Oil prices surged in the late 1970's into the 1980's creating an economic boom in western North Dakota but prices dropped to near \$20 a barrel in the early 1990's. However, interest surged once again in the early years of the new millennium. Horizontal drilling resulted in high success rate and resultant number of new wells beginning around 2004 (WTRG <http://www.wtrg.com/prices.htm> ). The interest and activity continue today as evidenced at the North Dakota Department of Mineral Resources where active oil drilling rigs are closely monitored. The number of active drill rigs in October 2010 was 156 but in October 2014 there were 192 (<https://www.dmr.nd.gov/oilgas/riglist.asp> ) and back to 156 as of January 26, 2015 . When drill rig numbers climb demand increases for additional employees to man the drill rigs, services required by the drill crews, delivery of supplies and every other aspect of society is impacted by this level of activity including housing needs for those who move their families to surrounding areas. There are housing shortages and demands for goods and services consistent with a growing population with effects reaching as far east as Bismarck and likely even Fargo. Incidental observations of Interstate 94 and 29 traffic and State Highways 83 and 85 reveal a steady stream of incoming truck bearing oil industry equipment and supplies from across the country. Passenger vehicles with license plates can be seen from every corner of the lower forty-eight and even Alaska on North Dakota's highways. Some are transient and some rotate shifts of several weeks in the field and then they return from where they came from as far away as North Carolina for 2 weeks off. But many have relocated on a permanent basis to communities surrounding the oil play and especially the community of Dickinson and rural Stark County.

# Social and Economic Conditions

## Introduction

What are the current social and economic conditions in the Stark County Project area that could be affected by the proposed alternatives?

This section describes the current condition of regional social and economic indicators in the region that would be directly impacted by the alternative actions. Indicators of the social and economic condition within Stark County Project area include population, sectors of economic activity including agriculture and recreation, income, poverty level, labor force, unemployment rate, and educational attainment. The affected area includes Stark County in North Dakota.

### *Dickinson Population and History*

The population of this prairie community was barely 7,000 in 1950. By 1970 the population had bloomed to about 12,000 and by 1990 it leveled off at 16,000 for about a decade. As the latest oil development boom erupted the population has once again expanded to 18,000 in 2010 and the current estimate for 2013 is approximately 21,800 (R. Johnson, pers. comm.)(Roger Johnson, Bureau of Census, Chief Local Govt. Estimates & Migration; Email of September 29, 2014). This current estimate mirrors closely the estimate for Dickinson presented by Bartlett and West/AECOM (2013 page 22). The 2013 population of Stark County North Dakota, as a whole, has surged to 28,212 and is similar to the 28,107 peak of the last oil boom in 1928 as recently reported by Bureau of Census QF-2014. Bartlett and West/AECOM (2013), through analysis, have established a target population year for 2038 for the proposed project. They use a projected 2038 population of approximately 40,000 for Stark County based on a combination of population growth models developed by private consultants, North Dakota State University researchers, Bureau of Census, and oil development models Bartlett and West/AECOM (2013).

### **Methods**

An evaluation of social and economic conditions requires data on current conditions from which the significance of economic impacts can be measured. Data for this SEA were obtained from the U.S. Department of Commerce's Census Bureau, U.S. Department of Agriculture's National Agriculture Statistics Service, and the U.S. Department of Labor's Bureau of Labor Statistics.

### **Existing Condition**

The current condition of the following economic indicators in the Stark County Project area are described in this section: population, sectors of economic activity, agricultural acreage and value of production, recreation expenditures, median household and per capita income, poverty rates, labor force totals, unemployment rates, and educational attainment levels.

### **Population**

The Stark County Project area is rural in nature, with an estimated 2010 county population of 24,199 on the increase to the 2013 estimate of 28,212 (Bureau of Census 2013). The county population has increased by 16.5% over that 3 year period (**Table 3-1**). The 2010 population estimate for City of Dickinson (part of Stark County) was 17,866 and increased to 20,826 during the same time period which represents an increase of the same magnitude as the county overall primarily due to the predominance of the population being located in Dickinson. This compares to population of the state of North Dakota as a whole, which has increased 7.55% over the same period. Stark County's population is growing indicative of an expanding economy which attracts

more population, as well as supports the growing labor supply, which may promote future long-term commercial activity.

**Table 3-1 - Population Estimates for the Stark County, Dickinson Project Area (U.S. Census Bureau, QuickFacts Online at <http://quickfacts.census.gov/qfd/states/38/38089.html> .**

Area	1990	2000	2010	2013 Estimate	Change from 1990 to 2013
State of North Dakota	638,800	642,200	672,591	723,393	13.2%
Stark County	22,800 <sup>a</sup>	22,600 <sup>a</sup>	24,199	28,212	22.6%
Dickinson	16,000 <sup>b</sup>	16,000 <sup>b</sup>	17,866	20,826	30.2%

Source – a) Bartlett and West/AECOM (2013 page 23)

Source – b) Bartlett and West/AECOM (2013 page 22)

### Sectors of Economic Activity

The primary industry sectors of economic activity in the region include agriculture, health care and social assistance, government, construction, and retail trade. Many of these jobs are supported by recreational activities in the area, which brings in numerous visitors who spend locally and support energy production. **Table 3-2** depicts facets of the economic industry in the area and the number of jobs each industry employs and how that has changed.

**Table 3-2. Stark County Employment by Industry (U.S. Bureau of Economic Analysis November 21, 2013) also available Online at [http://www.bea.gov/newsreleases/regional/lapi/lapi\\_newsrelease.htm](http://www.bea.gov/newsreleases/regional/lapi/lapi_newsrelease.htm) .**

Industry	2001	2011	Numerical change	2011 Percent Change
Farm employment	900	821	-79	-8.8%
Forestry, fishing, & related activities (service 2006a)	85	127	42	49.41%
Mining (including fossil fuels)	421	2821	2400	570%
Construction	867	1769	902	104.03%
Manufacturing	1002	1279	277	38.02%
Wholesale trade	552	963	411	74.45%
Retail trade	2072	2221	199	9.6%
Transportation and warehousing	876	1325	449	51.25%
Information	365	302	-63	-17.26%
Finance and insurance	460	657	197	42.82%
Real Estate and rental and leasing	360	832	472	131.11%
Professional, scientific, and technical services	279	619	340	121.86%
Administrative and waste services	571	772	201	35.20%
Educational services	na	na	na	na

**Table 3-2. Stark County Employment by Industry - continued**

<b>Industry</b>	<b>2001</b>	<b>2011</b>	<b>Numerical change</b>	<b>2011 Percent Change</b>
Health care and social assistance	na	na	na	na
Arts, entertainment, and recreation	195	207	12	6.15%
Accommodation and food services	1149	1439	290	25.24%
Other	1016	1213	197	19.39%
Government	2139	2475	336	15.71%
<b>Total Employment</b>	<b>13309</b>	<b>19892</b>	<b>6583</b>	<b>49.46%</b>

### ***Agriculture***

Agriculture represents an important aspect of the regional economy, both in terms of direct income and employment effects on other industry. **Table (3-3)** below shows the amount of agricultural land and production in the Stark County Project area. The table also provides data for the state of North Dakota to provide perspective for the county's information.

**Table 3-3 - Agricultural Acres and Product Values in Stark County and the State of North Dakota in the Year 2012 (U.S. National Agricultural Statistics Service 2012)**

<b>Area</b>	<b>Agricultural Land in Farms (acres)</b>	<b>Value of Farm Products</b>	<b>Value of Farm Products per Farm</b>
Stark County	829,547	\$152,583,000	\$182,297
State of North Dakota	39,262,613	\$10,950,680,000	\$353,693

In the agriculture sector, the main crops in Stark County are corn, barley, wheat, soybeans, oats, sunflowers, forage, and dry edible peas. Sunflower is the primary crop produced in the Stark County Project area (U.S. National Agricultural Statistics Service 2012). Livestock and bee colony production also plays a key role in the agriculture sector (U.S. National Agricultural Statistics Service 2012).

### ***Energy Production***

Energy production directly and indirectly employs many people in the area. There are several forms of energy production in Stark County including wind, oil, natural gas, and coal. A diesel refinery recently under construction has been pressed into service near Dickinson. Current oil production volume has fallen to approximately 5.5 million barrels in 2014 from a high of approximately 6.5 million barrels in 2013 while gas production totals of 7.32 million cubic feet as of December 11 in 2014 from 233 producing wells are down from a 2013 high of 7.9 million cubic feet according to <http://www.drillingedge.com/north-dakota/stark-county> (last visited 12/11/2014).

### ***Recreation***

Recreation is an important part of the very fabric of North Dakotans and a large player in the economy as a whole. According to the National Shooting Sports Foundation (2013) hunting expenditures in America grew by 55% between 2006 and 2011 and hunter numbers, nationwide, increased by 9%. Unfortunately, either sample size was too small or data were missed for North Dakota in the 2011 survey. Therefore, the data in 2011 specific to North Dakota are not available. The 2006 survey of fishing, hunting, and wildlife viewing in North Dakota estimated total annual fishing expenditures of \$93.7 million, hunting expenditures of \$129.1 million, and

wildlife watching expenditures of \$22.9 million in 2006 (Service 2006). There is little question that there are plenty of hunters and anglers in the Dickinson and Stark County area. These expenditures generate notable economic benefits throughout the state and include both trip-related expenditures (i.e. food and lodging) and equipment expenditures (e.g. rods and reels).

Popular recreation areas in the region include Lake Sakakawea (Missouri River), Heart Butte and Bowman Haley Reservoirs outside of Stark County and Patterson Lake on the southern outskirts of Dickinson. Deer and upland bird hunting and ice fishing are very popular with those that enjoy the outdoors and those that enjoy boating, personal watercraft, kayaking and canoeing have a variety of places to explore within 1 hour driving distance of the project area.

Lake Sakakawea has 35 recreation areas, including 14 facilities managed by the U.S. Army Corps of Engineers, and North Dakota state facilities at Lake Sakakawea State Park and Fort Stevenson State Park. Recreation activities include: fishing, boating, waterskiing, swimming, camping, hiking, hunting, picnicking, and wildlife viewing. Total annual visitation at Lake Sakakawea recreation facilities was estimated at 1,082,000 in 2006 (Corps 2010). In addition, significant amounts of river recreation take place downstream of the reservoir in Missouri River reaches affected by Garrison Dam releases.

### **Income and Poverty**

An important economic measure of impacts associated with an action is the effect on income and related impacts on poverty rates. Frequently used measures of income include median household income and per capita income. Median household income is a good measure of the total available resources a household has to spend on goods and services as a total unit, although per capita income is a better measure of the economic resources available to each person for goods and services. The term “median” represents the statistical middle in a set of measurements ordered from smallest to largest.

Large households may have greater income as a unit, but may be relatively poor in terms of providing goods and services for each individual; therefore, both measures of income provide important information. The poverty rate indicates the percentage of the population that falls below the official threshold of poverty. The poverty threshold varies according to household size and location. The poverty threshold for 2009 was an income of \$21,954 for a family of four <https://www.census.gov/hhes/www/poverty/data/threshld/thresh09.html> (last visited 12/11/2014). While the threshold in some sense represents the needs of families, it should be interpreted as a statistical yardstick rather than as a complete description of what people and families need to live.

Median household income, per capita income, poverty rate, labor force and employment, and the unemployment rate are depicted in **Table 3-4**. Where appropriate these county figures are compared against the United States. Stark County has a slightly higher income and a lower poverty rate compared to overall state averages.

**Table 3-4 - Estimated 2008-2012 Income and Poverty Rates for Stark County, the State of North Dakota, and the (United States) online at <http://quickfacts.census.gov/qfd/states/38/3819620.html> . Last visited 12/12/14.**

Region	Median Household Income <sup>1</sup>	Per Capita Income <sup>1</sup>	Individuals Below Poverty Level <sup>1</sup>
Stark County	\$58,793	\$29,209	7.7%
N. Dakota	\$51,641 ((\$53, 046))	\$28,700 ((\$28,051))	12.1% (14.9%)

<sup>1</sup> United States average in parenthesis

### **Labor Force, Unemployment, Educational Attainment**

Labor force, unemployment, and educational attainment are indicators of the number of workers potentially available to support current and future economic activity and the population’s level of training to provide skilled labor for commercial activities. The small population of the study region, essentially Stark County, limits the size of the available labor force as evidenced by the number of help wanted signs in Dickinson and the magnitude of ingress to Stark County as evidenced in **Table 3-1**. Large demands for labor would need to be supplied from outside the region. The study region reflects less than 3.9 percent of the total labor force of the state of North Dakota. Labor force data are presented in **Table 3-6**.

In addition, as of November 2010, the unemployment rate in the study region was generally very low. Unemployment was 3.3 percent for the study region, which is the same percentage as the average for the state of North Dakota. Unemployment rates for the study area are also presented in **Table 3-5**.

Educational attainment is an indicator of the skill level of the labor force and the attractiveness of the area to businesses and industry considering expanding or locating in the area. This can influence the future labor force and income potential of the region. The percentage of the population 25 years of age or older with a high school diploma or the equivalent for each county and the percentage with a bachelor’s degree or higher is shown in **Table 3-5**.

**Table 3-5 - Estimated 2013 Labor Force, Unemployment, and Educational Attainment for Stark County and the State of North Dakota (Job Service North Dakota 2014 – Oct. Online) (U.S. Bureau of Census Statistics August 2014)<sup>2</sup>**

Region	Labor Force	Employed	Unemployment Rate <sup>1</sup>	High School Diploma or Equivalent <sup>2</sup>	Bachelors Degree <sup>2</sup>
Stark County	23,582	22,598	1.3%	88.9%	23.5%
State of North Dakota	419,870	426,225	2.4% (6.1%) <sup>3</sup>	90.5% (85.7%)	27.1% (28.5%)

<sup>1</sup> United States average in parenthesis

<sup>3</sup> U.S. Bureau of Labor Statistics, August 2014

The percentage of the population 25 years of age or older in Stark County that has a high school diploma or the equivalent is 88.9% and for Dickinson residents it is 89.3%. In comparison, that figure statewide is 90.5%. The percentage of the Stark County population that holds a bachelor’s degree or higher level of education is 23.5%. In comparison 27.1% of the North Dakota statewide population have completed a bachelor’s degree or higher. The lower level of

bachelor's degrees in the region may limit some employment opportunities to the current population.

## **Consequences**

This section of Chapter 3 describes potential for social and economic impacts by the alternatives.

### **Introduction**

What effect would the water treatment plant project have on social and economic issues? This section addresses how the alternatives may affect the regional economy. The WTP Project would affect the economy of the local area in two ways; first, potable water production associated with the project may generate some industrial benefits while also supporting a growing population which would include direct response to the availability of job opportunities associated with the Bakken oil play and as it continues to expand. Second, construction and operation activities over the life of the WTP Project would generate income and employment impacts to the local economy during construction and into the operation and maintenance phases. However small, a majority of the economic benefits directly associated with the WTP Project would occur during construction. An inadequate potable water supply could depress or confound housing expansion and the resultant business expansion that follows.

### **Methods**

Regional economic impacts of the proposed action were compared to the no action alternative in order to evaluate the WTP Project's influence on the regional economy. The impacts from industrial and residential benefits were evaluated qualitatively, as were the regional impacts from construction and OM&R (operation, maintenance, and replacement) expenditures.

## **Results**

### **No Action Alternative**

Under the no action alternative the WTP would not benefit from Reclamation funding. However, since the project would likely proceed even without Reclamation federal participation economic impacts would be limited to impacts to State's oil tax surplus account and other funding sources available to the project proponents. Therefore, the regional economy would likely operate at levels similar to the current conditions or respond positively as more completely described for the Proposed Action. Should the deciding official select the No Action alternative the project proponents would not have to comply with Reclamation's Environmental Mitigation Commitments. However, many of Reclamation's Environmental Mitigation Commitments are not exclusive to Reclamation and are commonly applied by other federal agencies.

### **Proposed Action**

Similar to the No Action Alternative, should the deciding official choose the Proposed Action the builders and businesses would experience an increase in net business income as a result of implementing the proposed action. The amount that net income increases depends on the builders and businesses ability to expand soon enough to meet the void of available, affordable housing and rentals and expand and meet the demand for businesses and the ability of Southwest Water Authority to manage their OM&R costs. Commercially available bulk water could also contribute to the benefits of the project but expansion in bulk water use was not predicted by Bartlett and West/AECOM (2013).

## **Regional Economic Impacts and Federal Expenditures**

GDU MRI is a grant program so there would be no costs due to repayment of the federal principal made available to SWC. The primary purpose of the WTP is to provide a reliable quality potable water source to southwest North Dakota including Dickinson, Stark County and southwest North Dakota. The proposed action results in an economic impact reflected mostly through meeting the expanding potable water need, beneficial conditions for expanding housing and business by entrepreneurs. Entrepreneurial activity is vital to the continued viability of an expanding population and economy of the region into the future.

The expenditure of funds to construct and maintain the WTP project generally has a positive economic impact depending on the source of the funding. If most of the funding is from local sources, the economic benefits are less. If most of the funding is allocated from outside the regional area, as in this case, the economic benefits are greater. In this case, the source of the funding is between outside sources (State of North Dakota and Reclamation and possibly others). The basic difference between the Action and No Action alternatives is under No Action Reclamation would not provide a portion of the funding need and the environmental mitigation commitments would not be required unless some other federal nexus existed such as a federal permit.

Purchasing inputs for construction and OM&R of the WTP Project generates income and revenues within the region where the inputs are purchased. However, in most cases the inputs are purchased from outside the region with regard to the operational parts of the WTP. The magnitude of these impacts depends on the level of expenditures and the outsourcing that occurs due to resources that must be brought in from outside the region to meet demand. The source of the construction contractors would be determined by competitive bid. Successful bidders could be from a multi-state area, including the Dakotas, Minnesota and further. Material suppliers could also be from a multi-state area.

Analysis of these data indicate that positive local and regional impacts would result to the economy from implementing the preferred, community alternative. Nevertheless, considering that expenditures are derived from a mixture of federal and state funding sources and that the expenditures are being spent in multiple places across the state of North Dakota and outside the state, the economic impact of the WTP Project is difficult to enumerate in relation to the size of the local economy being impacted.

## **Cumulative Effects**

The proposed action may cost more to operate, however, cost would be spread over a larger population. The benefits of the WTP Project are likely to exceed any increased operating costs experienced. The increased economic activity associated with construction and OM&R and population expansion would lead to positive overall regional economic impact and ability to pay. Adequate, reliable potable water supply may induce continued housing expansion beyond need. However, expansion of the new water treatment plant would be accomplished over time minimizing potential for treatment plant expansion beyond need.

## **Summary**

Dickinson, Stark County, and the southwest regional area would benefit as a result of implementing the proposed action. The amount the regional area benefits depends in part on the magnitude of the population increase. There would be short-term positive regional impacts

meeting the immediate potable water need and employee compensation, and employment associated with initial construction of the proposed alternative. These short-term positive impacts are expected to be relatively small considering the source of funds.

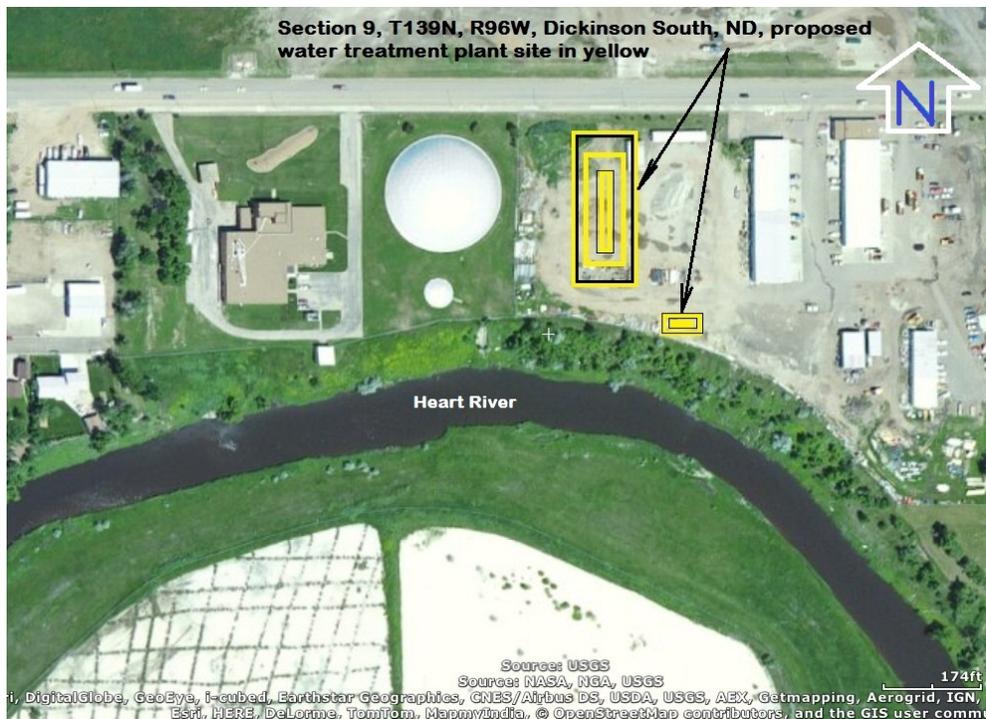
## What Kind of Land Uses Are Necessary?

The proposed project involves the construction of an expansion water treatment plant and filter slurry treatment building to serve the people of Dickinson and those communities and rural dwellers south and west of Dickinson using the Southwest Pipeline Project rural water system. There are three land uses that must be described in order that the effects of the proposed project might be assessed. These land uses include:

- the water treatment plant location (**Figures 3-6[a-d]**) within the city of Dickinson;
- the location of each of two new water storage tanks including one east of Dickinson and one north of Richardton; and
- the parallel pipeline alignment that would transmit the additional water necessary to serve the expansion treatment plant.

The differences between the No Action and Preferred Alternatives would be the source of funding and in the absence of federal funding the project proponent may not be bound to comply with the protections included in the Environmental Mitigation Commitments.

**Figure 3-6a. Proposed Dickinson Water Treatment Plant and residuals handling building.**



**Water Treatment Plant Location.** The proposed action includes the construction of an expansion water treatment plant and support building on a vacant (**Section 9, T139N, R96W, Dickinson S, ND**) portion of a lot already in public ownership by city of Dickinson, to be assumed by Southwest Water Authority (SWA), east of the existing storage tank that currently serves the system in Dickinson (**Figure 3-6a**). An area estimated to be approximately 3 acres would be converted from the City's undeveloped industrial lot to house the proposed expansion water treatment plant and residuals building. The acreage is already used by City of Dickinson. The area occupied by the WTP and the parking lot would result in a minor increase in run-off during precipitation events. Run off from the completed project area would be directed away from the structure in an appropriate manner that would likely include a controlled storm water outfall structure associated with the Heart River. The smaller building to the southeast is the Residuals Handling Building (**Figure 3-6a**). Filter sludge would be pumped to this building with 5%-10% solids and the sludge processed through a filter press to dewater it to about 50%. The dewatered sludge would drop into a truck parked below the press so that it could be transported to a landfill as inert waste, similar to the process used at the Bismarck WTP. This would replace the current process of pumping the slurry across the river to an evaporation pond. This process would eliminate the powdery dried slurry dust that freely blows around the city of Dickinson (**Figures 3-6b, c, d**).

**Figures 3-6b, c, and d. Example Residuals Handling Building, Sludge Transport, Sludge Press.**



*Direct environmental effects* for construction of the water treatment plant would be alike regardless of the alternative selected by the deciding official. The City's vacant lot would become occupied by the new treatment plant and residuals building. Sludge would no longer be pumped under the river to the sludge ponds to dry which would reduce airborne particulate matter. Effects would be similar for either alternative chosen with the exception that compliance with Reclamation's environmental commitments would not be required and Reclamation funds would not be available should the deciding official chose the no action alternative. No cumulative impacts were identified.

**East Dickinson Ground Storage Tank.** A 4.8 mg storage tank would be constructed approximately 5.5 miles east of Dickinson and adjacent to an existing storage tank. Upon completion, the tank would be partially underground and partially exposed due to the existing slope which rises to the west. SWA already owns the entire 5.1 acres at the site at SE¼ Section 33, T140N, R95W, Davis Buttes, ND. Part of this site is currently occupied by the existing SWA water storage tank. The new tank would occupy the remaining area adjacent and west of the existing tank within SWA's plot (**Figure 3-7**). A temporary construction easement would be obtained from the adjoining landowner on idle land in order to store the soil that must be excavated until construction is complete.

*Direct environmental effects* include less than two acres of currently vegetated ground, the diameter of the new storage tank, would be displaced by the tank. This inconsequential amount of area, which currently absorbs runoff, would be replaced by the hard surfaced tank. Displaced runoff would be directed away from the site by the natural slope and drainage to the south. There are no residential or farm homes adjacent to the proposed tank site. Water would be directed to be captured by the drainage that runs south away from the tank site and away from the agricultural field to the southwest. Effects would be similar for either alternative chosen with the exception that compliance with Reclamation's environmental commitments would not be required and Reclamation funds would not be available should the deciding official chose the no action alternative. No cumulative impacts were identified.

**Richardton Ground Storage Tank.** The proposed 1.3 mg Richardton ground storage tank would be constructed approximately one mile north of Richardton in Section 29, T140N, R92W on an approximately 1 acre area. The property would be obtained through purchase or long term easement by SWA and would represent the only new property to be acquired for the project. This site is currently hay land and the project would remove from agricultural production, by occupation, about one acre and would be added to public ownership (**Figure 3-8**).

Direct environmental effects would include approximately one acre of agricultural land currently grazed or hayed would no longer be available for agricultural production. Only that area necessary for the footprint of the tank would be fenced out reducing effects further. Similar to the Dickinson storage tank, the area of soil covered by the proposed storage tank would no longer be available to absorb runoff but because of its small size is relatively insignificant to ground water recharge. Runoff would be minimized since the proposed tank site is essentially level.

Figure 3-7. Proposed additional Dickinson water storage tank in blue.



Figure 3-8. Proposed locations for the Richardton water storage tank.



Should sites A or B become unavailable a similar agricultural site would be located nearby with similar limited and controlled effects.

**Parallel Pipe Locations.** Five proposed parallel pipeline segments of 30” diameter pipe would be constructed in 5 different locations of varying length (**Figure 1, page 1-3**). These segments would parallel the existing main transmission line within 100 yards and be connected by “T’s”. Additional pipe is necessary to reliably deliver additional water necessary to meet the processing needs of the proposed project. Already occupied locations on opposite sides of the road have made it difficult to site the additional pipe in close proximity to that existing pipe that was constructed in the 1980’s. Fiber optic, power, and natural gas lines have been placed into previously available adjacent easement areas. Constructing pipelines around power and gas lines introduces dangerous construction conditions due to crowded proximity. Further, working in and around fiber optic cable creates unacceptable risk for costly repairs should a fiber optic line be inadvertently cut.

Therefore, the new water lines would deviate to the side, less than 100 yards from the existing pipe, to establish a safe construction freeboard for the contractors. Where the pipeline does not parallel a road it would parallel an existing segment of the Southwest Pipeline Project main transmission line or lie adjacent to the insertion scar from the original smaller pipe; this would represent about 3.0% of the new pipeline. About 97.0% of the new pipe would be constructed through actively cultivated agricultural fields. Reclamation’s vetted, environmental commitments and application of construction BMP’s would minimize potential for adverse impacts and reduce them to insignificant and discountable (page 2-2). No wetland basins exist along the proposed pipeline routes.

### **Summary of Effects**

Direct effects from pipeline construction would be temporary. Pipeline alignment would be restored as appropriate and agricultural fields would be put back into production and any loss of crop production would be mitigated to the land owner. **No indirect or cumulative effects** were identified for land use since all but 1 acre of needed property is already under public ownership and pipeline would go underground on private lands. One acre of land would be purchased or perpetually leased for the Richardton storage tank near or adjacent to the existing Richardton tank. City’s new WTP would be constructed on existing city property that would not impact undeveloped areas. The new WTP design would permit repurposing of the currently utilized settling ponds and eliminate the effects of airborne dry treatment residue.

## **Would The WTP Use More Missouri River Water?**

An analysis of the amount and origin of the water source to serve the SWPP system, including current use and the addition of the Zap, ND WTP was described in the OMND, EA prepared by Bartlett and West Engineering (2009, pages 33 - 34)(Reclamation 2009b FONSI). More recently Reclamation conducted a thorough depletion analysis of water use on the Missouri River that was included as part of the Northwest Area Water Supply (NAWS) Project Draft Supplemental Environmental Impact Statement (SEIS) (Reclamation 2014).

SWA’s water permit issued by SWC includes current uses and potential future needs. The permit far exceeds the amount of water necessary to meet the estimated total demand increase for the proposed Dickinson WTP. North Dakota State Water Permit #3688 was issued for withdrawing a maximum of 17,100 acre feet per year (23.6 cubic feet per second) at a peak pumping rate of 10,590 gallons per minute at the intake. The quantity of water needed to meet future demand was built into the design of the SWPP permit.

The peak use of Lake Sakakawea water, under permit #3688, was 6,127.5 acre feet (af) as reported in year 2013 or about 37% of the total permit #3688 capacity. A supplemental intake described in the Bartlett & West, OMND EA (2009) and under construction to better serve the Zap and Dickinson water treatment plants (Reclamation 2012) was also considered in a recent analysis of reasonably foreseeable future Missouri River depletions, part of a cumulative impact analysis for the NAWS SEIS (Reclamation 2014). At the time of the analysis (2011) SWA was reporting 4,386 af of water use. Depletion analysis included 4,000 acre feet to represent reasonably foreseeable future demand from SWPP in the analysis. The most recent water use of 6,127.5 af, is an increase of 1741.5 af of use since the analysis was conducted for the NAWS SEIS

The Dickinson WTP project as proposed would require an additional 2,700 af above the existing use for 2011, for the target population of 40,000 in 2038. That can be calculated by the following:  $2.4\text{mgd} \times 365 \text{ days} / 7.48 \times 43,560 \text{ sq ft} = 2,700\text{af}$ . The total SWPP depletion accounting of SWA water use would include 4,386 af (2011 existing) + 4,000 af (future) in the NAWS SEIS analysis that found no adverse effect. However, since conducting the SEIS analysis 6,127.5 af was reported in 2013. By adding the new WTP demand of 2,700 af for the 2038 target population to the current peak demand of 6,127af yields a total estimated depletion of 8,827.5af. or 441af more than accounted for in the depletion analysis but discountable in terms of statistical significance .

**Table 3-6. Water Depletions to meet the increased demand of the proposed project.**

<b>Year</b>	<b>SWA af used</b>	<b>Future use</b>	<b>Total Use</b>	<b>Purpose</b>
2011	4386 af	4000 af	8386 af	SEIS Depletion Analysis
2013	6127.5 af	2700 af	8827 af	As of 2013 Report Depletion
2014 Difference			+441 af	

**Summary**

The population estimate of 40,000 for 2038 is based on the best available information today. In terms of Missouri River flow volumes and Lake Sakakawea volumes in particular, the system contains more than 73 million acre-feet of water storage, meaning the difference of 441 af represents 0.0006% of system storage capacity. This minute differential amount can best be described as discountable. Therefore, no additional discussion of the water demand or source will be undertaken here.

# Threatened And Endangered Species And Designated Critical Habitat

## Affected Environment

Reclamation prepared a detailed biological assessment for the Oliver, Mercer and North Dunn Service Area EA (Bartlett & West 2009, pages 26-31) which is noted here by reference. Findings were referenced in the Finding of No Significant Impact (FONSI) for that project. The biological assessment for the WTP project will consist of updated information to avoid repetition and wasted resources. In particular, numerous species have been added for consideration since the 2009 FONSI. Several State agencies have commented in their response to Reclamation's scoping notice that pipeline water delivery and water storage projects introduce only minor environmental impacts, primarily of a temporary nature, that can be controlled through proper construction methodologies to which the project proponents would point to the environmental commitments and best management practices that are part of the Preferred (Community) Alternative as well as commonly employed in the industry.

Thirty-one miles of pipeline would be constructed intermittently from 5 miles south of Renner Bay in segments leading to Dickinson, inserted into the ground at approximately eight feet depth of which 97% would take place in agricultural fields. Of the additional 3% of pipeline, it would be constructed adjacent to or within the existing scar from the original pipeline or other agricultural field. Temporary impacts would result from trenching 31 miles of 30" main transmission line upgrades into the ground near or adjacent to the public ROW, through agricultural fields, or adjacent to or within the existing SWPP pipeline scar. Permanent impacts would result from the construction and permanent occupation of a 1 acre site with a new water storage reservoir near Richardton and another storage tank 5½ miles east of Dickinson adjacent to an existing tank and a new water treatment plant within the city limits.

The large study area was described in the Introduction and Background as well as Bartlett and West (2009). Reclamation consulted the U.S. Fish and Wildlife Service's (Service), North Dakota Ecological Service's Office web site. The species list constructed through the Information, Planning, and Conservation system (IPaC) and obtained is a list of endangered and threatened species and critical habitats associated with the general study area for consideration. An official list of species for consideration was received via email, October 21, 2014, (included with responses to scoping at page **Appendix-17**) and verified November 3, 2011. Although consulted during the scoping process Reclamation did not receive responses from the North Dakota Natural Heritage Database or Service's, North Dakota Ecological Services Office. Reclamation did consult Service's ND endangered species website at [http://www.fws.gov/northdakotafieldoffice/county\\_list.htm](http://www.fws.gov/northdakotafieldoffice/county_list.htm) August 31, 2014, and again December 8, 2014, to verify and update the latest list of species for consideration and to determine which species potentially occur within the project area **Table 3-7**.

This section constitutes the endangered species Biological Assessment for the Proposed Action as required under Section 7(c) of the Endangered Species Act of 1973, as amended, in compliance with regulations found at *50 CFR Part 402 Interagency Cooperation – Endangered Species Act of 1973, as Amended; Final Rule* and in compliance with the Endangered Species Act (ESA).

## Status of Species and Critical Habitat

### Species List

Table 3-7. Status of Federally threatened, endangered and candidate species identified by the Service as being potentially present in the action area of the Dickinson Water Treatment Plant Main Transmission Line Project.

Species	Status
<b>Birds</b>	
Whooping crane ( <i>Grus americana</i> )	Endangered
Piping plover ( <i>Charadrius melodus</i> )	Threatened
Interior Least tern ( <i>Sterna antillarum</i> )	Endangered
Red Knot ( <i>Calidris canutus rufa</i> )	Threatened
Sprague's pipit ( <i>Anthus spragueii</i> )	Candidate
<b>Fish</b>	
Pallid Sturgeon ( <i>Scaphirhynchus albus</i> )	Endangered
<b>Insect</b>	
Dakota skipper ( <i>Hesperia dacotae</i> )	Threatened
<b>Mammals</b>	
Black footed ferret ( <i>Mustela nigripes</i> )	Experimental Population, Non-Essential
Gray wolf ( <i>Canis lupus</i> )	Endangered - Proposed Delisted
Northern long eared bat ( <i>Myotis septentrionalis</i> )	Proposed Endangered
<b>Critical Habitat</b>	
Piping plover ( <i>Charadrius melodus</i> )	Designated
Dakota skipper ( <i>Hesperia dacotae</i> )	Proposed

### Environmental Baseline Previous, Ongoing, and Reasonably Foreseeable Projects in the Action Area

The Missouri River Main stem Reservoir System consists of a series of six large dams constructed on the Missouri River by the Corps starting at Fort Peck in Montana and ending with the southernmost reservoir at Gavins Point Dam at Yankton, South Dakota. Reclamation has also constructed more than 40 water development projects in the Missouri River Basin. These projects consist of 55 single and multipurpose dams and reservoirs managed for irrigation, municipal and industrial water supply, power generation, flood control, recreation, and fish and wildlife benefits. Combined, these projects deliver irrigation water to 2.3 million acres of land, provide municipal water to more than 40 communities, and represent a total generating capacity of 720,000 kilowatts (Reclamation 2012). Congress authorized the Southwest Pipeline Project to use Missouri River water in the Garrison Reformulation Act of 1986 and again through the

Dakota Water Resources Act of 2000. Pipelines and water storage tanks associated with construction of the initial SWPP main transmission line and service area were constructed starting as early as 1986 and are already in existence where the proposed 31 miles of additional pipe and the two new tanks would be constructed. The Dickinson water treatment plant itself would be constructed on an industrial lot within the city limits of Dickinson. Construction of the supplemental intake for SWPP is under construction in Renner Bay, Lake Sakakawea, Mercer County, North Dakota.

The EA for Oliver, Mercer, and North Dunn (OMND) service area of the SWPP was initiated in 2009. The surge in oil play had not yet taken hold in western North Dakota but was not far off. Construction of the OMND service area, including a new water treatment plant at Zap and supplemental intake, ND has been ongoing since the signing of the FONSI. Increasing demands on the Dickinson WTP reflect regional population demands both locally and further west.

Several additional species have been listed or proposed for listing since Reclamation signed the OMND FONSI in 2009 and those changes are reflected here including: Northern long eared bat is listed as endangered, Dakota skipper is listed as threatened, and Rufa red knot is listed as threatened.

### **Best Management Practices and Environmental Commitments**

As part of the proposed action Reclamation has included best management practices, environmental mitigation commitments or methods and plans intended to avoid or reduce, offset or eliminate adverse project effects while the action is being implemented and after completion and are commonly implemented as part of projects of this nature and are inseparable from the proposed action. Environmental commitments could include one or more of the following:

- Avoiding effects.
- Minimizing effects through limitation of magnitude of the project action.
- Restoration to the affected environment.
- Reducing effects over time.
- Compensation for effects through providing substitute resources as an offset for loss.

### **Recovery Plans Overview**

Recovery plans are available for some listed species identified in **Table 3-7**, at [http://ecos.fws.gov/tess\\_public/SpeciesRecovery.do?sort=1](http://ecos.fws.gov/tess_public/SpeciesRecovery.do?sort=1). A conservation plan is available for Sprague's pipit at <http://www.fws.gov/mountain-prairie/species/birds/spraguespipit/SpraguesJS2010r4.pdf> (accessed 17 November 2014). Several of these recovery plans are outdated, i.e., more than five years old. There are two recovery plans for the gray wolf, but neither identifies North Dakota as a recovery area. The recovery plans for the piping plover include recovery goals for habitats on the Missouri River and for prairie piping plover habitats in North Dakota. The revised recovery plan for the whooping crane requires protection of this species' habitat, including migratory habitat in North Dakota. However, whooping crane recovery goals are focused on and likely to continue to be focused on maintaining and increasing breeding populations. No conservation or recovery plans exist for the Dakota skipper or the northern long eared bat to this date.

## **Potential Species and Designated Critical Habitat Effects**

Assessments for threatened and endangered species were originally conducted by evaluating past and present occurrences of the species, and by determining if potential habitat exists within the project area for Mercer and Stark Counties. In addition to the biological assessment for the OMND service area EA, a biological assessment was also completed for the Turtle Lake Irrigation Project, EA-DK-5000-10-02 (Reclamation 2011a) involving many of the same species. Another biological assessment was completed as part of the EA for Design and Construction of the Logan and McIntosh Service Area of the South Central Water District (DK-5000-11-1) Reclamation (2012a). Based on these two criteria, a determination was made on each wildlife species as a result of the project's activities. No Federal threatened and endangered *plant* species occur in the action area. Environmental commitments were identified as part of the Proposed Action of this Supplemental EA document to stipulate Service mitigation measures.

***Reclamation's findings as to endangered, threatened, or candidate species and critical habitat are made for the preferred alternative since Service's authority for Section 7 is for federal proposed actions not private or otherwise. Effects under the no action scenario are stated following the findings for the proposed action.***

### ***Interior Least Tern (Endangered)***

#### **Population Rangewide**

The interior least tern nests on the Mississippi, Missouri, Arkansas, Red, Rio Grande, Kansas, Platte, Loup, Niobrara, Canadian, Cheyenne, Ohio, and Yellowstone rivers. Rangewide estimates from 1999 indicated that about 7,400 birds were in existence (Service 2000). More recent estimates by the Service (2005) report a considerable increase, and the population is now estimated at about 12,000 birds. However, this does not represent a complete census because certain segments of some rivers are surveyed in one year but not in another. The Service (2005) reports that this total population estimate is likely a minimum value. The interior least tern recovery plan established a goal of 7,000 terns rangewide, maintained for 10 consecutive years. The current estimate of over 12,000 terns greatly exceeds this goal; however, the recovery plan goals for least terns in all drainage basins have not been reached, and most areas have not been monitored for 10 years.

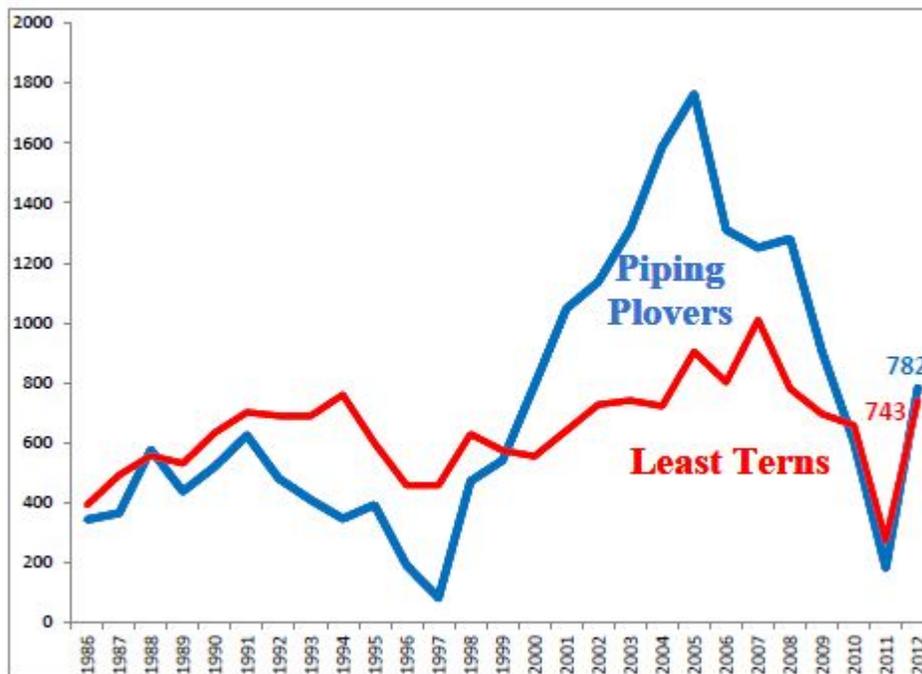
The first complete rangewide survey for interior least terns was conducted in 2005 (Lott 2006). A total of 17,587 interior least terns were counted in association with 491 different colonies. Just over 62 percent of these birds were on the lower Mississippi River (10,960 birds on over 770 river miles). Four additional river systems accounted for 33.9 percent of the remaining least terns, with 12.1 percent on the Arkansas River system, 10.4 percent on the Red River system, 7.1 percent on the Missouri River system, and 4.3 percent on the Platte River system. Smaller numbers were counted on other rivers, including the Ohio River system (1.5 percent), the Trinity River system in Texas (1.5 percent), the Rio Grande/Pecos River system in New Mexico and Texas (0.8 percent), and the Kansas River system (0.5 percent) (Lott 2006).

#### **Missouri River Mainstem Reservoir System**

Least terns are found nesting throughout the Missouri River System. The majority of these birds nest on free-flowing stretches of the Missouri River below Fort Peck, Garrison, Fort Randall, and Gavins Point dams. The shorelines of the mainstem reservoirs also provide important nesting habitat, particularly during dry years when reservoir levels are declining. Least tern

adult numbers on the Missouri River have varied from a low of 273 birds in 2011 to a high of 1,010 birds in 2007 (Figure 3-9). The average number over 26 years of record has been 731 adults (Corps 2013b). The Corps (2013b) found that least tern adults on the Missouri River have decreased in each of the past 4 years until an increase in 2012 following the 2011 flood. As noted above, the 273 least tern adults in 2011 represents a record low for the species in 26 years of censuses on the Missouri River. The decline could be attributed to record inflows into the Missouri River System in 2011 that inundated much of the birds' habitat within the system. The increased bird numbers are attributed to large areas of new habitat created by the record flows of 2011 and receding water levels experienced in 2012.

Regulation of the Missouri River System follows an annual cycle that is described in detail in the Master Water Control Manual (Corps 2006) and summarized in the "Water Resources" section in Chapter 3 of Reclamation's SEIS. The Master Water Control Manual requires the Corps to operate the Missouri River System to minimize take of least terns and piping plovers during the nesting season (approximately May 1 to August 15). Since 1986, flow releases from all Missouri River mainstem dams except Oahe and Big Bend have been modified to accommodate least tern and piping plover nesting. Daily hydropower peaking patterns are developed prior to nest initiation in early to mid-May. Generally, dam releases are set during the nesting season to ensure steady flows in areas containing the bird's habitat. During drought, water conservation measures are initiated, and releases are made on a peaking cycle of 2 days down and 1 day up, usually during the last two-thirds of May to keep birds from nesting at low elevations.



**Figure 3-9 Missouri River Least Tern and Piping Plover Adult Census (1985 – 2012)**  
Source: (Corps 2013b)

## **In North Dakota**

In North Dakota, least terns nest on sparsely vegetated sandbars on the Missouri and Yellowstone rivers and on shorelines of Missouri River reservoirs, including Lake Sakakawea and Lake Oahe. The majority of least terns in North Dakota nest on the Garrison Reach of the Missouri River. Least terns feed mostly on small fish. Breeding season lasts from May through August, with peak nesting from mid-June to mid-July.

## ***Piping Plover (Threatened)***

### **Population Rangewide**

The Service listed piping plovers as endangered in the United States Great Lakes area and Canada (Ontario), while the remaining Atlantic and northern Great Plains birds, including those in Canada (Manitoba), were listed as threatened in 1985 (50 FR 50726). Migrating piping plovers and those in wintering areas were classified as threatened (Service 2003). The Service considers the listed entities to be composed of three separate breeding populations: northern Great Plains, Great Lakes, and Atlantic Coast piping plovers.

Critical habitat was designated separately for the northern Great Plains and Great Lakes populations, as well as for wintering populations. The biological opinions for the Platte River Recovery Implementation Program (Service 2006) and the operation of the Missouri River (Service 2000) indicate that the Service has determined that the northern Great Plains population of the piping plover is an appropriate population to consider for purposes of section 7 consultation.

A rangewide census and habitat characterization of the piping plover was conducted across all known suitable breeding and winter habitat in 1991, 1996, 2001, 2006, and 2011. This International Piping Plover Census provides the most reliable information on range-wide population trends. The census is conducted every 5 years and provides comprehensive data on the distribution and abundance of all piping plover populations, including the northern Great Plains population. However, the 2011 final census results are not yet available and the census was very much affected by record high water levels throughout the northern Great Plains. Preliminary results from the 2011 census for the Great Plains and Prairie regions show the lowest record of all census years, with numbers just over 2,000 birds (Elliott-Smith and Haig 2012). The highest number of plovers was found during the 2006 census, with over 4,600 birds (Elliott-Smith et al. 2009).

### **Missouri River Mainstem Reservoir System**

Piping plover adult numbers on the Missouri River have varied from a low of 82 adults in 1997 to a high of 1,764 adults in 2005 (**Figure 3-1**). The Corps (2013b) found the average number over 27 years to be 731 adults and that adult numbers on the Missouri River have decreased in each of the past 3 years but increased after the 2011 flood. Record inflows into the Missouri River System inundated much of the birds' habitat in 2011 on the rivers as well as the reservoirs, and the 2011 adult census of 182 piping plovers represents the second lowest adult census for the species on the Missouri River in 26 years. The increased bird numbers are attributed to large areas of new habitat created by the record flows of 2011 and receding water levels experienced in 2012. Critical habitat has been designated throughout the Missouri River including riverine and reservoir (Fort Peck Lake, Lake Sakakawea and Lake Audubon, Lake Oahe, and Lewis and Clark Lake) reaches (67 FR 57638). All reservoirs except Lake Audubon are mainstem

impoundments, constructed by dams, and regulated by the Corps. Lake Audubon is a sub-impoundment of Lake Sakakawea and is regulated by the Reclamation through operation of the Snake Creek Pumping Plant. Piping plover habitat within reservoir reaches is composed of shorelines, peninsulas, and islands, below the top of the maximum operating pool. These reservoir habitats include sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water. Piping plover habitat within riverine reaches consists of inter-channel islands and sandbars including their temporary pools and interface with the river. These habitats are sparsely vegetated and consist of sand and gravel substrates.

Regulation of the Missouri River System follows an annual cycle that is described in detail in the Master Water Control Manual (Corps 2006) and summarized in the “Water Resources” section in Chapter 3 of the SEIS. The Master Water Control Manual requires the Corps to operate the Missouri River System to minimize take of least terns and piping plovers during the nesting season (approximately May 1 to August 15). Since 1986, flow releases from all Missouri River mainstem dams except Oahe and Big Bend have been modified to accommodate least tern and piping plover nesting. Daily hydropower peaking patterns are developed prior to nest initiation in early to mid-May. Generally, dam releases are set during the nesting season to ensure steady flows in areas containing the bird’s habitat. During drought, water conservation measures are initiated, and releases are made on a peaking cycle of 2 days down and 1 day up, usually during the last two-thirds of May to keep birds from nesting at low elevations.

Population growth continues but most have not attained management goals (Service 2010b). North Dakota birds are substantially better off and possibly less vulnerable than coastal populations.

### **In North Dakota**

Piping plovers use barren sand and gravel shorelines of the Missouri River, including its reservoirs, as well as the shorelines of prairie alkali lakes. Critical habitat has been designated for the piping plover in North Dakota (67 FR 57638) in riverine and reservoir reaches. Areas designated include the Lake Sakakawea, Audubon Lake, Lake Oahe, and riverine reaches in North Dakota below Fort Peck and Garrison dams. Outside the Project Area, prairie and alkali lakes and wetlands have also been designated as piping plover critical habitat in Burke, McLean, Montrail, Pierce, Renville, Sheridan, Ward, and Williams counties (67 FR 57638) and likely represent the greatest areas of nesting habitat for piping plovers (Carol Aron, Service pers. comm.).

### ***Whooping Crane (Endangered)***

#### **Population Rangewide**

Whooping crane recovery efforts have made great strides over the years, with new populations being established in Florida and Wisconsin. The birds that migrate through North Dakota are part of the Aransas-Wood Buffalo population. The total Aransas-Wood Buffalo population is currently estimated at 279 birds, plus approximately 37 chicks fledged from a record 75 nests that migrated in fall 2011 (Whooping Crane Conservation Association 2012). This projected a yield of a wintering population exceeding 300 birds.

The whooping crane recovery plan (Canadian Wildlife Service and Service 2007) includes scientific information about the species and provides objectives and actions needed to down-list the species. Recovery actions designed to achieve these objectives include protection and enhancement of the breeding, migration, and wintering habitat for the Aransas-Wood Buffalo population. The goals are to allow the wild flock to grow and reach ecological and genetic stability; reintroduction and establishment of geographically separate self-sustaining wild flocks to ensure resilience to catastrophic events; and maintenance of a captive breeding flock that is genetically managed to retain a minimum of 90 percent of the whooping cranes' genetic material for 100 years.

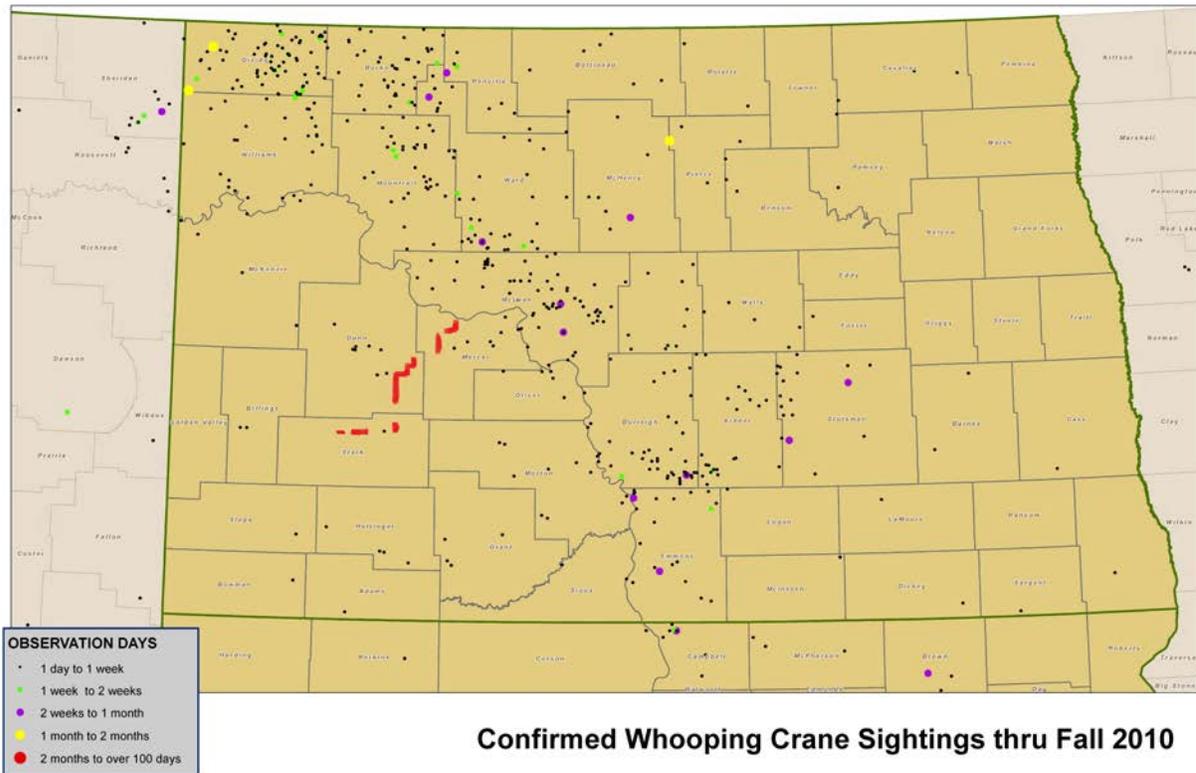
### **In North Dakota**

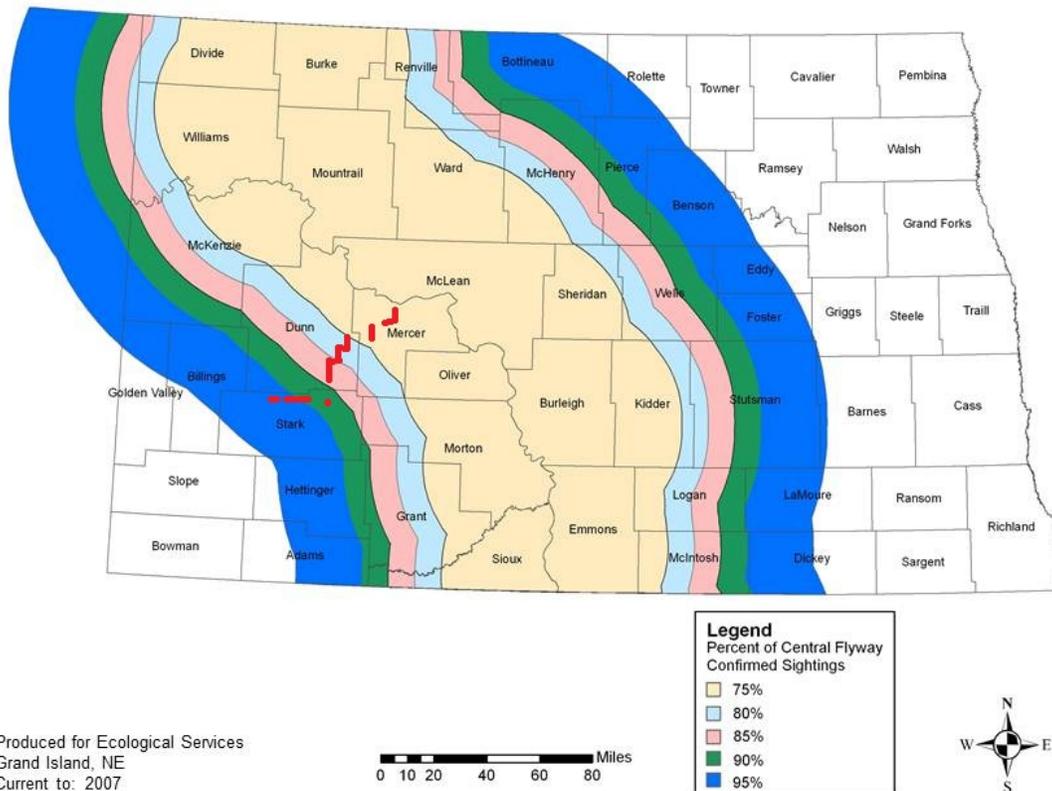
The whooping crane passes through North Dakota each spring and fall while migrating between its breeding territory in northern Canada and wintering grounds on the Gulf of Mexico. Frequently, whooping cranes migrate with sandhill cranes. Whooping cranes inhabit shallow wetlands but may also be found in upland areas, especially during migration. The whooping crane prefers freshwater marshes, wet prairies, shallow lakes, and wastewater lagoons with extensive visibility for feeding and loafing during migration.

Overnight roosting sites usually have shallow water in which whooping cranes stand. Whooping cranes roost on un-vegetated sandbars, wetlands, and stock dams. Fall migration occurs in North Dakota from late September to mid-October, while spring migration occurs from late April to mid-June. These birds can show up in all parts of North Dakota, although most sightings occur in the western two-thirds of the state. Whooping cranes are usually found in small groups of seven or fewer individuals and are easily disturbed when roosting or feeding.

The Project Area is located within the migration corridor, as shown in **Figure 3-10**. Confirmed whooping crane sightings fall within the range of 75 to 95 percent of all sightings in ND, encompass the Project Area. In 2010, the Service produced Whooping Crane Migration Corridor Maps (Service 2010, **Figure 3-11**) that outline the percentage of confirmed crane sightings based on current and historical sighting reports. Most sightings occurred along and east of the Missouri River corridor exiting through the northwest corner of ND.

**Figure 3-10. Central Flyway Whooping Crane Corridor and Confirmed Sightings (Service 2010) and project potential areas of affect (red line areas).**





Produced for Ecological Services  
 Grand Island, NE  
 Current to: 2007

**Figure 3-11. Whooping crane sightings in North Dakota and how they are juxtaposed to the Project areas of potential affects (red lines) of pipeline and storage reservoir locations.**

***Sprague’s Pipit (Candidate)***

**Population Rangewide**

The breeding range for the Sprague’s pipit occurs throughout North Dakota, except for the Eastern most counties. In Canada, Sprague’s pipits breed in southeastern Alberta, the southern half of Saskatchewan, and in southwest Manitoba (Robbins and Dale 1999). The breeding range in the United States has contracted to the north and west in North Dakota and Minnesota, and north in Montana.

**North Dakota**

The breeding range for the Sprague’s pipit in North Dakota comprises the western two-thirds of the state. Sprague’s pipits arrive on the breeding grounds from the third week of April to mid-May (Maher 1973; Stewart 1975 cited in Jones 2010); some individuals linger on the wintering grounds into early May. Pair formation begins shortly after arrival on the breeding grounds, and eggs are laid between the second week of May through early August (Sutter 1996; Davis 2003; Jones et al. 2010 cited in Jones 2010). Sprague’s pipits build ground nests in grasslands primarily filled with native grasses of intermediate height and density, with little bare ground and few shrubs; many times the nest is at the base of a dense tussock of grass (Sutter 1997; Dieni and Jones 2003 cited in Jones 2010). Native prairie exists in areas of dense wetland basins that

preclude agricultural practices with the exception of grazing livestock. Sprague's pipits do not occur on North Dakota grasslands that had not been burned for more than 8 years; breeding abundances are highest from 2 to 7 years after a fire (Madden 1996 cited in Jones 2010). In North Dakota, a greater abundance of Sprague's pipits was reported from moderately to heavily grazed pastures (Kantrud 1981 cited in Jones 2010). Checking the North Dakota list serve ([www.LISTSERV.NODAK.EDU](http://www.LISTSERV.NODAK.EDU)) revealed a single record from Dickinson (location generally described) in 2007 and Billings and Bowman County records in 2012 and 2013.

Populations in North Dakota have declined dramatically due to the conversion and deterioration of remaining native prairie habitat. The North Dakota Heritage database did not provide any records for Sprague's pipit within the Project Area. The principal causes for the declines in Sprague's pipit populations are habitat conversion to seeded pasture, hayfield, and cropland, as well as overgrazing by livestock. There is evidence that Sprague's pipits avoid roads and trails on the breeding grounds (75 FR 56028).

### ***Rufa Red Knot (Threatened)***

#### **Population Rangewide**

The red knot migrates annually between its breeding grounds in the Canadian Arctic and several wintering regions, including the Southeast United States (Southeast), the Northeast Gulf of Mexico, northern Brazil, and Tierra del Fuego at the southern tip of South America. During both the northbound (spring) and southbound (fall) migrations, red knots use key staging and stopover areas to rest and feed. Long-distance migrant shorebirds are highly dependent on the continued existence of quality habitat at a few key staging areas. These areas serve as stepping stones between wintering and breeding areas. Many of the key migration staging areas are along the coasts but most records in the interior states show small numbers (fewer than 10) of knots, but there are multiple records in nearly every inland state including along the Missouri River and North Dakota (78 FR 60024). The final rule for listing the red knot as threatened was published December 11, 2014 (79 FR 73706).

#### **In North Dakota**

North Dakota migration records are scarce. Between 2002 and 2013 North Dakota Bird List Serve ([www.listserve.nodak.edu](http://www.listserve.nodak.edu)) records identify eight counties in North Dakota within the migration route (McPhillips 2014). Neither Mercer or Stark counties are listed which are in the Project area. Records exist for both spring and fall migration and birds frequently are seen in small numbers (1-25) (McPhillips 2014). Migration habitats are documented as being similar to habitats used by piping plovers which include wetlands with shoreline (typically alkali lakes in North Dakota or sewage lagoons with mudflats) and the Missouri River.

### ***Pallid Sturgeon (Endangered)***

#### **Population Rangewide**

Pallid sturgeon have been documented in the Missouri River between Fort Benton and the headwaters of Fort Peck Reservoir, Montana; downstream from Fort Peck Dam to the headwaters of Lake Sakakawea, North Dakota; downstream from Garrison Dam, North Dakota to the headwaters of Lake Oahe, South Dakota; from Oahe Dam downstream to within Lake Sharpe, South Dakota; between Fort Randall and Gavins Point Dams, South Dakota and Nebraska; downstream from Gavins Point Dam to St. Louis, Missouri; in the lower Yellowstone

River, Montana and North Dakota; in the lower Big Sioux River, South Dakota; in the lower Platte River, Nebraska; in the lower Niobrara River, Nebraska; and in the lower Kansas River, Kansas. Pallid sturgeon observations and records have increased with sampling effort in the middle and lower Mississippi River (Service 2013). Additionally, in 1991, the species was identified in the Atchafalaya River, Louisiana; and in 2011, pallid sturgeon were documented entering the lower reaches of the Arkansas River (Service 2013).

### **Missouri River Population**

The pallid sturgeon occupies the Missouri and Yellowstone rivers in North Dakota. The majority of the sturgeon found in North Dakota, are in the Yellowstone River and on the Missouri River upstream of the Yellowstone River confluence. Approximately 50 wild adult pallid sturgeons are estimated to exist in the Missouri River upstream of Fort Peck Reservoir (Service 2007c). An estimated 125 wild pallid sturgeon remain in the Missouri River downstream of Fort Peck Dam to the headwaters of Lake Sakakawea, as well as in the lower Yellowstone River (Jaeger et al. 2009). Current abundance estimates are lacking for the Missouri River between Gavins Point Dam and St. Louis, Missouri (Service 2013).

The Corps has established spring pulse criteria for the benefit of the pallid sturgeon. Included in the technical criteria for each spring pulse is a Missouri River System storage drought preclude level, below which the corresponding pulse would be foregone that year. Currently, the Missouri River System storage drought preclude level for the March pulse is 36.5 MAF, and the drought preclude level for the May pulse is 40.0 MAF. The magnitude of the spring pulses is constrained by flood control flow limits downstream of Gavins Point Dam. The Master Water Control Manual also contains provisions for Fort Peck flow modification tests to benefit pallid sturgeon and other native river fish. These tests involve a combination of Fort Peck spillway and power plant releases during the early-June timeframe.

Water levels in the reservoirs impounded by Fort Peck Dam (Fort Peck Reservoir), Montana and Garrison Dam (Lake Sakakawea), North Dakota may be impediments to larval pallid sturgeon survival (Service 2013). However, two confirmed wild larval pallid sturgeon were found at the mouth of the Milk River in 2011 and in 2012 on the Yellowstone River (SWC 2013b) and in 2014 there was evidence that spawning occurred on the Powder River, a tributary of the Yellowstone River (<http://www.pallidsturgeon.org/2014/06/update-regarding-the-status-of-adult-pallid-sturgeon-upstream-of-intake-dam/> Accessed August 21, 2014).

The Service (2013) estimates that an isolated remnant population of less than 50 individuals remain in the Garrison reach of the Missouri River below Garrison Dam. Garrison Reservoir is not preferred pallid sturgeon habitat. In fact, Lake Sakakawea is considered an impediment to larval pallid sturgeon survival (Service 2013). The Missouri River in North Dakota is in the Great Plains Management Unit and is identified as such in the Draft Recovery Plan for the Pallid Sturgeon (*Scaphirhynchus albus*) (Service 2013). The Great Plains Management Unit is defined as the Great Falls of the Missouri River, Montana to Fort Randall Dam, South Dakota. This unit includes important tributaries like the Yellowstone River, as well as the Marias and Milk Rivers. The biggest issues that negatively influence pallid sturgeon throughout the Great Plains Management Unit include blocked passage; entrainment; and factors affecting recruitment, including flows and temperature (Service 2013).

## ***Gray Wolf (Endangered)***

### **North Dakota**

The gray wolf is an infrequent visitor to North Dakota, occasionally entering the state from Minnesota or from the province of Manitoba, Canada. However, lone wolves occasionally appear, primarily in the eastern portion of the state. Pups were reported in the Turtle Mountains of North Dakota; one wolf sighting was confirmed in early 2004, and two wolf depredation incidents were verified north of Garrison in late 2005 (71 FR 15266). In January 2011, a coyote hunter mistakenly shot a female gray wolf near Hillsboro, ND ([http://bismarcktribune.com/news/state-and-regional/article\\_567d3f06-48d5-11e0-8579-001cc4c002e0.html](http://bismarcktribune.com/news/state-and-regional/article_567d3f06-48d5-11e0-8579-001cc4c002e0.html)) and see also (<http://www.ohiosportsman.com/forum/showthread.php?t=43607>). In 2003, the Service changed the classification of the gray wolf under the ESA, and three separate ESA listings for the species were established, which correspond to three geographic areas in the lower 48 states with gray wolf recovery programs. North Dakota and Minnesota wolves are within the Gray Wolf Eastern Distinct Population Segment. On December 28, 2011, the Service announced the final rule to delist the gray wolf in the western Great Lakes, and the wolf was no longer protected under the ESA after January 27, 2012 (76 FR 81666).

The gray wolf was delisted in Minnesota and in the portion of North Dakota north and east of the Missouri River at the North Dakota/South Dakota state line upstream to Lake Sakakawea and east of the centerline of Highway 83 to the Canadian border as of January 27, 2012, but remains listed as endangered in western North Dakota. Therefore, in the Project Area the wolf is considered delisted east of Highway 83 and endangered west of Highway 83. In June 2013, the Service evaluated the classification status of gray wolves (*Canis lupus*) currently listed in the contiguous United States and Mexico under the Endangered Species Act of 1973, as amended (FR 78:114, 35664). Based on the Service's evaluation, they proposed to remove the gray wolf from the List of Endangered and Threatened Wildlife. This proposal included the population in North Dakota that remained as endangered (i.e., west of Highway 83 which includes the Project area). The Service reopened the comment period on the proposed delisting several times due to additional information on the nature of wolf taxonomy (Service now recognizes 3 wolf subspecies in the U.S.) and a final decision was anticipated by the end of 2014. The judge overturned the rule and vacated the previous decision returning the Great Lakes DPS to Endangered Status December 19, 2014. Due to the relative absence of secluded habitat in most of North Dakota, there is considerable uncertainty regarding whether a wolf pack will establish or become more common in the state. However, due to proximity, as the Minnesota and Canada populations continue to increase, North Dakota could expect to see additional transients.

## ***Dakota Skipper (Threatened)***

### **Population Rangewide**

Dakota skippers are small butterflies that are found widely scattered across the tallgrass and mixed-grass prairie of Illinois, Iowa, Minnesota, South Dakota, North Dakota, Manitoba, and Saskatchewan (Service 2002). The distribution of the Dakota skipper has become extremely fragmented, mostly due to prairie conversion. Dakota skippers no longer exist in Iowa or Illinois and are currently distributed in western Minnesota, the eastern half of North Dakota, and

northeastern South Dakota at much reduced levels (Service 2002). In October 2013, the Fish and Wildlife Service proposed to list the Dakota skipper as a threatened species under the Endangered Species Act of 1973, as amended (FR 78:206, 63574). In October 2014, the Fish and Wildlife Service listed the Dakota skipper as a threatened species under the Endangered Species Act of 1973, as amended (79 FR 63672). They also proposed to list critical habitat for the Dakota skipper in North Dakota, South Dakota, Illinois, Iowa, Indiana, Michigan, Minnesota, Wisconsin, and Manitoba, Canada (FR 78:206, 63625) but no final determination has been made as of the date of this document.

### **North Dakota**

Dakota skippers are found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: (1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; and (2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers, and blanket flower. Critical habitat was proposed at 14 sites in North Dakota including sites in Richland, Ransom, McHenry, Rollete, McKenzie, Ransom and Wells counties. None are within the Project area but no alternative components are proposed in or near potential critical habitat sites.

### ***Northern Long-eared Bat (Proposed Endangered)***

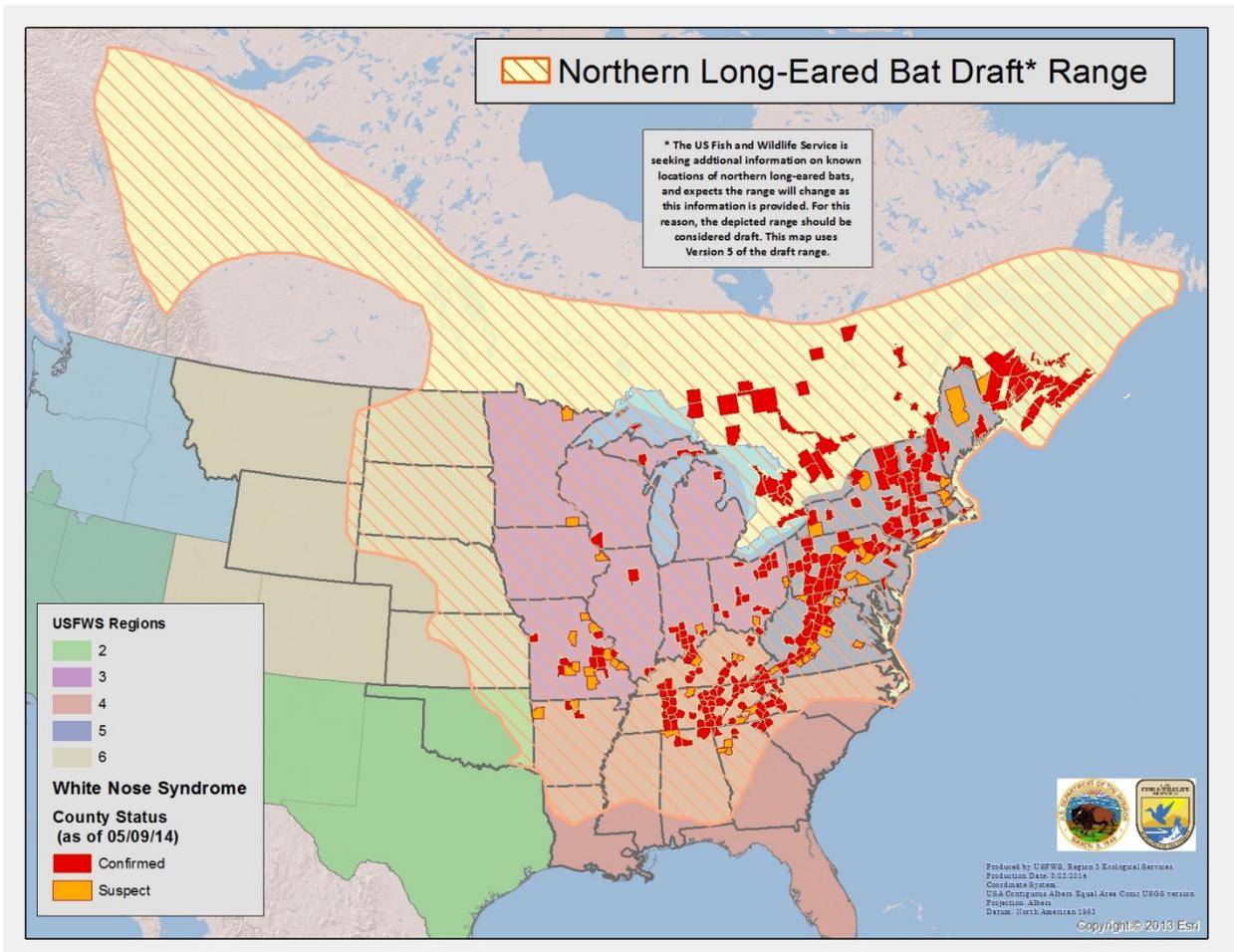
#### **Population Rangewide**

The northern long-eared bat ranges across much of the eastern and north central United States, and all Canadian provinces west to the southern Yukon Territory and eastern British Columbia. In the United States, the species' range reaches from Maine west to Montana, south to eastern Kansas, eastern Oklahoma, Arkansas, and east to the Florida panhandle (**Figure 3-12**). In the west this bat can be found in caves and abandoned mines of the Black Hills of South Dakota and Wyoming and in the badlands areas of the Dakotas. Summer habitat can be found in large forested areas along the Missouri River and in the Turtle Mountains.

Their winter habitat includes hibernacula that usually include caves or abandoned mines. During summer they favor tree roosts and form small colonies. Buildings can also act as roosts. These bats usually tuck themselves under small crevices like under the bark of large trees. Bats usually emerge at dusk to forage in upland and lowland woodlots and tree-lined corridors, feeding on insects, which they catch while in flight using echolocation. This species also feeds by gleaning insects from vegetation and water surfaces. As with many other bat species, these bats migrate between their winter hibernacula and summer habitat. The spring migration period likely runs from mid-March to mid-May, with fall migration likely between mid-August and mid-October.

The biggest threat to this bat is the disease, white-nose syndrome (WNS). If this disease had not emerged, it is unlikely the northern long-eared population would be declining so dramatically. Since symptoms were first observed in New York in 2006, WNS has spread rapidly in bat populations from the Northeast to the Midwest and the Southeast. Population numbers of these bats have declined by 99 percent in the Northeast, which along with Canada, has been considered the core of the species' range. The degree of mortality attributed to WNS in the Midwest and Southeast is currently undetermined. Although there is uncertainty about how WNS will spread

through the remaining portions of the species' range, it is expected to spread throughout the United States.



**Figure 3-12. Range of the Northern Long-eared Bat.**

### North Dakota

Little work has been conducted in North Dakota to document the distribution of this species in North Dakota (Gillam and Barnhart 2011). Summer surveys in North Dakota (2009–2011) documented this species in the Turtle Mountains, the Missouri River Valley, and in the Badlands (Gillam and Barnhart 2011). Gillam and Barnhart (2011) found most of this bat species using tree roosts particularly cottonwoods. To date, no hibernacula have ever been described in the state, nor has bat activity been documented during the winter months but survey work continues searching hibernacula in Theodore Roosevelt National Park. Based on this species ecology and range it could occur in the Project Area during the summer in forested areas along the Missouri River, Souris River, and in the Turtle Mountains in the vicinity of Bottineau.

## Effects Analysis

The term “effects of the action” refers to the direct and indirect effects of a proposed action on listed species and designated critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline...(50 CFR §402.2). Reclamation reviewed the action area settings, life history, habitat information, and environmental baseline for each of the federally listed species to evaluate potential effects. The results of this analysis are reported below.

The Service has identified 3 potential conclusions regarding analyses for impacts on listed species or critical habitat:

- *No effect* - the appropriate conclusion when the action agency determines its proposed action will not affect listed species or critical habitat, or
- *Is not likely to adversely affect* – the appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial.
  - Beneficial effects are contemporaneous positive effects without any adverse effects to the species.
  - Insignificant effects relate to the size of the impact and should never reach the scale where take occurs.
  - Discountable effects are those extremely unlikely to occur.
- *Likely to adversely affect* – the appropriate conclusion if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not: discountable, insignificant or beneficial.

### ***Effects of General Construction and Operations Involving Missouri River Basin Use***

The use of Missouri River water for this preferred (community) alternative was determined to not adversely affect federally listed species using the Missouri River including the interior least tern, piping plover, whooping crane, and pallid sturgeon when considering the OMND service area and supplemental intake (Reclamation 2009, 2012a, 2014) (Corps 2013a). However, impacts to these species as well as the gray wolf, Northern long-eared bat, red knot, Dakota skipper, and Sprague’s pipit could also result from construction activities associated with the construction of the associated buried pipelines and storage reservoirs.

### ***Effects of Facilities Construction***

A search of the internet for documentation of effects of water tanks on birds and bats returned a negative find. With the Exception of inappropriate, extensive night lighting of water tanks there is no documentable, additional risk to migrating birds or bats (Terry Ellsworth, USFWS, ES, Bismarck, ND, pers. comm. October 2014). Associated construction of the five buried pipeline segments would have no effect on pallid sturgeon, least terns, piping plovers, whooping crane, Sprague’s pipit, red knot, gray wolf, northern long-eared bat and Dakota skipper because either the species are not known to occur at any of the sites proposed for construction which represent agricultural fields and or the BMPs and environmental commitments in place would avoid construction impacts and any adverse effects. No on or off Missouri River construction is proposed in critical habitat designated for the Northern Great Plains population of the piping plover or habitat for the Interior least tern. Construction of the pipeline segments does not extend to Corps’ Garrison Project lands where the intake and pumping plant are located. None of the area proposed for construction contains piping plover

critical habitat. None of the area proposed for construction contains Dakota skipper proposed critical habitat or native prairie. Construction of the connecting pipelines and the two storage reservoirs would proceed through agricultural fields and would be restricted by the environmental mitigation commitments and guided by BMPs. Therefore there would be no adverse modification to piping plover or Dakota skipper critical habitats due to construction.

## Findings

*Sprague's pipit* habitat is present near or adjacent to the action area but construction will avoid disturbance of native prairie and BMPs would reduce potential for impacts to insignificant and discountable. Presence of *Sprague's pipit* is unlikely apart from incidental occurrence. Project would not result in the destruction of native prairie and takes place in agricultural fields.

*Whooping cranes* migrate through the proposed project area twice annually. No potential whooping crane roosting habitat is proposed for construction. The pipeline alignment was scrutinized carefully using Geographic Information Systems technology and imagery. Construction of the Water Treatment plant would take place within the busy, heavily developed city limits of Dickinson. Even though migrating cranes could choose to feed in fields associated with the pipeline upgrade alignments or reservoir tank construction sites it would be entirely speculative to predetermine when or where that may happen. Presence of unexpected endangered species discovered near a proposed construction site is dealt with in the environmental commitments. Water reservoirs are common visible objects on the landscape easily negotiated by whooping cranes and other birds whether ground level or raised design structures. Pipeline construction represents temporary disturbance to an area as construction can potentially achieve nearly a mile per day but rate varies by site and pipe size. Construction would cease upon discovery of whooping crane presence.

*Piping plovers, Interior Least tern, and Red knot* could migrate through the project area but it would be speculative as to how that might create effects due to construction as these species would avoid the human disturbance of pipeline or reservoir construction. It would be unexpected for any of these species to encounter construction crews as they build the pipeline or reservoirs. Any of these species is fully capable of avoiding ongoing construction or obstacles posed by construction since they are not likely to occupy or use agricultural fields based on their life histories and no wetlands are crossed or encountered along the pipeline route or reservoir locations. These species are not likely to ever encounter the water treatment plant during construction or when it becomes operational.

*Pallid sturgeon* does not occur within the project area because the project area does not extend to the water of Lake Sakakawea and even so the intakes are appropriately screened.

*Dakota Skipper* could occur within the project area. However, the project design does not include any native prairie traversing only city property and rural agricultural fields or the City's reservoir property adjacent to agricultural fields east of Dickinson.

*Black footed ferrets* have long been considered extirpated from North Dakota. The closest known population is located in South Dakota and is classified as an experimental population.

*Gray Wolf, as a highly mobile and transient species, would not be impacted by the temporary disturbance impacts of pipeline construction in agricultural fields. Animals can easily travel around encountered construction disturbance and these secretive animals are most likely to intentionally avoid temporary construction disturbances. There is little likelihood that gray wolves will establish a pack within the project area or anywhere within the oil play region of the Bakken.*

*Northern long eared bat would not be disturbed by temporary construction in agricultural fields while pipeline or reservoirs are built. No timber stands or likely habitat would be disturbed. Although bats could use buildings or large trees in the Dickinson or Patterson Lake area construction of the water treatment plant within the city limits and east of the existing water treatment plant would have no effect on northern long eared bat.*

*Piping plover no designated critical habit exists within the project area.*

*Dakota skipper proposed designated critical habitat does not exist in the project area which is a very narrow pipeline alignment, two reservoir sites in agricultural fields, and the water treatment plant within the city limits of Dickinson.*

## **Summary of Findings**

### **Determination of affects**

Reclamation has considered the potential of the Project to affect federally listed, candidate, and proposed species including the interior least tern, piping plover, critical habitat for the northern Great Plains breeding population of the piping plover, pallid sturgeon, gray wolf, whooping crane, Dakota skipper, Sprague's pipit red knot, gray wolf, Northern long eared bat, and black footed ferret. With the implementation of BMPs and environmental mitigation commitments Reclamation has made a no effect determination for all species under the implementation of the preferred community alternative for the Project. Critical habitat for the northern Great Plains breeding population of the piping plover only occurs on the Missouri River which is not part of the Project area.

BMPs and environmental commitments are identified to ensure that there is no destruction or adverse modification of critical habitat of the Northern Great Plains piping plover and no designated critical habitat exists within the project area for either the piping plover or Dakota skipper.

## **Climate Change**

### **Affected Environment**

The uncertainties of climate change make reliability of site-specific prediction speculative. The outcome of this project, generally, would result in negligible CO<sub>2</sub> emissions, a known greenhouse gas. Should average temperatures rise in the project area, demand for additional water to meet the already identified need may increase. Ranch operators require the availability of a reliable quantity of quality water to remain viable and residential needs are documented in Bartlett and West (2002, 2010). Those requirements for water already exist regardless of the immediate climate conditions or changes in climate conditions.

Temperatures in the northern Great Plains have risen approximately 1.85 °F between 1901 and 2008 and are projected to warm further during the remainder of 21st century (Reclamation 2011a). In Reclamation's Great Plains region, which includes the Missouri River basin, all areas have become more temperate, and some have experienced a general increase in mean annual precipitation with a decline in spring snowpack, including reduced snowfall-to-rain winter precipitation ratios and earlier snowmelt runoff (Reclamation 2011b).

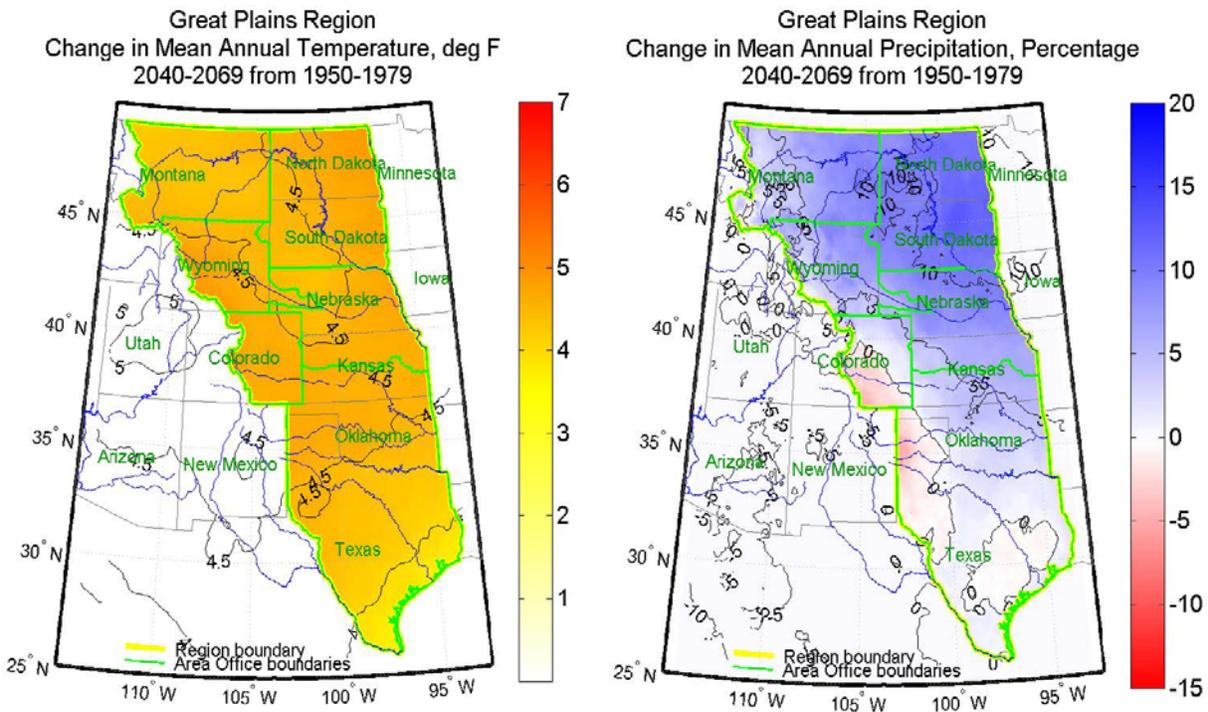
## **Environmental Effects**

Emissions of CO<sub>2</sub> from construction and operation of this project would be low, and would not individually or cumulatively contribute to climate change. Water availability and need could, however, be affected by climate change. Should average temperatures rise in the project area, demand for additional water to meet the already identified need may increase. Changes in annual precipitation could affect the volume and seasonality of runoff in the Missouri River, the source of water for the project. Ranch operators require the availability of a reliable quantity of quality water to remain viable. Residential needs are documented in Bartlett and West (2002, 2010). Those requirements for water exist under the current climate conditions and would remain under any reasonably foreseeable future climate.

According to the most recent report issued by the IPCC, virtually all climate model simulations agree that average annual temperatures in central North America, which includes the Project area, will continue to increase during this century, with a median projected increase of 3.5°C for years 2080 - 2099 as compared to 1980 - 1999 (Christensen et al. 2007). On a global scale, warming is projected to reduce precipitation in the subtropics and increase precipitation at higher latitudes (Arnell et al. 2001; Solomon et al. 2007). However, the location of "boundaries" between areas projected to receive more or less precipitation is uncertain. This uncertainty is reflected in considerable disagreement among model outputs for precipitation change at middle latitudes. For example, the median projected change in annual precipitation for central North America is a 3% increase, but model projections range from a decrease of 16% to an increase of 15% (Christensen et al. 2007).

Reclamation, as part of the SECURE Water Act implementation activity, West-Wide Climate Risk Assessment (WWCRA), has developed runoff projections for the Missouri River basin covering the period from 1950 to 2099. The runoff projections were developed by running 112 downscaled climate change projections through a watershed runoff model (Variable Infiltration Capacity model, Liang et al. 1994). Development of the runoff projections is described in the WWCRA hydrologic projections technical report (Reclamation 2011c).

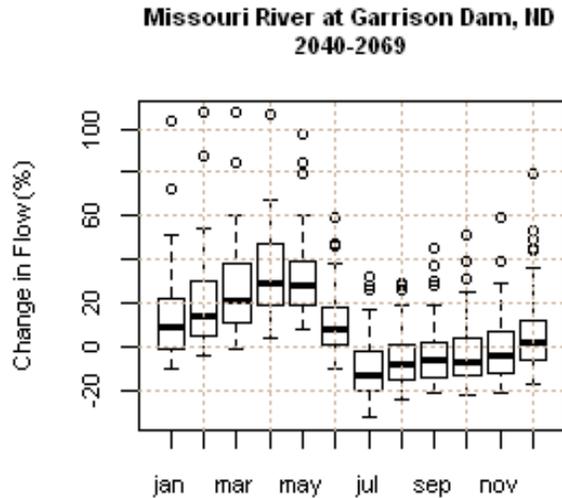
The Great Plains is projected to generally become warmer and wetter as a result of climate change. **Figure 3-13** shows projected changes in mean annual temperature and precipitation over the Great Plains. The figure shows median projections from an ensemble of 112 climate projections. Within this region, the Northern Plains, including the Project Area, exhibits the greatest increases in both projected temperature and precipitation.



**Figure 3-13 Projected Changes in Mean Annual Temperature and Precipitation for the Great Plains**

Note: Figure shows the median projection from an ensemble of 112 downscaled climate projections.  
 Source: Reclamation 2011b

Increased temperatures are expected to change the seasonal pattern of runoff and stream flow (Jacobs et al. 2001). In particular, projections show that warmer winters would result in more winter precipitation falling as rain and less as snow. As a result, snowpack would decrease, winter stream flow would increase, and spring runoff would occur earlier (Christensen et al. 2007). **Figure 3-14** shows box plots that illustrate the range of monthly flow changes for the 2040 to 2069 look-ahead period relative to 1950 to 1999 flows at Garrison Dam based on 112 downscaled climate and runoff projections. The box in the box plots represents the 25<sup>th</sup>- and 75<sup>th</sup>-percentile projections of the flow time-series. The whiskers represent the 5<sup>th</sup>- and 95<sup>th</sup>-percentile projections of the time-series, and the horizontal line within the box corresponds to the median projection of the flow time-series. Outliers (values outside the 5<sup>th</sup> and 95<sup>th</sup> percentiles) are represented with open circles. At Garrison Dam, the median monthly changes show increased flow from December to June and decreased flows from July to November, with a net increase in mean annual flow of about 6 percent under the median projection (Reclamation 2012b). Note that these box plots depict changes in modeled runoff and do not reflect changes in reservoir operations that could result from climate change.



**Figure 3-14** Boxplots of Monthly Flow Changes in the Missouri River at Garrison Dam (2040 – 2069 relative to 1950 – 1999)

Note: Box plots are based on 112 downscaled climate and hydrologic projections.  
 Source: Reclamation 2012b.

In summary, the best available scientific information indicates that runoff in the Missouri River basin is likely to increase in the future due to climate change. Increased runoff would generally be reflected in higher reservoir levels, higher reservoir releases, and higher streamflow in the lower basin downstream of the mainstem reservoir system. The potential effects of climate change on the Missouri River are much greater than any effects attributable to Project water withdrawals.

## Indian Trust Assets (ITA)

The United States has a trust responsibility to protect and maintain rights reserved by or granted to American Indian Tribes or to Indian individuals by treaties, statutes, and executive orders. This trust responsibility requires that all Federal agencies, including Reclamation, take all actions reasonably necessary to protect ITAs. ITAs are defined as legal interests in property held in trust by the United States for Indian Tribes or individuals. Examples of things that may be trust assets include “lands, minerals, hunting and fishing rights, and water rights.”

Trust lands are the most commonly encountered ITA as these are lands set aside for Indian Tribes. However, no trust lands were identified in the area that would be affected by the project alternatives. **Refer to a more complete discussion of ITA’s in Appendix (page Appendix-21).**

## Environmental Justice

Executive Order 12868 requires Federal agencies to consider whether the impacts of their activities will place a disproportionate burden on low income or minority populations. Reclamation is responsible to make that determination. There are no established, known, disadvantaged, ethnic, or minority group populations within the project area.

Environmental justice is the fair treatment of people of all races, cultures and incomes with respect to the development, implementation and enforcement of environmental laws, regulations, programs and policies. Fair treatment means that no racial, ethnic or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from the operation of industrial, municipal and commercial enterprises and from the execution of Federal-State-local-tribal programs and policies.

**Potential Effects and Environmental Consequences of the Proposed Action Community**

**Alternative** - Consistent with Department of the Interior Environmental Compliance Memorandum No. ECM95-3, the proposed project has been analyzed for the equity of the distribution of risks and benefits. There are no known minority populations associated with the Dickinson Water Treatment Plant Project and the area served by SWA. There are no recognized risks to minorities or low income individuals associated with proceeding with the project. It is most likely that all beneficiaries of the SWPP would benefit in the same way. Communities vote on the community decision to undertake or accept Project water. Rural customers make the same choice, but independently. However, rural customers only have that choice if the system is within reach of their property. In this case the SWC has made the determination to design, construct, and fund the new WTP.

**Potential Effects and Environmental Consequences of the No Action Alternative** - The populations of the community of Dickinson and Stark County and the SWPP service areas would still receive rural water from the Missouri River treated in a new water treatment plant in Dickinson, but the construction of the WTP would not benefit from federal funds through Reclamation's GDU MRI Grant program.

## Summary

Reclamation has examined the potential for significant environmental effects to Socioeconomics, Missouri River flows, Endangered and Threatened Species, Climate Change, Indian Trust Assets, and Environmental Justice. Most impacts identified are of a temporary nature.

**Temporary Effects.** Primarily effects from the project are of a temporary nature from excavating and/or boring the pipeline into place. Temporary devegetation or loss of production of the pipeline route would occur from equipment tracks and work activity. Restoration of the pipeline route would see fields returned to crop production and payments made to the landowners for lost production. Pipelines traverse agricultural fields and crop losses are off-set through payment, water crossings are commonly bored, and wetlands and other wildlife habitats are avoided or otherwise managed around according to the Environmental Mitigation Commitments of the Proposed Action Community Alternative, Reclamation's preferred alternative. However, specifically no wetlands were identified along the alignment.

The project sponsor would provide pipeline alignment to the Service's Wetland Management District staff and Zone archaeologist to coordinate avoidance of waterfowl production areas, refuges, and other refuge lands for impacts. The project sponsor would also work with North Dakota Game and Fish managers to avoid impacts to public wildlife areas. Permits and crossing easements would also be obtained within an acceptable time frame.

**Permanent Effects.** An acre would be purchased for long term placement of the additional Richardton water storage tank. This 1 acre Richardton site would be removed from hay or crop production to serve SWPP for the life of the project thereby permanently removing this acre from farm production. Form AD-1006 would be completed and filed with NRCS for the analysis of prime farmland impacts. The Dickinson tank would be constructed on property already owned by SWC.

**No cumulative effects** were identified.

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# Chapter 4

## Compliance With Environmental Statutes

If the Proposed Action Alternative would be implemented it would be accomplished in accordance and compliance with the following environmental laws, regulations, and directives. All permits and necessary authorizations would be obtained prior to construction.

Construction of the Dickinson Water Treatment Plant and Main Transmission Line Project would require that easements be obtained for lands affected by the proposed Project and compliance with the appropriate, applicable State, Federal and Local Laws including but not limited to:

- American Indian Religious Freedom Act of 1978 (P.L. 95-341)
- National Historic Preservation Act of 1966 (P.L. 89-665), as Amended 1992 (P.L. 102-575)
- Native American Graves Protection and Repatriation Act (P.L. 101-601)
- Archaeological and Historic Preservation Act (P.L. 93-291)
- Archeological Resources Protection Act of 1979 (P.L. 96-95)
- National Environmental Policy Act of 1969 (42 USC 4321)
- Clean Air Act (33 USC 7401) and Amendments
- Clean Water Act (33 USC 1251 et seq.), Sections 401, 402, and 404
- Safe Drinking Water Act (42 USC 300f)
- Endangered Species Act of 1973 (P.L. 93-205)
- Farmland Protection Policy Act (P.L. 97-98)
- Fish and Wildlife Coordination Act of 1958 (PL 85-624)
- Indian Trust Responsibilities (512 DM Chapter 2)
- Executive Order 13175 – Consultation and Coordination with Indian Tribal Governments
- Federal Energy Policy Act of 2005
- Executive Order 11988 - Floodplain Management (1977)
- Executive Order 11990 - Protection of Wetlands (1977)
- Executive Order 12898 - Environmental Justice (1994)
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- Migratory Bird Treaty Act (16 U.S.C. 703-711)
- Bald and Golden Eagle Protection Acts (16 U.S.C. 668-668d)
- Fish and Wildlife Coordination Act (16 U.S.C. 661-666c)
- Endangered Species Act of 1973 (16 U.S.C. 1531-1544)

## **List of Preparers**

Kelly McPhillips - Environmental Specialist - DKAO - Bismarck, North Dakota

Elizabeth N. McPhillips - Natural Resource Specialist – DKAO – Bismarck, North Dakota

Greg Hiemenz - Natural Resource Specialist - DKAO - Bismarck, North Dakota

## **Agencies and Persons Consulted**

Reclamation sent a scoping notice (Scoping Notice, page Appendix - 3) announcement to approximately fifty individuals including Native American Tribes, North Dakota's congressional delegation, appropriate state and federal agency contacts, associated county government auditors offices, private individuals, non-governmental organizations, and 2 published newspapers, one in each of the project area counties. That list is available at Dakotas Area Office.

Responses to Reclamation's Scoping Notice for Preparation of a Supplemental EA are cataloged in RESPONSES TO SUPPLEMENTAL EA in Appendix. One private party and seven supportive agency letters of response were received.

On December 3, 2014 Reclamation provided Kathy Baer, Easement Biologist , U.S. Fish and Wildlife Service, Audubon Wetland Management District, with shape files of the proposed pipeline route. Fish and Wildlife Service, Audubon Wetland Management District biologist, Kathy Baer, commented by email December 4, 2014 that Service did not hold any refuge lands or easements in the project area. In addition, Todd Gallion, Audubon Wetland Management District-Western Area Supervisor, commented that there were no refuge properties or easements potentially affected by the preferred community alternative (pers. comm. 01/07/2015).

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# APPENDIX

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## **RESPONSES TO SUPPLEMENTAL EA**

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**STATE  
HISTORICAL  
SOCIETY  
OF NORTH DAKOTA**

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10/6/14	Joe Kelly
CLASSIFICATION	
PROJECT	
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Jack Dalrymple  
Governor of North Dakota

October 3, 2014

North Dakota  
State Historical Board

Mr. Joseph E. Hall  
Chief Resources Division  
U.S. Department of the Interior  
Bureau of Reclamation  
Po Box 1017  
Bismarck ND 58502

Calvin Grinnell  
New Town - President

A. Ruric Todd III  
Jamestown - Vice President

Margaret Puetz  
Bismarck- Secretary

Albert I. Berger  
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Diane K. Larson  
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Chester E Nelson, Jr.  
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Sara Otte Coleman  
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Secretary of State

Mark Zimmerman  
Director  
Parks and Recreation  
Department

Grant Levi  
Director  
Department of Transportation

Merlan E. Paaverud, Jr.  
Director

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NDSHPO REF.: 15-0017 Bureau of Reclamation EA on construction of an expansion water treatment plant in the City of Dickinson, North Dakota and Associated Water Transmission Facilities in Southwest North Dakota.

Dear Mr. Hall:

We reviewed NDSHPO REF.: 15-0017 Bureau of Reclamation EA on construction of an expansion water treatment plant in the City of Dickinson, North Dakota and Associated Water Transmission Facilities in Southwest North Dakota. We recommend a Class I file search and a Class II (reconnaissance) and Class III (pedestrian) cultural resource surveys of the area of potential effect (APE). We also recommend photos of the existing Dickinson treatment plant for evaluation as a potentially historic resource.

Thank you for the opportunity to review to date. We look forward to review of the completed survey. Please include the ND SHPO Reference number listed above in any further correspondence for this specific project. If you have any questions please contact Susan Quinnell, Review and Compliance Coordinator at (701) 328-3576 or [squinnell@nd.gov](mailto:squinnell@nd.gov)

Sincerely,

Merlan E. Paaverud, Jr.  
State Historic Preservation Officer (North Dakota)



**NORTH DAKOTA**  
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION  
Gold Seal Center, 918 E. Divide Ave.  
Bismarck, ND 58501-1947  
701.328.5200 (fax)



www.ndhealth.gov CD

October 6, 2014

Mr. Joseph E. Hall, Chief  
Resources Division  
U.S. Dept. of the Interior  
Bureau of Reclamation  
P.O. Box 1017  
Bismarck, ND 58502-1017

RECEIVED		
OCT 15 2014		
REPLY:	YES	NO
INFO. COPY TO:		
DATE	INITIAL	TO
10-15-14		Kelly
CLASSIFICATION		
PROJECT		
STARK COUNTY		

Re: Construction of a New Expansion Water Treatment Plant, Dickinson, Stark County

Dear Mr. Hall:

This department has reviewed the information concerning the above-referenced project submitted under date of September 29, 2014, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

Environmental Health  
Section Chief's Office  
701.328.5150

Division of  
Air Quality  
701.328.5188

Division of  
Municipal Facilities  
701.328.5211

Division of  
Waste Management  
701.328.5166

Division of  
Water Quality  
701.328.5210

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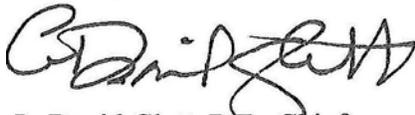
The Southwest Water Authority must notify the Department of any planned changes to the water treatment plant which may result in discharging new or different pollutants, or an increased amount of pollutants. This includes facility expansions, production increases and process modifications. Changes which result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) must be reported, also.

4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glatt, P.E., Chief  
Environmental Health Section

LDG:cc  
Attach.



**Construction and Environmental Disturbance Requirements**

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

**Soils**

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

**Surface Waters**

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

**Fill Material**

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

Environmental Health  
Section Chief's Office  
701.328.5150

Division of  
Air Quality  
701.328.5188

Division of  
Municipal Facilities  
701.328.5211

Division of  
Waste Management  
701.328.5166

Division of  
Water Quality  
701.328.5210

*Printed on recycled paper.*



United States Department of Agriculture

Natural Resources  
Conservation Service

October 6, 2014

PO Box 1458  
Bismarck, ND  
58502-1458  
Voice 701.530.2000  
Fax 855-813-7556

Joseph E. Hall  
Chief, Resources Division  
US Department of Interior  
Bureau of Reclamation  
Great Plains Region  
Dakotas Area Office  
PO Box 1017  
Bismarck, North Dakota 58502-1017

OFFICIAL FILE COPY RECEIVED		
OCT 20 2014		
REPLY	YES	NO
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		Kelly
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PROJECT		
CONTROL NO.		
FOLDER ID.		

Subject: Bureau of Reclamation's Preparation of an Environmental Assessment For Construction of an Expansion Water Treatment Plant in the City of Dickinson, North Dakota and Associated Water Transmission Facilities In Southwest North Dakota.

Dear Mr. Hall:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated September 29, 2014, concerning the construction of an expansion water treatment plant (WTP) within the city limits of Dickinson, North Dakota and adjacent to the existing 60 plus year old WTP, to serve the Southwest Pipeline Project (SWPP) customers including the City of Dickinson, and most of southwest North Dakota.

NRCS has a major responsibility with the Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide importance and local importance) to non-agriculture use when federal funding is used. Your proposed project is within city limits where FPPA does not apply or FPPA has already been applied to the project sites; therefore, no further action is needed.

If you have additional questions pertaining to FPPA, please contact Steve Sieler, Liaison Soil Scientist, NRCS, Bismarck, ND at 701-530-2019.

Sincerely,

WADE D. BOTT  
State Soil Scientist



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
CORPS OF ENGINEERS, OMAHA DISTRICT  
NORTH DAKOTA REGULATORY OFFICE  
1513 SOUTH 12<sup>TH</sup> STREET  
BISMARCK ND 58504-6640

October 1, 2014

North Dakota Regulatory Office

Joseph E. Hall  
US Bureau of Reclamation  
PO Box 1017  
Bismarck, North Dakota 58502-1017

Dear Mr. Hall:

This is in response to your letter dated September 29, 2014, requesting US Army Corps of Engineers (Corps) comments regarding the expansion of the Dickinson Water Treatment Plant and ancillary activities associated with Southwest Pipeline.

Corps regulatory offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 regulates work in or affecting navigable waters. Section 404 regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in the waters of the United States.

Nationwide Permit 12 authorizes activities for the construction of utility lines. A copy of this nationwide permit and conditions is enclosed. **The nationwide permit and conditions are submitted only for informational purposes and in no way is it, or this letter, to confirm that your activity complies with the nationwide permit and conditions.** As explained within Nationwide Permit 12, the permittee is required to submit a pre-construction notification to the Corps of Engineers prior to construction if any of seven criteria are met.

If your proposal would require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Corps of Engineers permit application to the U. S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 12<sup>th</sup> Street, Bismarck, North Dakota 58504. If you are unsure if a permit is required, you may submit an application, or, a letter requesting a jurisdictional determination. Include a project location map, description of work, and construction methodology when submitting either.

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		Joe Kell
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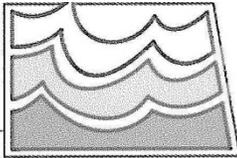
If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,

A handwritten signature in black ink that reads "Daniel E. Cimarosti". The signature is written in a cursive style with a large initial 'D' and a distinct 'E'.

Daniel E. Cimarosti  
Regulatory Program Manager  
North Dakota

Enclosures



# North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850  
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: <http://swc.nd.gov>

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		Kelly
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PROJECT		
CONTROL NO.		
FOLDER I.D.		

October 28, 2014

Joseph Hall  
US Department of the Interior  
Bureau of Reclamation  
Great Plains Region  
Dakotas Area Office  
PO Box 1017  
Bismarck, ND 58502-1017

Dear Mr. Hall:

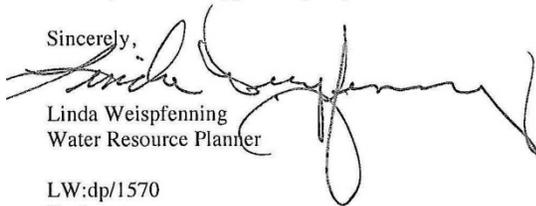
This is in response to your request for input into the development of an Environmental Assessment associated with the Construction of an Expansion Water Treatment Plan in the City of Dickinson, ND and Associated Water Transmission facilities in Southwest North Dakota project.

The proposed project has been reviewed by State Water Commission staff and the following comments are provided:

- Based on the information provided, there are floodplains identified and/or mapped where these proposed projects are to take place. North Dakota has no formal 'permitting' authority as a state entity in National Flood Insurance Program (NFIP) identified floodplain areas. The permitting is always done by the local entity, which has jurisdiction in the area in question. Please work closely with the Community Floodplain Administrators to determine what/if any permits are needed. The Floodplain Administrator for Dickinson is: Loretta Marshik; 99 2<sup>nd</sup> Street E; Dickinson, ND 58601; 701-456-7768. The NFIP map used to make this determination is Panel #38089C0431E, Date 11/4/2010. The Stark County Floodplain Administrator is: Bill Fahlsing; 66 Museum Drive W; Dickinson, ND 58601; 701-456-7605. The NFIP maps used to make this determination was Panels #380089C0300E, 380089C0250E, Date 11/4/2010, and 380089C0225E, Date 11/4/2010. The City of Dodge Floodplain Administrator is: Diane Allmendinger; PO Box 96; Dodge, ND 58625; 701-846-7330. The NFIP map used to make this determination is Panel #3800270001B, Date 3/1/1984. The Dunn County Floodplain Administrator is Sandy Rhode; 205 Owens St.; Manning, ND 58642; 701-573-4609. NFIP map to make this determination is Panel #3800270001B, Date 3/1/1984. In addition, please note that there is not enough information to determine if the additional 31 miles of pipe are located within identified floodplains.
- A construction permit, Application/Notification to Construct or Modify a Dam, Dike, Ring Dike, or Other Water Resource facility, will be needed for this project from the State Engineer.
- A sovereign land permit, Application for Authorization to Construct a Project within Islands and Beds of Navigable Streams and Waters, may be needed from the State Engineer for the Heart and Knife River crossings.
- The ND State Water Commission (Commission) maintains a network of observation/monitor water wells throughout the state, and many are located close to public right-of-ways. The well location information can be obtained from the Commission's website at: <http://swc.nd.gov>; then click on "Map and Data Resources"; and then click on "Map Services".

Thank you for the opportunity to provide comments.

Sincerely,



Linda Weispfenning  
Water Resource Planner

LW:dp/1570  
Encls.

JACK DALRYMPLE, GOVERNOR  
CHAIRMAN

TODD SANDO, P.E.  
SECRETARY AND STATE ENGINEER



# North Dakota Geological Survey

Edward C. Murphy - State Geologist

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

<https://www.dmr.nd.gov/ndgs/>

October 7, 2014

Kelly McPhillips  
Bureau of Reclamation  
PO Box 1017  
Bismarck, North Dakota 58502

Kelly:

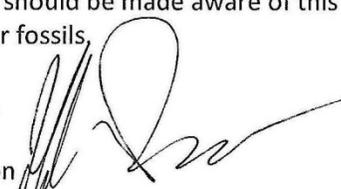
I have reviewed our records to determine if any paleontological sites have been reported from the tracts listed for the following project:

DK-5000-14-01  
ENV-6.00

Bureau of Reclamation's Preparation of an Environmental Assessment for Construction of an Expansion Water Treatment Plant in the City of Dickinson, ND and Associated Water Transmission Facilities in Southwest ND.

No paleontological sites have been reported from these tracts. Paleocene rocks occur at or near the surface in Dunn, Mercer, and Stark Counties. Vertebrate, invertebrate, and plant fossils have been recovered from these Paleocene age rocks elsewhere in North Dakota. The applicant should be made aware of this and contact the North Dakota Geological Survey if they encounter fossils.

Sincerely,

  
Jeff Person  
Paleontologist  
North Dakota Geological Survey  
600 East Boulevard Avenue  
Bismarck, North Dakota 58505  
(701) 328-2803  
fax (701) 328-8010  
[jjperson@nd.gov](mailto:jjperson@nd.gov)

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OCT 8 2014		
REPLY	YES	NO
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		Kelly Samuel
CLASSIFICATION		
PROJECT		
CONTROL NO.		
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## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
North Dakota Ecological Services Field Office  
3425 MIRIAM AVENUE  
BISMARCK, ND 58501

PHONE: (701)250-4481 FAX: (701)355-8513

URL:

[www.fws.gov/northdakotafielddoffice/endspecies/endangered\\_species.htm](http://www.fws.gov/northdakotafielddoffice/endspecies/endangered_species.htm)

Consultation Tracking Number: 06E15000-2015-SLI-0007

October 21, 2014

Project Name: Dickinson Expansion Water Treatment Plant

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Dickinson Expansion Water Treatment Plant

## Official Species List

### Provided by:

North Dakota Ecological Services Field Office

3425 MIRIAM AVENUE

BISMARCK, ND 58501

(701) 250-4481

[http://www.fws.gov/northdakotafieldoffice/endspecies/endangered\\_species.htm](http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm)

**Consultation Tracking Number:** 06E15000-2015-SLI-0007

**Project Type:** Water Supply / Delivery

**Project Description:** Construct New WTP at Dickinson next to existing plus two storage tanks and 31 miles of 30" main transmission line to provide the increased water. The project polygon does not exactly replicate the exact areas of the pipeline but adequate for a list request.

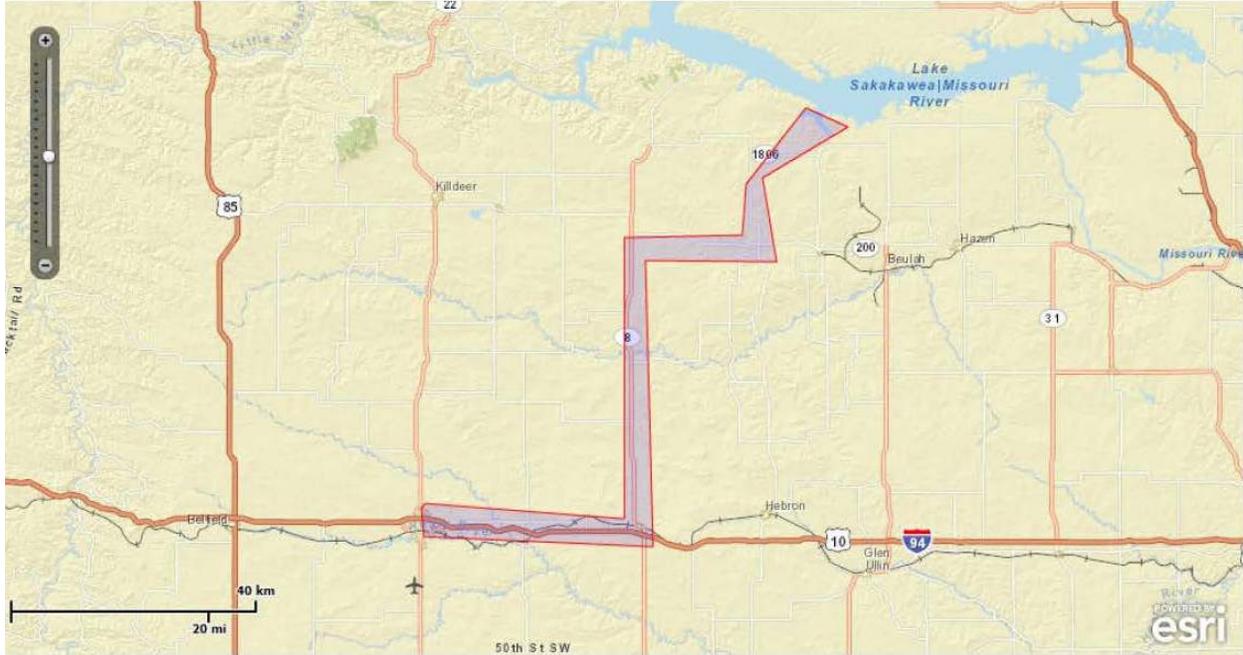
Thanks - Kelly



United States Department of Interior  
Fish and Wildlife Service

Project name: Dickinson Expansion Water Treatment Plant

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-102.7823411 46.8679764, -102.7876969 46.9092718, -102.7794571 46.9167767, -102.3509904 46.894259, -102.3509904 47.3074433, -102.0955582 47.3111679, -102.0873185 47.3856045, -101.9582291 47.4970626, -101.8675919 47.4691274, -102.0516129 47.3948087, -102.0214005 47.2720466, -102.3042985 47.2739102, -102.2879563 46.852952, -102.7823411 46.8679764)))

**Project Counties:** Dunn, ND | Mercer, ND | Stark, ND

<http://ecos.fws.gov/ipac>, 10/21/2014 03:51 PM



United States Department of Interior  
Fish and Wildlife Service

Project name: Dickinson Expansion Water Treatment Plant

<p><b>Black-footed ferret (<i>Mustela nigripes</i>)</b> Population: U.S.A. (specific portions of AZ, CO, MT, SD, UT, and WY)</p>	<p><b>Experimental Population, Non- Essential</b></p>		
<p><b>Gray wolf (<i>Canis lupus</i>)</b> Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, KS, KY, LA, MA, MD, ME, MO, MS, NC, NE, NH, NJ, NV, NY, OK, PA, RI, SC, TN, VA, VT and WV; those portions of AZ, NM, and TX not included in an experimental population; and portions of IA, IN, IL, ND, OH, OR, SD, UT, and WA. Mexico.</p>	<p><b>Endangered</b></p>		
<p><b>northern long-eared Bat (<i>Myotis septentrionalis</i>)</b></p>	<p><b>Proposed Endangered</b></p>		



United States Department of Interior  
Fish and Wildlife Service

Project name: Dickinson Expansion Water Treatment Plant

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.

A single, anonymous private party from the Richardton area contacted Dakotas Area Office on September 29, 2014, in response to the scoping notice in the newspaper. The caller was inquiring as to whether the project would result in a special tax assessment on the local Richardton populace. There is no plan, as part of the proposed community alternative, to include a special assessment for the proposed project.

# Indian Trust Assets (ITAs)

## Introduction

This section addresses the current condition and potential impacts to Indian trust assets (ITAs). The United States has a “trust responsibility” to protect and maintain rights and property reserved by or granted to federally recognized American Indian tribes or to Indian individuals by treaties, agreements, statutes, and executive orders. This trust responsibility is derived from the historical government-to-government relationship between the federal government and Indian tribes as expressed in treaties, agreements, and federal Indian law. This responsibility requires that all federal agencies, including Reclamation, take all actions reasonably necessary to protect ITAs.

## ITAs

ITAs are defined as legal interests in property held in trust by the United States for federally recognized Indian tribes or individuals. Examples of things that may be trust assets include “lands, minerals, hunting and fishing rights, and water rights” (Reclamation 1993b). These three ITAs are addressed in this section: 1) trust lands; 2) hunting and fishing rights; and 3) water rights (**Appendix Table. ITA1**).

## Trust Lands

Trust lands are the most commonly encountered ITA. *Trust lands* are property set aside for Indians with “...the United States holding naked legal title and the Indians enjoying the beneficial interest” (Canby 1991). Trust lands are most often encountered within or near Indian reservations.

## Hunting and Fishing Rights

According to Reclamation’s (1993) ITA policy, *hunting and fishing rights*, as specifically retained or relinquished in treaties, may qualify as ITAs. This is because the right to continue hunting and fishing often was retained in many treaties. Although the courts have not ruled on whether these activities constitute ITAs, they are treated as such here because of Reclamation’s (1993) ITA policy.

## Indian Water Rights

Another ITA that potentially could be affected by the Project is Indian water rights, both surface and groundwater of the tribes in the Missouri River Basin. Such water rights in the basin are a matter of federal law. The basis for this stems from the U.S. Supreme Court’s decision in *Winters v. United States* (1908), which enunciated the Winters Doctrine. According to the doctrine, the establishment of an Indian reservation implied that sufficient water was reserved (or set aside) to fulfill purposes for which the reservation was created, with the priority date being the date the reservation was established. As such, *Indian water rights*, when quantified, constitute an ITA. In *Arizona v. California* (1963) the U.S. Supreme Court held that water allocated should be sufficient to meet both present and future needs of the reservation to assure the viability of the reservation as a homeland. Case law also supports the premise that Indian reserved water rights are not lost through non-use. Regarding water rights, thirteen tribes have reservations located directly on the Missouri River. Several of these tribes are in various stages of quantifying their water rights. Currently, the only tribal reserved water rights that have been quantified or are being quantified are:

- State of Wyoming settlement with tribes of the Wind River Reservation (adjudicated under the McCarran Amendment)
- Compact between the state of Montana and the tribes of the Fort Peck Reservation (awaiting congressional approval)
- Compact between the state of Montana and the tribes of the Fort Belknap Reservation (ratified by the state legislature)
- Compact between the state of Montana and the Crow tribe (ratified by the state legislature)
- Compact between the state of Montana and the tribes of the Rocky Boys Reservation (awaiting congressional approval)
- Compact between the State of Montana and the Northern Cheyenne Tribe (The Northern Cheyenne Reserved Water Rights Settlement Act [Public Law 102-374])

The Corps is the federal agency responsible for operations of the Missouri River. The Corps has recognized that certain Missouri River Basin tribes are entitled to water rights in streams running through and along their reservations under the Winters Doctrine. The Corps' operational decisions concerning the Missouri River Mainstem Reservoir System are based on the water that is in the system and demands placed upon it. The Corps recognizes tribal water rights to the main stem irrespective of whether those rights have been quantified. In doing so, the Corps has recognized that future quantification of these rights could affect operations. With respect to Indian Water Rights, the Manual states:

“When a Tribe exercises its water rights, these consumptive uses will then be incorporated as an existing depletion. Unless specifically provided for by law, these rights do not entail an allocation of storage. Accordingly, water must actually be diverted to have an impact on the operation of the System. Further modifications to System operation, in accordance with pertinent legal requirements, will be considered as Tribal water rights are exercised in accordance with applicable law” (Corps 2004b).

## Methods

The method of analysis employed for this study was first to identify the federally recognized tribe that has historic ties to the project area (U.S.G.S.) through treaties and to identify any trust lands in the Dickinson WTP Project area. The Dickinson WTP Project lies on lands originally occupied by the Mandan, Hidatsa, and Arikara Nation a.k.a. the Three Affiliated Tribes and some of the far southwest region served by the SWPP was occupied by the Standing Rock Sioux of the greater Sioux Nations. However, no trust lands were identified within or adjacent to the area of potential effect of the proposed Project, which is on and around public and private land outside of Indian reservations; it does not include any trust lands.

Although many of the treaties with the tribes in the Missouri River Basin provided for continued hunting and fishing on ceded lands (lands tribes gave up to the United States through treaties), these activities would not be affected by the action alternative. Mandan, Hidatsa, Arikara (Arikari) Teton, Lakota, and Yanktonai of the Great Sioux Nation retained hunting and fishing rights in the 1851 Fort Laramie Treaty and hunting in the 1866 Treaty with Sioux Brule/Fort Laramie Treaty (Royce 1899) (**Table Appendix ITA1- [page Appendix-23]**). Changes through cession continued from pre-1851 continuing through the mid to late 1880's (**Appendix Figures. ITA1-3**).

**Appendix Table ITA1 – Treaties and Agreements of Missouri River Basin Tribes and Retained Rights (Royce 1899).**

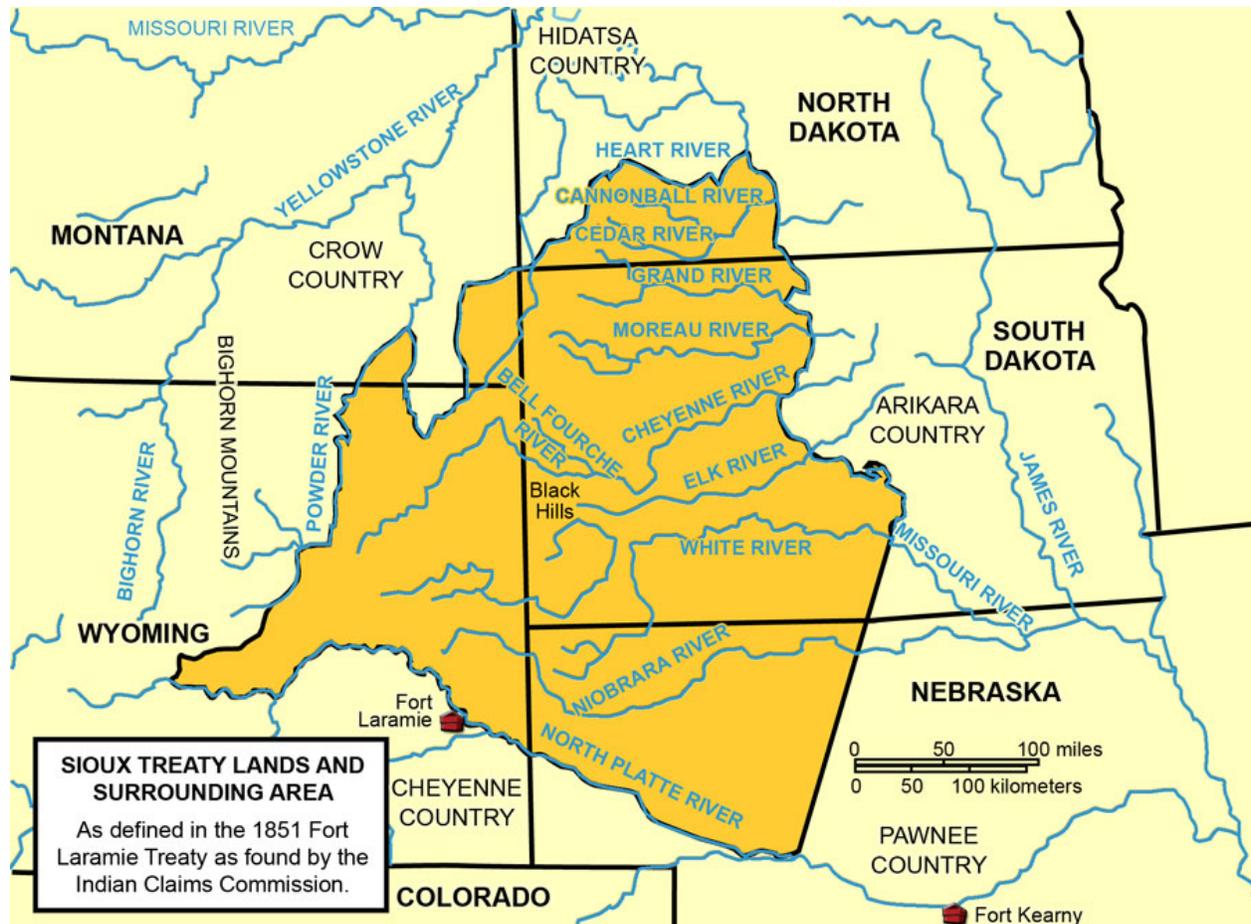
Tribe	Treaty	Retained Rights
Arikara, Grosventres, and Mandan	Agreement at Fort Berthold, July 27, 1866 Agreement with Arikara, Grosventres, and Mandan	Reservation established
Mandan	Treaty with the Mandan Tribe, July 30, 1825, Mandan Village	Trade regulated and protected by the United States
Arikara (Ricara)Tribe	Treaty with The Arikara Tribe, July 18, 1825	Trade regulated and protected by the United States
Yanctonies, Yancton, Teton	June 22, 1825 Fort Lookout South Dakota 10 miles north of Chamberlain	
Standing Rock Sioux Tribe (outside the Area of Potential Affect)	1851 Fort Laramie Treaty 1868 Treaty with Sioux Brule etc/Fort Laramie Treaty 1882 Agreement with Sioux of various tribes (not ratified) 1889 Congressional Act; Great Sioux Settlement	1851-hunting and fishing 1868-hunting 1889-irrigation
Yankton Sioux	1825 Treaty with the Teton etc. 1865 Treaty with the Sioux Yanktonai 1868 Treaty with Sioux Brule/Fort 1894 Act of Congress reduced reservation	

Source: First People/ Indian Treaties <http://www.firstpeople.us/FP-HTML-Treaties/Treaties.html> last accessed 12/8/2014

## Summary

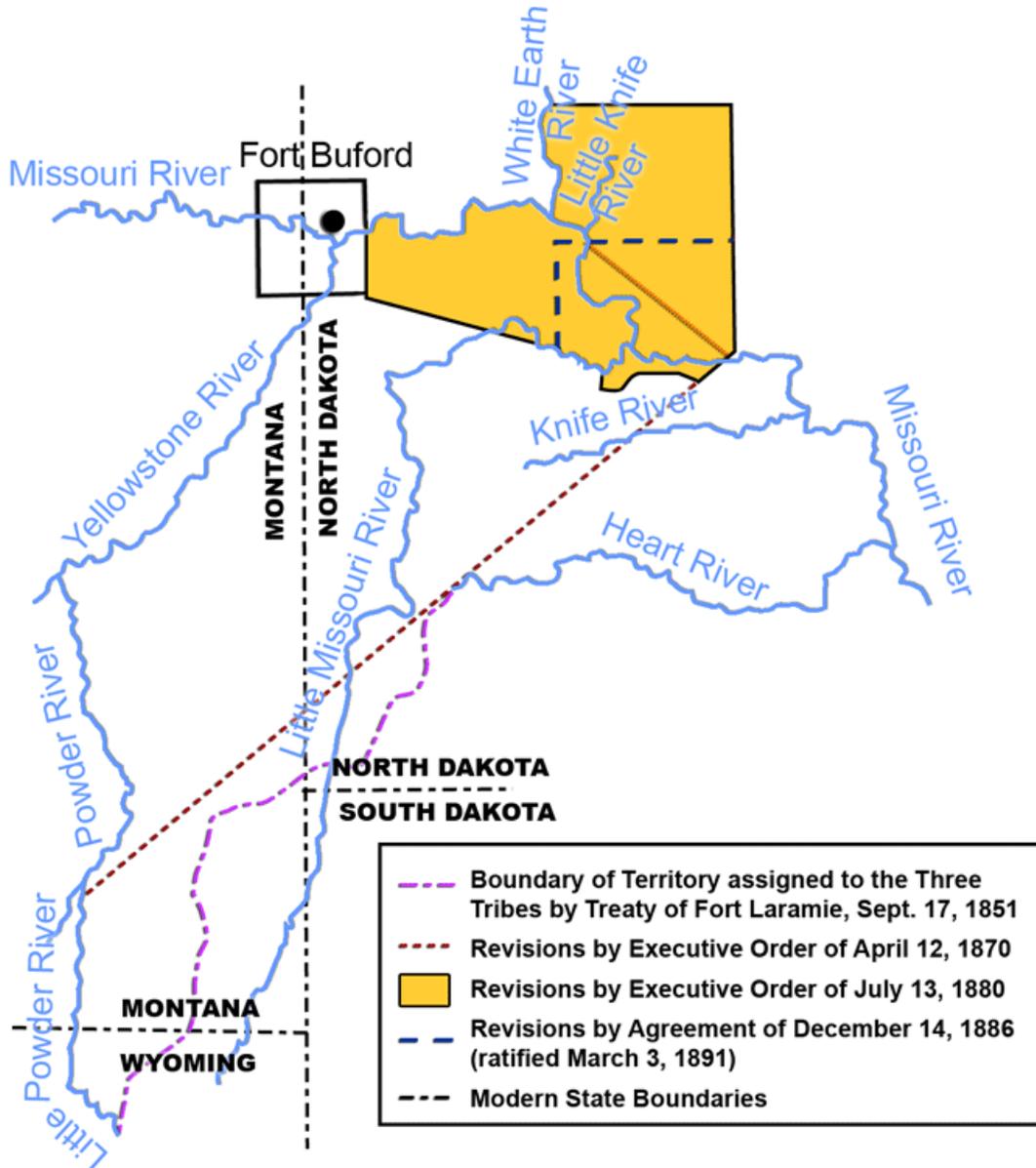
**Proposed Action** Proposed action would not affect trust lands or hunting and fishing rights for the decision to partially fund design and construction of Dickinson WTP Project, as proposed. With respect to water rights, not at issue here, if tribes quantify their reserved water rights and put the water to beneficial use, the volume of water available for other users in the Missouri River Basin may be affected. The Corps (2004), who stores the water, has stated, “[u]ntil such time as the Tribes quantify their water rights and consumptively withdraw their water from the Mainstem Reservoir System, the water is in the system.” The Corps intends to operate the Missouri River using the water currently in the system. Although the WTP project would use a slight increase in water from Lake Sakakawea, relative to the entire stored volume of the reservoir the volume would be insignificant and would not in any way effect the Tribes rights to water.

**No Action.** Should Reclamation choose the No action alternative it would not make available federal funds through Reclamation, however, it would not alter affects to trust lands, hunting or fishing rights, or water rights as none are directly indirectly, or cumulatively effected.

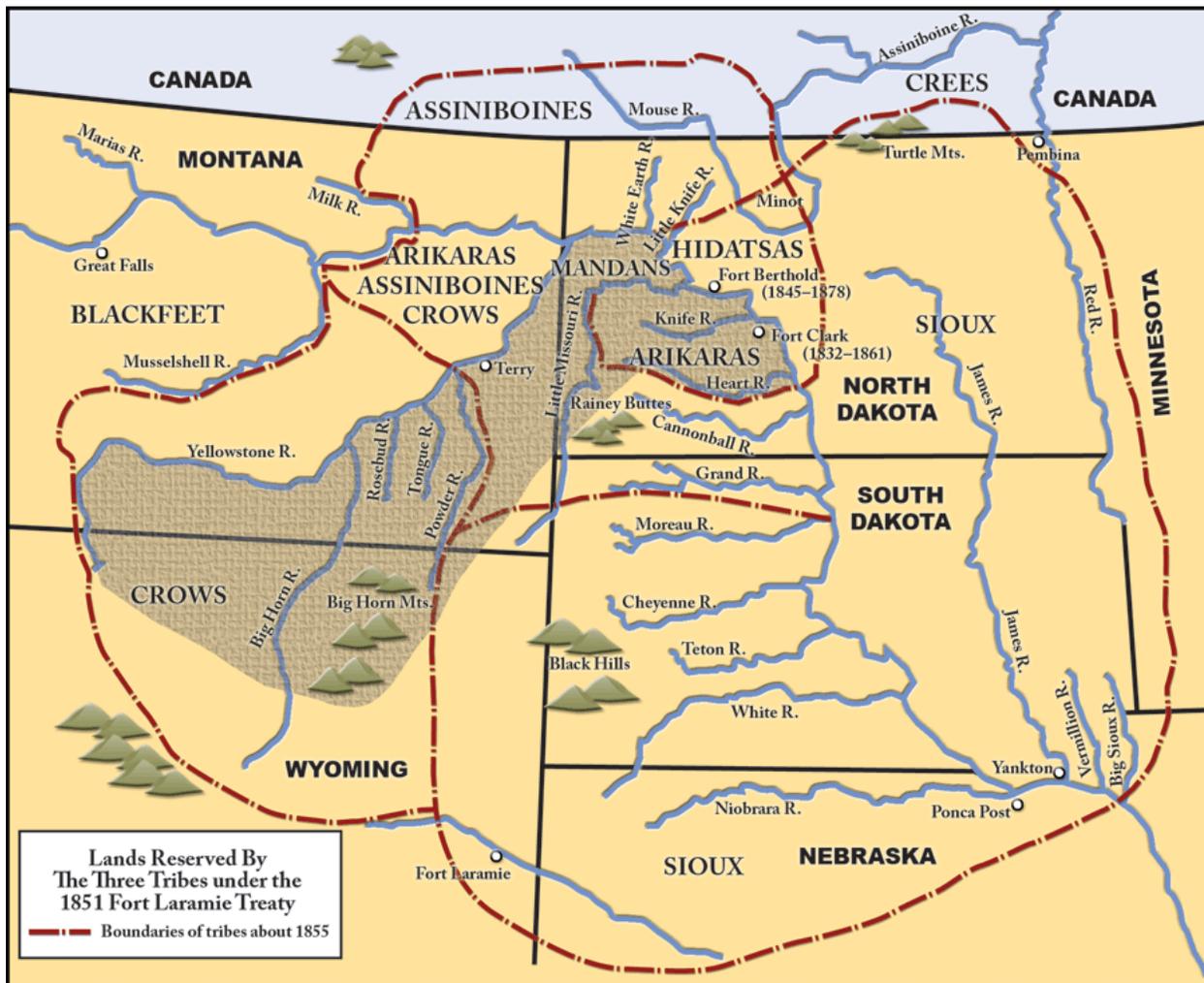


**Appendix Figure ITA1. Lands identified in the Fort Laramie Treaty of 1851.** *Source:* <http://ndstudies.gov/gr8/content/unit-iii-waves-development-1861-1920/lesson-4-alliances-and-conflicts/topic-2-sitting-bulls-people/section-3-treaties-fort-laramie-1851-1868> last visited 12/09/2014

## LAND CESSIONS BY THE THREE TRIBES 1870–1886



**Appendix Figure ITA2. 1851 Fort Laramie Treaty with modifications through 1886.** Map of the lands reserved by the Mandan, Hidatsa, and Arikara under the 1851 Fort Laramie Treaty. (Map by Cassie Theurer, adapted from Palocios, 1964, in Prucha, 1990.)



**Appendix Figure. ITA3.** Mapping of land cessions by the tribes as of the Treaty of 1851 depicted by Map by Cassie Theurer, adapted from Charles Royce in Meyer, 1977.

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