RECLAMATION
Managing Water in the West

October 2011
Dakotas Area Office

Northwest Area Water Supply Project

Supplemental Environmental Impact Statement: Project Update

Introduction

Work is underway on the Supplemental Environmental Impact Statement (SEIS) for the Northwest Area Water Supply Project. The SEIS will address the District Court's order regarding the consequences of transferring potentially invasive species into the Hudson Bay Basin and the cumulative impacts of water withdrawals on Lake Sakakawea and the Missouri River. In addition, previous environmental analyses completed for the Project are being re-examined and updated, as necessary. The Bureau of Reclamation and a team of planners, engineers, and scientists are conducting studies to identify the practicable and reasonable alternatives for providing a reliable source of high quality treated water to residences, businesses, and industrial users in northwestern North Dakota. Ongoing studies will estimate future water needs based on updated population forecasts, evaluate alternative design concepts to meet projected needs, and assess the risks and consequences of the unintended transfer of microorganisms between the Missouri River Basin and the Hudson Bay Basin from the water diversion associated with the Project.

Overview of SEIS Process

The NEPA process for preparing a Supplemental EIS for the Project began in August 2010 with the publication of a Notice of Intent in the Federal Register. In September 2010, a series of public scoping meetings was held at four locations in northwestern North Dakota (Bottineau, Minot, New Town and Bismarck). Input received at these meetings and during the formal scoping period was used to identify the environmental issues and concerns to be analyzed in the SEIS. A Summary of Public Scoping report is available on Reclamation's website (www.usbr.gov/gp/dkao) for more information on the input received. The SEIS process will integrate key studies, as discussed in this newsletter. Members of the SEIS team are reviewing and analyzing existing data, maps, and other environmental information to develop an understanding of the natural and human environment that would potentially be affected by the Project.

The SEIS will evaluate the action alternatives and a no action alternative to determine the positive and negative effects of implementing the alternatives. If potential negative impacts are identified, Reclamation will propose appropriate mitigation measures to avoid, minimize, rectify, reduce, or compensate for the environmental impacts. Once completed, the Draft SEIS will be made available for public review during a formal comment period. During the comment period Reclamation will hold a series of public hearings at several locations within the Project area to provide residents and other interested parties an opportunity to express their opinions and concerns.

U.S. Department of the Interior
Bureau of Reclamation

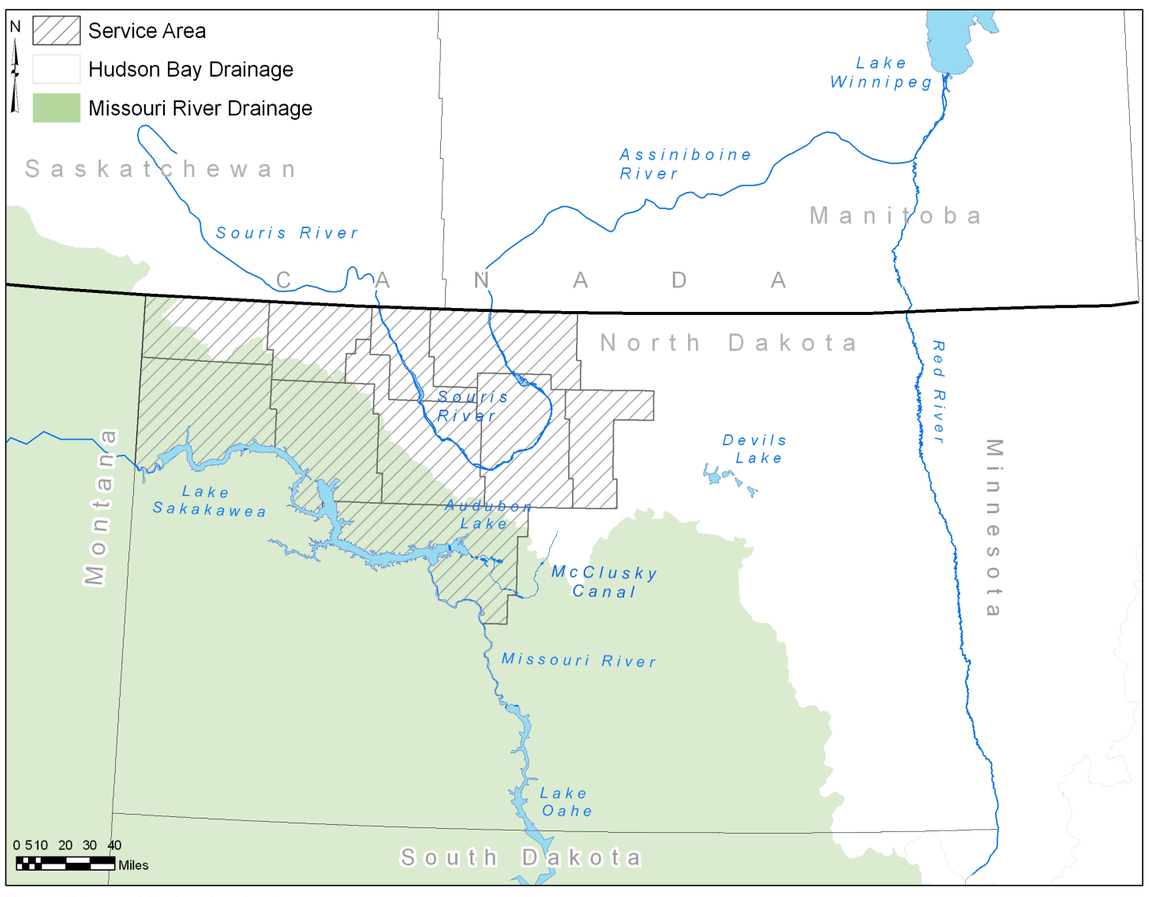
Reclamation's SEIS Team

Reclamation has contracted with Cardno ENTRIX to conduct the analyses and prepare the Supplemental EIS. Established in 1945 in Brisbane, Australia, Cardno has become one of the top international firms listed by the Engineering News and Record, with more than 160 offices and 4,200 employees worldwide. Cardno ENTRIX is one of the largest pure environmental and natural resource management consulting firms in the United States. The firm has a long history of working with Reclamation in preparing National Environmental Policy Act (NEPA) documents on large-scale Reclamation projects dealing with interstate and international issues.

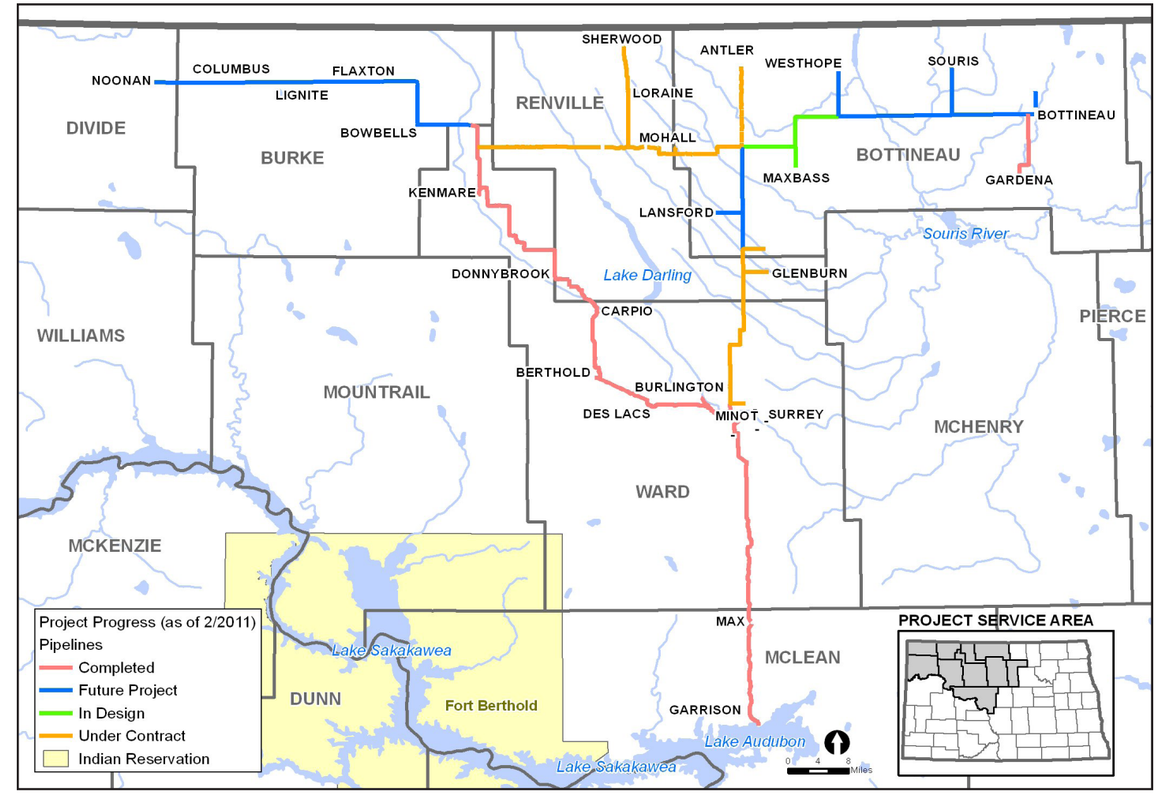
Cooperating Agencies

Reclamation recently met with five federal, state, and local agencies who have agreed to participate as cooperating agencies to provide guidance on issues, provide data, and review technical work during the SEIS process. Key objectives and issues were discussed with this cooperating agency team, along with the approaches to be used to evaluate the issues and the major milestones in the process of preparing the SEIS. The following are Cooperating Agencies:

- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- North Dakota State Water Commission
- City of Minot
- Garrison Diversion Conservancy District



Missouri River and Hudson Bay basins.



Project Service Area.

Water Needs & Supply Assessment

Northwestern North Dakota has experienced water supply problems for many years. Many municipalities and small communities, as well as farms and ranches, currently obtain their water supplies from groundwater sources that are of poor quality. Many of the cities and rural water systems do not currently meet secondary standards of the federal Safe Drinking Water Act. Groundwater sources may be sufficient in some areas, but not without developing additional well fields, pipelines, and treatment capabilities. A few cities have been able to take advantage of surface water supplies; however, water from the Souris River is considered marginal from both a quality and quantity standpoint.

Reclamation has initiated a Water Needs and Supply Assessment to provide updated estimates for future water demands and water supplies in the Project service area. This assessment will provide projections for water needs through the year 2060. The updated water demands and supply projections will be used in the SEIS to develop reasonable and practicable alternatives that meet the Project's purpose and need. With assistance from the North Dakota State Water Commission, communities and rural water systems have been surveyed to gather information about their existing water supply and treatment facilities and capacities, as well as information on their future plans. Projected water needs will be compared to the capacity of existing surface water and groundwater supplies to determine future water needs. Potential alternatives to the current plan to withdraw water from Lake Sakakawea may include aquifer storage and recovery, additional wellfield development with enhanced groundwater treatment, offstream reservoirs, and enhanced water conservation, among others.

Alternatives

The SEIS will evaluate a range of water supply alternatives that could replace the poor quality or quantity water sources presently being used by communities and rural water systems in the Project area. Reclamation and Cardno ENTRIX are reviewing existing alternatives and developing new alternatives for consideration. Alternatives will be identified through a rigorous development and evaluation process conducted by Reclamation, in coordination with the cooperating agencies. Drawing on the expertise of our engineers and scientists, a range of potential project elements are being identified (e.g., water sources, treatment, transmission, and storage). These project elements will be screened based on feasibility, cost, environmental impact, and other selected criteria. From reasonable and feasible combinations of these project elements Reclamation will establish at least three action alternatives to be compared with the proposed action and no action alternatives in the SEIS.

SEIS Resources to Be Analyzed

Based on direction from the District Court and input received from the public, Reclamation has identified the following resource areas for evaluation in the SEIS:

- Earth Resources
  (Geography, Topography and Soils)
- Water Resources
  (Surface Water and Ground-water)
- Air Quality and Climate
- Noise
- Fisheries and Aquatic Ecology
- Transbasin Effects of Microorganism Transfer
- Vegetation
- Wetlands
- Wildlife
- Social and Economic Conditions
- Environmental Justice
- Land Use and Ownership, Recreation, and Prime Farmlands
- Historic and Archaeological Resources
- Indian Trust Resources

Alternatives developed to meet the Project purpose and need will be evaluated to determine the impacts (positive and negative) each alternative could have on these resources. Impacts associated with the implementation of the action alternatives will be compared to the consequences of the No Action alternative.

Transbasin Effects Study

A key issue being evaluated in the SEIS is the potential risk and consequences of transferring microorganisms from the Missouri River Basin to the Hudson Bay Basin as a result of Project operations. The unintentional transfer of non-native microorganisms from one basin to another can have serious environmental and economic consequences. The primary objectives of the analysis are to inventory both natural and human influenced transfer pathways in the United States and Canada, understand the Project's influence on microorganism introductions, and outline potential environmental consequences of the transfer event and subsequent establishment of non-native microorganisms. The evaluation of potential consequences will be based on well-documented records of historical invasions. Consequences may include economic impacts on local communities, recreational opportunities, and commercial fishing. The Project's influence on the transfer of invasive microorganisms will be assessed in the context of other non-Project transfer pathways.

Microorganisms of concern include:

- Cyanobacteria
- Protozoa
- Fungi
- Bacteria
- Viruses
- Animal parasites
- Mollusk larvae

U.S. Coast Guard ballast water inspection. Photo by Petty Officer 3rd Class William B. Mitchell.

Missouri River Depletion Analysis

One of the issues raised during prior legal challenges, as well as by the public, was the cumulative effect of the proposed use of Missouri River water to supply the Project. Future depletions of water from the Missouri River basin will have an effect on the availability of water needed to meet the various Missouri River purposes, and could affect the benefits that are provided by the economic uses and environmental resources dependent upon the mainstem river reservoir system.

Reclamation, in cooperation effort with the U.S. Army Corps of Engineers, is evaluating this issue. The Corps of Engineers is the federal agency responsible for the operation and routing of water within the Missouri River system. Information to be used in this analysis includes historic and potential future depletions within the Missouri River basin. Reclamation is updating the necessary data which includes the most recent Agricultural Census Data (2007) and the public supply demands and industrial supply demands based on U.S. Census data (2010). Reclamation is also compiling information on potential future federal projects that could be developed within the basin and potential water demands associated with oil and gas development within the basin.

These data will be provided to the Corps of Engineers for input into their Daily Routing Model. The Daily Routing Model is a water accounting model used by the Corps to assist them in making decisions for the operation of the Missouri River. Output from the Daily Routing Model will show changes in river flows and lake levels that would result from Project withdrawals and other estimated future water depletions within the Missouri River system. Potential impacts to the authorized purposes of the Missouri River system and the environmental resources within the river system will be evaluated based upon these changes. Reclamation will continue to work with Cardno ENTRIX and cooperating agencies on the best approach to evaluate the cumulative effects of the Project on Lake Sakakawea and the Missouri River.

Climate Change

While the issue of climate change has not been addressed in previous environmental studies completed for this Project, it is being addressed in the SEIS. The climate change analysis is a two-pronged approach involving the evaluation of effects of the Project on climate change (i.e. green house gas emissions) and the effects of climate change on potential water supplies for the Project. The evaluation of green house gas emissions involves calculating the amount of energy use required for construction activities, as well as the energy use required to operate and maintain facilities associated with each alternative.

Water Releases from Garrison Dam (June 2011).

As a bulk water supply project proposing to serve numerous communities and rural water systems, it is also prudent to evaluate changes in water availability associated with climate change. Reclamation, as authorized by the Secure Water Act, is taking a lead role in assessing climate-driven risks to Western United States water resources. Reclamation has developed climate change projections and conducted analyses for the major river basins in the Western United States, including the Missouri River Basin. Earlier this year, Reclamation released the Secure Water Act Report and the West-wide Climate Risk Assessment. These reports can be viewed at www.usbr.gov. Information and data used for these studies is the basis for the analysis of the effects of climate change on potential water supplies for the Project.

Next Steps

Work on the Draft SEIS and supporting technical studies will continue throughout this year and into 2012. The anticipated release date for the Draft SEIS is June 2012. Reclamation will continue to work with the cooperating agencies in these efforts. Key milestones in the development of the Draft SEIS include the completion of the water needs and supply assessment, development of the alternatives, assessment of the potential impacts associated with each alternative and appropriate mitigation measures to address negative impacts. As the analyses proceed, Reclamation will also provide updates to the public through the publication of newsletters, such as this, and posting information on the Project website (www.usbr.gov/gp/dkao/naws).

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