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Santee Sioux Nation and the Village of Niobrara
Water Supply Feasibility Study
Environmental Summary
May 28, 2008

This environmental summary provides a status report and documentation of the activities involved with the National Environmental Policy Act (NEPA) process and the Endangered Species Act (ESA), Section 7 consultation for the feasibility study for the Santee Sioux Reservation Municipal, Rural, and Industrial (MR&I) Water Supply System.

Background:

The Bureau of Reclamation (Reclamation) and the Santee Sioux Nation (Nation) are in the process of evaluating the water supply needs of the Santee Sioux Reservation (Reservation) through the year 2050. A feasibility study is being conducted to determine the most effective method of developing a safe and adequate MR&I water supply system for the Reservation and the Village of Niobrara. This system would meet the collective water supply demands of all residents who reside within the Reservation boundary and the city limits of the Village of Niobrara. The feasibility study is authorized by Public Law 108-204 Sect. 125. It is a detailed investigation to be used as a basis for seeking congressional authorization for constructing the project. During the feasibility study process proposed solutions, referred to as reasonable alternatives, are developed to meet the recognized needs, problems, and opportunities. From those alternatives a preferred plan is developed.

The Reservation lies in the north-central part of Knox County in northeastern Nebraska (as indicated on the map on page 3 of the Status Report). The Reservation is approximately 175 square miles and is bordered by Lewis and Clark Lake and the Missouri River to the north and property in Knox County to the east, west, and south. The resident population is centered in the Village of Santee (Village) in the northernmost portion of the Reservation.

Reservation water supplies are drawn almost entirely from the Bazile Creek well field near the western boundary of the Reservation. Findings from the U.S. Environmental Protection Agency (EPA) Title 106 Water Quality Management Program indicate that pesticides do not appear to be a problem for the Reservation's domestic groundwater supply. However, nitrate-nitrogen and total coliform bacteria appear to exceed EPA primary drinking water standards in a significant number of wells. Initial findings indicate that the contaminant source is related to septic system effluent or onsite confined animal feeding operations, rather than agricultural non-point source pollution. Poor quality water which is delivered to the Village, as well as cluster housing projects and rural areas of the Reservation imposes economic and potential health constraints.

As part of the planning process, Reclamation and the Nation completed a Needs Assessment, MR&I Water System, Santee Indian Reservation, Nebraska (Needs Assessment) in March, 2004. The Needs Assessment identified six reasonable alternatives which could meet future water supply needs of the Nation, which is estimated to be approximately 500 gallons per minute. These reasonable alternatives, included drawing water either from surface and/or groundwater

resources or tying into the existing rural water systems adjacent to the Reservation, will be further refined in the feasibility study. The alternatives are briefly described below:

1. Well Field in the Southeast Corner of the Reservation – Wells would be installed in an aquifer located in the southeast corner of the Reservation. Following chlorination and fluoridation, water would be pumped via a main pipeline to the vicinity of the existing tribal water treatment building. From there, booster pumps would lift the water to the Village. Distribution lines would branch off the main pipeline to convey water to rural residences on the Reservation.

2. Tribal Surface Water Treatment Plant at Bazile Creek – Surface water would be directly diverted from Bazile Creek at a location south of the existing tribal water treatment building. Water would be treated by chemical and/or physical means. Water would be delivered to the Village using an existing pipeline. A distribution system would convey water to rural residences on the Reservation.

3. Tribal Surface Water Treatment Plant at the Missouri River – Water would be diverted directly from the Missouri River in the vicinity of the Village "boat docks." A new treatment plant would be constructed to treat the water which would then be distributed to the Village and rural residences on the Reservation.

4. Tribal Groundwater Treatment Plant in the Vicinity of the Existing Bazile Creek Well Field – The existing well field would be expanded with the installation of additional wells. A new treatment plant would be constructed to treat the water which would then be conveyed to the Village through an existing pipeline with a distribution system installed to convey water to rural residences on the Reservation.

5. Connection to the Cedar-Knox Rural Water System –A distribution system would be developed for the Reservation that connects to the existing Cedar-Knox Rural Water Authority delivery network. The water use at the existing treatment facility for Cedar-Knox is near capacity, and it is anticipated that Cedar-Knox would need to construct a new facility to meet the demands of the Reservation.

6. Connection to the West Knox Rural Water System – A distribution system would be developed for the Reservation that connects to the existing West Knox Rural Water System. The well supply and storage capacity of the West Knox system would need to be expanded to meet the demands of the Reservation.

Screening Process

A process to screen the Needs Assessment alternatives was initiated in October 2005 (*Attachment F*). The primary goal of the screening process was to jointly identify among Reclamation, the Santee Nation, and the Village of Niobrara the most reasonable alternative(s) to advance in the feasibility study for detailed engineering design, cost estimation, and evaluation. This process was required since the funding level wouldn't allow detailed evaluation of more than one or two alternatives.

The screening process ended with a meeting of the study participants, resulting in a consensus decision to proceed with a more detailed evaluation of a raw water supply from Lewis and Clark Lake (Missouri River) near the Village of Santee (Figure 1). Obtaining a water supply from this source is problematic due to significant sedimentation in the lake, with the resultant uncertainty of channel locations. Because of this uncertainty, the study participants decided the study would concentrate on obtaining a water supply through Missouri River alluvium via wells or infiltration galleries.

NEPA Process:

NEPA requires that public scoping be conducted to ensure that all reasonable alternatives are identified and the National Historic Preservation Act (NHPA) requires that the views of the public regarding potential impacts to the environment and historic properties be sought and considered.

On August 25, 2005, Reclamation and the Nation conducted a technical meeting and public scoping meeting. The purpose of the meetings was to present information about the feasibility study and the proposed six reasonable alternatives developed for the Needs Assessment. The public was asked to help identify issues, concerns, and resources associated with the alternatives currently proposed or any others that may be develop because of public input. Comments received at the technical and public meetings will be used in the preparation of the NEPA compliance document. At this time, Reclamation anticipates preparing an environmental assessment and Finding of No Significant Impact (FONSI).

The technical scoping meeting consisted of a morning field trip and afternoon meeting. The following Federal and State agencies were in attendance:.

University of Arkansas
National Park Service
Nebraska Department of Health and Human Services System
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
Santee Sioux Nation – Air Quality Department
Santee Sioux Nation Tribal Council
Nebraska Game and Parks Commission
U.S. Army Corps of Engineers
Indian Health Service
Cedar-Knox Rural Water District
Northeast Nebraska RC&D
Congressman Tom Osborne's office
West Knox Rural Water District
Lewis and Clark Natural Resource District
U.S. Department of Agriculture – Rural Development

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The public meeting was conducted following the technical scoping meeting. There were 18 individuals in attendance. The comments received during the technical and public scoping meetings are summarized below:

1. Reclamation should consider the development of a watershed management plan
2. The study area should be expanded to include the towns of Center and Niobrara
3. Consider combining Alternative 5 (Connection to the Cedar-Knox Rural Water System and Alternative 6 (Connection to the West Knox Rural water System)
4. Serious consideration should be given to the reduction of pesticide/herbicide use
5. Is it possible for Reclamation to adjust cost-sharing requirements for non-tribal communities?
6. Reclamation should consider moving Tribal surface water treatment plant site on the Missouri River (Alternative 3) further upstream because of the location of the Village's septic system
7. Reclamation should consider infiltration wells and/or collector wells as an option to Alternative 3
8. Reclamation needs to give full consideration to the COE permit requirements necessary prior to implementing any of the alternatives
9. EPA water quality permit certification on tribal lands
10. There is concern regarding the number of existing contaminated/abandoned wells on Tribal Lands and a question was asked if any program was available to help with well closure
11. The Nebraska Game and Parks Commission (Commission) indicated a need to identify potential impacts to the Commission's property
    located downstream of the Tribe's surface water treatment plant at Bazile Creek (Alternative 2)
12. The COE indicated their agency has easements/fee title in downstream area in the vicinity of Alternative 2 (Tribal Surface Water Treatment Plant at Bazile Creek)
13. Dredging might be required for Alternative 3 (Tribal Surface Water Treatment Plant at the Missouri River)
14. Alternative 3 (Tribal Surface Water Treatment Plant at the Missouri River) should consider going further upstream for better supply – Crazy Peak
15. Other adjacent communities cannot afford to cost-share to pay for the study
16. What is the process for concerned citizens to address existing pollution problems?
17. Will the future of the Ogallala Aquifer affect this project?
18. How much will it cost individual users for water service?
19. Reclamation should consider point-of-use treatment
20. Will rural water needs take a "back seat" to urban needs?
21. Do seismic events affect water quality?
22. Reclamation should consider service to all residents within the reservation boundary
23. How do tribal members residing in adjacent villages affect cost-sharing requirements? (Niobrara, Center, Bloomfield, Verdigre)?
24. If the "No Action" is part of the study why is no one exploring what might happen if there were no chemical use or feedlot lagoons. The issue of continued contamination of Nebraska's water is a huge issue.
25. Extensive irrigation has changed the groundwater levels

Endangered Species Act (ESA):

On September 14, 2005 Reclamation sent the U.S. Fish and Wildlife Service (Service) a memorandum requesting information on any listed species, species proposed for listing or candidate species that may be present in the Niobrara River Basin and within the proposed Santee Feasibility study project area.

On January 23, 2006 the Service provided Reclamation with a list of federally listed species and designated critical habitat with the proposed project area, pursuant to the requirements of the ESA, as amended. The following species may occur in the proposed project area or be affected by the project t: (1) whooping crane, (2) piping plover, (3) interior least tern, (4) pallid sturgeon, (5) American burying beetle, and (6) western prairie fringed orchid. This information will be used in the preparation of the biological assessment to meet ESA Section 7 consultation requirements. If additional funding is appropriated to complete the study, it may be necessary to contact the Service in the future for an updated species list.

Future Steps and Requirements:

The NEPA analysis can begin once a full range of reasonable alternatives have been developed. A brief list of future NEPA activities is shown below:

Tribal consultation
Updated water quality data
Develop purpose and need statement
Develop draft alternatives
Develop pertinent sections of the NEPA document
Internal review of draft NEPA document
Incorporate internal comments and changes and finalize draft NEPA document
Send draft out for 30-day public review
Incorporate public comments on draft NEPA document
If necessary, prepare draft biological assessment (BA)
Provide the Service with copy of draft BA
Incorporate the Service's comments in draft BA
Finalize NEPA document and FONSI