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CORPS OF ENGINEERS, TULSA DISTRICT
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CESWT-RO

Determination of Need for Environmental Impact Statement (EIS) Proposed Lower Bois d'Arc Creek Reservoir

SUBJECT: Environmental Impact Statement Determination for Proposed Lower Bois d'Arc Creek Reservoir, Fannin County, Texas

1. PURPOSE: To make a decision whether to prepare an EIS for the Department of the Army permit application on the proposed Lower Bois d'Arc Creek Reservoir project, Project Number SWT-14659.

2. BACKGROUND AND DISCUSSION:

a. In December 2006, the North Texas Municipal Water District (NTMWD) initiated pre-application consultation with the U.S. Army Corps of Engineers (USACE) to address permitting issues associated with the proposed Lower Bois d'Arc Creek Reservoir project. On June 4, 2008, the NTMWD submitted an application to the USACE to discharge dredged and fill material into waters of the United States (U.S.), an activity subject to Section 404 of the Clean Water Act in conjunction with the construction of Lower Bois d'Arc Creek Reservoir. Evaluation of the Section 404 permit application is also a Federal action subject to review under the National Environmental Policy Act of 1969 (NEPA).

b. The proposed project would impound the waters of Bois d'Arc Creek and create a new water supply reservoir. The dam would be 10,400 feet long and have a maximum height of 90 feet. At the designed conservation pool of 534.0 feet mean sea level, the lake would comprise 16,641 surface acres. This reservoir would provide water to numerous towns, cities, and utility districts in portions of Collin, Dallas, Denton, Fannin, Hunt, Kaufman, Rains, and Rockwall Counties in north central Texas. Based on information currently available, this region is one of the most rapidly developing areas in North Texas. Population projections developed by the State of Texas show the NTMWD's service population more than doubling to 3.3 million over the next 50 years. The NTMWD projects a water shortage of 90,000 acre-feet per year, increasing to 318,000 acre-feet per year by 2060. At conservation pool, the proposed reservoir will store 367,609 acre-feet and provide a firm yield of 126,200 acre-feet per year. The cost of dam construction is estimated at $200 million and the cost of related transfer pipelines, water treatment, and storage facilities is estimated at $257 million.

c. The NTMWD has applied to the Texas Commission on Environmental Quality (TCEQ) requesting the right to impound up to 376,609 acre-feet of water and to divert up to 175,000 acre-feet per year from Lower Bois d'Arc Creek for municipal, industrial, and agricultural uses. Water withdrawn from the lake would be pumped through 29 miles of 90-inch pipeline to a proposed water treatment facility and 460-million-gallon terminal storage reservoir near the town of Leonard, in southern Fannin County, Texas. A portion of the water from the lake would be used to supplement existing supplies in an area of Fannin County that lies within the Lower Bois d'Arc Creek basin. To allow NTMWD the ability to supplement water supplies treated at its existing facilities in Wylie, Texas, NTWMD proposes the construction of 14 miles of 66-inch pipeline from the Leonard water treatment plant to Pilot Grove Creek near the town of Blue Ridge. The remainder of the water diverted from the lake would be transferred (interbasin transfer) via this pipeline to Pilot Grove Creek, thence within the creek to the NTMWD's water treatment facilities on Lake Lavon in Denton County, Texas, then distributed throughout the NTMWD service area in the Trinity River Basin.

d. Overall, the proposed lake project would result in direct fill impact or inundation of approximately 120 acres of perennial streams, 99 acres of intermittent streams, 87 acres of open water, 4,602 acres of forested wetlands, 1,223 acres of herbaceous wetlands, and 49 acres of shrub wetlands. This represents a total direct impact to 6,180 acres of waters of the U.S. The total stream impact to result from the proposed lake is inundation of 262,944 linear feet of perennial stream and 388,080 linear feet of intermittent stream. The hydrology of Bois d'Arc Creek is characterized by rapid rises and falls in response to precipitation in the basin and out of bank flooding at least once in most years. During dry times each year, Bois d'Arc Creek and its tributary usually exhibit little to no flow while maintaining pools and pockets of persistent water. Impoundment of the flows of Bois d'Arc Creek and diversion to water supply would alter the dynamics and reduce the volume of water available to service aquatic resource functions located in reaches of Bois d'Arc Creek downstream of the proposed dam. The applicant has engaged an interagency In-stream Flow study to characterize baseline conditions and ultimately identify environmental flow releases that are necessary to maintain or improve aquatic habitat and stream conditions for existing aquatic life.

e. Impoundment of the lake would eliminate the use of two public roads that cross the stream valley, Farm to Market (FM) Road 1396 and County Road 2645. The applicant has entered discussions with Texas Department of Transportation and Fannin County regarding construction of a bridge and thoroughfare across the lake in replacement of FM 1396, but details on the location and connections to existing roads are not available at this time. Immediately downstream of the dam site, Bois d'Arc Creek enters the proclamation boundary of the Caddo National Grasslands (CNG) Bois d'Arc Unit, administered by the

U.S. Forest Service, Department of Agriculture. The CNG is composed of a matrix of forestland, grassland, private in-holdings, and small lakes (Coffee Mill Lake and Crockett Lake) providing a variety of public recreation opportunities. Impoundment of the proposed lake would potentially alter the dynamics of the riparian zone and flood plain habitats adjacent to Bois d'Arc Creek.

f. In addition to the Section 404 permit, NTMWD has also applied for a Water Rights permit from the TCEQ, Water Rights Permitting Team. This application is being reviewed concurrent with the Section 401 Water Quality Certification, under review by the TCEQ, Water Quality Standards Team. The Section 402 stormwater permit will be submitted to TCEQ for review upon completion. There are no other Federal permitting or licensing actions associated with this project other than the Section 404 permit required by the USACE. As such, the USACE is the only Federal regulatory agency involved with this project.

g. The Upper Trinity Regional Water District (UTRWD) currently has a Section 404 permit application pending in the USACE Fort Worth District, Regulatory Office for the proposed construction of Lake Ralph Hall. Lake Ralph Hall is a proposed 7,605-surface-acre impoundment of the North Sulphur River in southern Fannin County for water supply purposes. This project would impact a total of 339.3 acres of waters of the United States, most of this would be permanent impacts to perennial and intermittent stream. There are no wetland impacts associated with the proposed Lake Ralph Hall because it would occur in a stream valley characterized by extensive past channelization and downcutting by the resident streams. This project site is located within the same county (Fannin), approximately 18 miles southeast of the proposed Lower Bois d'Arc Creek Reservoir site. The District Commander of the Fort Worth District determined in July 2008 that Lake Ralph Hall will require an EIS. Collectively, the reservoirs would impound water within approximately 24,131 acres of Fannin County. This would represent approximately 4 percent of Fannin County. Collectively, these reservoirs, plus lands and waters that would be required for compensatory mitigation, have the potential to significantly affect the population and economic condition of Fannin County. Other similar reservoir proposals in the region have also resulted in the determination of need for an EIS, specifically:

- Lake Columbia (proposed 10,000-acre reservoir in Smith and Cherokee Counties, Texas)

- Applewhite Reservoir (2,500-acre reservoir, construction started 1989 and halted 1991 due to funding, Bexar County, Texas)

- O.H. Ivey Reservoir (completed 19,000-acre reservoir in Concho, Coleman, and Runnels Counties, Texas).

h. A Public Notice soliciting comments on the proposed Lower Bois d'Arc Creek Reservoir was issued in October 2008 for an initial 30-day comment period which was extended an additional 30 days in response to requests from the Environmental Protection Agency (EPA) and the U.S. Fish and Wildlife Service (USFWS) based on the complexity of the project and the magnitude of potential effect. Comments generated from the public notice were generally opposed to the proposed reservoir. Only two letters were received in favor of the proposal, one from the Texas Water Development Board and one from a private individual. Fifty-two comment letters were received expressing opposition to the proposed lake, mostly from individuals and business in the area. The EPA, the USFWS, and the Texas Parks and Wildlife Department are opposed to the lake as currently proposed. In addition, 45 letters requested an EIS be required for the project, and 38 individuals requested a public hearing on the proposal. The public concerns expressed regarding the proposed lake can be grouped as follows: 1) total impact to aquatic resources, 2) loss of wildlife habitat, 3) loss of bottomland hardwood wetlands, 4) loss of productive agricultural lands, 5) potential impacts to historic and archeological resources, 6) impacts to the county tax base and agri-businesses, 7) aggravated flooding in the town of Bonham, 8) transferal of water out of the Bois d'Arc basin to "wasteful" municipal uses in the Dallas urban service area, 9) impacts to property values, 10) displacement of generational ranchers and loss of livelihood, 11) economic impacts to the county for commitment of additional lands for mitigation of lake impacts, 12) downstream impacts from impoundment of water, 13) shallowness and drawdown of lake resulting in "unattractiveness" of ultimate shoreline properties, and 14) potential secondary and cumulative impacts related to the diversion pipeline construction, releases to Pilot Grove Creek and the proposed water treatment facility at Leonard.

3. RECOMMENDATION: After careful consideration of the information received to date on the proposed Lower Bois d'Arc Creek Reservoir project and an evaluation of 33 CFR Parts 230 and 325, particularly 230.6, Actions Normally Requiring an EIS, and the Council on Environmental Quality Executive Office of the President, NEPA regulations 40 CFR 1500-1508, the USACE believes that an EIS should be prepared. Further, we have determined that an EIS is appropriate in this case for the following reasons:

a. Based on the information to date, the impoundment of 367,609 acre-feet of water and diversion of 126,200 acre-feet per year from the Bois d'Arc Creek basin to the Trinity River basin could result in significant adverse effects to the aquatic ecology of Lower Bois d'Arc Creek and is associated riparian environments.

b. The proposed project would result in the direct loss of approximately 4,602 acres of bottomland hardwood wetlands and altered

hydrology for bottomland hardwood wetlands in the stream valley downstream of the proposed dam. Bottomland hardwood wetlands are a diminishing resource type in the region, and the EPA has identified them as an "aquatic resource of National importance".

c. The proposed project may result in adverse impacts to public lands within the Caddo National Grasslands, Bois d'Arc Unit, located downstream of the proposed dam. Although one of the proposed mitigation vehicles for impacts of lake construction would be to acquire additional lands within the proclamation boundary of the Caddo National Grasslands, this needs to be a part of the Section 404 and NEPA evaluation process for this project, considering both detrimental and beneficial effects on the National Grassland.

d. On a cumulative basis, two large reservoirs proposed for construction within one county have the potential to result in significant economic effects and would likely cause significant changes in existing development patterns and substantial or significant alterations to the rural nature of Fannin County. In addition, Fort Worth District has already determined the Lake Ralph Hall project will require an EIS.

e. Overall, natural resource agencies including the USFWS, Texas Commission on Water Quality, and Texas Parks and Wildlife Department, in addition to one county official and one environmental organization (Texas Conservation Alliance), have serious concerns regarding potential impacts associated with this project. The USFWS and the EPA, in addition to 45 other commentors, have requested the USACE prepare an EIS for this project.

f. The proposed project would displace numerous residents and result in the loss of livelihoods and substantial reduction to the functional size of adjacent landholdings. Many of these landowners have operated their lands for generations.

g. Assure adequate and impartial evaluation of the availability of less environmentally damaging practical alternatives.

h. The absence of a detail mitigation plan which would offset the extensive impact to wetlands and aquatic resources in the proposed lake basin.

i. Evaluation of potential secondary, indirect, and cumulative impacts related to the construction of related facilities, specifically the transfer pipelines and the proposed water treatment facility at Leonard.

Based on the factors identified above and that the proposal appears to be controversial in nature, the USACE has determined this project constitutes a major Federal action that has the potential to significantly affect the quality of the human environment and

requires the preparation of an EIS. In accordance with Regulatory Guidance Letter No. 05-08 "Environmental Impact Statements, Third Party Contracting", Headquarters guidance on EIS preparation, dated 17 December 1997, Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the USACE Procedures for Implementing NEPA (33 CFR 320), the USACE is required to prepare an EIS on a permit action through the use of a third party contractor paid by the applicant, but who is selected and supervised by the USACE. We are, therefore, recommending preparation of a third party Regulatory EIS, under the provisions of NEPA.

Once the third-party contractor(s) are selected, the USACE (rather than the applicants) will be responsible for directing their work and ensuring that the information they provide is consistent with USACE statutory requirements to take a hard, objective look at the public interest and environmental factors. The USACE will also take full responsibility for the scope and contents of the EIS, and regularly participate in the preparation of the document and independently evaluate the information to ensure that it is technically adequate and not biased.

Anthony C. Funkhouser

ANTHONY C. FUNKHOUSER, P.E.
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26 MAR 09
Date