

Executive Summary

Initial Appraisal of the Neosho River Logjam John Redmond Reservoir, Kansas

February 2005

Sediment and debris have been noticeably collecting in the upper reach of John Redmond Reservoir (Reservoir) in the Neosho River (River) since the early 1970's. The Neosho River logjams appear to have consolidated and expanded in the River near the Reservoir before 2004. In 2004, the greatest accumulation of debris occurred since construction of the Reservoir and the logjam is now about 1.5 miles long. The extension of the logjam closed the Jacobs Creek Landing boat ramp that provided access to the Neosho River. Later in 2004 another logjam on Eagle Creek severed boating between Eagle Creek and the Neosho River.

Section 216 of the 1970 Flood Control Act (Public Law 91-611), as amended, provides general authority for the Secretary of the Army to review operations of completed projects when found advisable due to changed physical, economic, or environmental conditions. Identification of a need to modify structures or operations presumes that the needs exceed the opportunities available under existing project authority (operation and maintenance).

Discussions with local interests and government have identified a concern that the current logjam will "grow" upstream toward the community of Hartford and possibly impact river access via the Hartford boat ramp. A concern has also been expressed that the backwater effect of the logjam, even now, may be causing flooding problems as far away as Emporia. Human health concerns were investigated by the Kansas Department of Health and Environment. No significant issues were identified.

No assumption to quantify the upstream migration of the logjam (either terminus or rate of migration) is made for this assessment due to the many variables and general lack of data on which to base such an assumption. There is little risk that the current or foreseeable logjam could cause flooding outside of project lands, however. Real estate acquired for the project includes a flood control storage area that rises about 30 feet above the logjam.

The requirements for modification of existing projects established by Section 216 of the 1970 Flood Control Act and implemented by ER 1105-2-100 and ER 1165-2-119 are not met by the existence or conditions that may be created by the logjam in the Neosho River at John Redmond Reservoir. Therefore, the report contains no recommendation for modification of the project. Seven alternatives were examined to address the logjam and one alternative to offer a voluntary buyout and relocation of Jacobs Creek Landing property owners. The alternatives to address the logjam are described in the report and ranged in initial costs from about \$1 million (to clear the Jacobs Creek Landing boat ramp) to about \$65 million (to revitalize the resources of John Redmond Reservoir, including clearing of the logjam).

Maintenance measures described in the report are within the operations and maintenance authority of the project. They are briefly described below:

. • Maintenance Measure 1 – Remove the logjam in the vicinity of the Jacobs Creek Landing boat ramp. Clearing the logjam at this location will allow recreation access to the Neosho River and Refuge. There is a significant risk that the ramp will again be closed by additional debris. The preliminary estimated cost is \$370,000 initially, plus \$25,000 for annual maintenance.

. • Maintenance Measure 2 – Remove the logjam at the mouth of Eagle Creek and construct a permanent boat ramp on Eagle Creek to restore recreation access to the Neosho River and Refuge. An expansion of the Neosho River logjam to a point upstream of the mouth of Eagle Creek would preclude further clearing of the Eagle Creek logjam. Continued maintenance of the Eagle Creek access point would provide fishing and hunting access to the Refuge. The preliminary estimated cost is \$180,000 initially, plus \$25,000 for annual maintenance.

. • Maintenance Measure 3 – Construct and maintain a public access and boat ramp in the vicinity of Neosho Rapids. The loss of Neosho River access from the Jacobs Creek Landing and temporary Eagle Creek boat ramp leaves the Hartford ramp as the only public access to the fishing and recreation resources of the Neosho River within the John Redmond project lands managed by the U.S. Fish and Wildlife Service as the Flint Hills National Wildlife Refuge. Future logjams could continue to close the Jacobs Creek Landing and Eagle Creek access to the Neosho River. Construction of a Neosho Rapids access point will provide long-term access to the Neosho River with a relatively low risk of impact from logjams. The preliminary estimated cost is \$70,000, plus \$25,000 for annual maintenance. No additional maintenance costs would be required if the Jacobs Creek Landing boat ramp remains closed.

. • Maintenance Measure 4 – Develop and implement a long-term Neosho River debris and sediment removal plan for water resources and environmental management, regional economic development, preservation and/or restoration of water supply and flood control storage, and regional recreation resources. The preliminary estimated cost is \$3.3 million initially, plus \$50,000 for annual maintenance starting at the end of construction.

The recommended maintenance measure is to construct and maintain a public access and boat ramp in the vicinity of Neosho Rapids. Construction of this access point would provide long-term access to the Neosho River with a relatively low risk of impact from logjams. The preliminary estimated cost is \$70,000, plus \$25,000 for annual maintenance.

Annual program maintenance and fiscal priority decisions made at the national level may not allow this effort to be included in the Corps' budgetary submission; however, it will be prepared and submitted in Fiscal years 2007 through 2012.