RECORD OF DECISION
ARKANSAS RIVER NAVIGATION STUDY
M^{C}CLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM
ARKANSAS AND OKLAHOMA

1. DECISION. After consideration of the Final Environmental Impact Statement (FEIS), the Feasibility Report, and other information relevant to the Arkansas River Navigation Study, I have decided that the USACE will proceed with implementation of Alternative E as described in the Feasibility Report and FEIS. The Feasibility Report and FEIS identify Alternative E as the preferred USACE action. Alternative E includes:

- deepening the navigation channel from 9 feet to 12 feet from the Mississippi River to Catoosa, Oklahoma;
- disposing of material from the deepening in new and existing dredge material disposal sites;
- maintaining channel depth by dredging, construction/modification of river training devices, and construction/modification of revetments;
- modifying operational flow management; and
- implementing measures to protect aquatic, terrestrial and wetland environs, and protected species.

This decision was made while balancing essential considerations of applicable laws and regulations, national and USACE policy, the views of interested agencies and publics, the National Economic Development Plan, the USACE Environmental Operating Principles, the authorized purposes of the existing project, and potential impacts to the natural, social, and economic environment. I find Alternative E feasible from engineering and economics perspectives, acceptable from the environmental and social perspectives, and in the public interest. Implementation of the proposed action will be consistent with the terms of this Record of Decision (ROD).

2. BACKGROUND. The MKARNS is approximately 445 miles in length and includes a series of 18 locks and dams that provide for commercial navigation throughout the length of the MKARNS. River flows on the MKARNS are primarily influenced by rainfall in the upper Arkansas River watershed upstream of its confluence with the Verdigris River (river mile 394); as well as water storage and release from 11 reservoirs in Oklahoma. The Little Rock and Tulsa Districts of the USACE constructed the MKARNS and are charged with the operation and maintenance of the system for commercial navigation and other project purposes of flood control, recreation, hydropower, water supply, and fish and wildlife.

Three primary factors influence navigation on the MKARNS:

Maintenance of the Navigation Channel. The navigable channel is maintained by periodic dredging and river training structures. Many of the current dredge material disposal areas are nearly full, and many of the sites approved in 1974 have succeeded into high-quality floodplain habitats.

River Flow Management. Various flows are achieved by modifying operational releases from upstream flood control reservoirs.

Navigation Channel Depth. The present 9-foot draft navigation channel was originally authorized for the MKARNS. The Mississippi River below the mouth of the MKARNS has an authorized 12-foot channel. A 12-foot channel has been authorized for the MKARNS.

3. FEATURES AND ALTERNATIVES CONSIDERED. Formulating alternatives that would improve commercial navigation efficiency on the MKARNS, while maintaining project purposes of flood control, recreation, hydropower, water supply, and fish and wildlife was an iterative process.

Alternatives comprised of various components and several specific components were eliminated from detailed consideration. Raising the elevation of the present pools was eliminated because of extensive ecological, economic, and social impacts, as well as real estate costs. Alternatives to deepening various combinations of selected reaches, to deepen only a portion of the length of the navigation channel, or deepening the channel to a depth of 10 feet by dredging were eliminated since they would not be cost effective. Several flow management ranges were considered and eliminated because they were not effective or were ecologically unacceptable. However, some flow management levels were retained for detailed consideration.

Two components involving Navigation Channel Depth Maintenance were evaluated in detail:

- disposal of maintenance dredged material in areas approved in the 1974 Operations and Maintenance (O&M) Plan, after currently utilized disposal sites reach their capacity, regardless of the quality or type of habitat present; and
- disposal of maintenance dredged material only in selected areas approved in the 1974 O&M Plan, and in new disposal sites designated in the 2003 Long-Term Dredged Material Disposal Plan (DMDP).

Both of these components include the use of new disposal sites to accommodate continued maintenance dredging and the construction of additional river training structures to facilitate maintenance of the navigation channel.

Three River Flow Management components were evaluated in the second iteration. These components each focused on a range of flows as measured at Van Buren, Arkansas and Sallisaw, Oklahoma. These components are referenced in the EIS and Feasibility Report as the:

- 175,000 cfs Component,
- 200,000 cfs Component, and the
- Operations Only Component.

Only the Operations Only Flow Component would achieve the desired navigation improvement, have a positive cost benefit ratio and have minimal adverse environmental impacts. The 175,000 cfs and 200,000 cfs Components were not considered in the final array of alternatives.

Two Navigation Channel Deepening Components were considered in the final detailed analysis.

- Navigation Channel Deepening to 11 feet, and
- Navigation Channel Deepening to 12 feet.

These components vary in the amount of material dredged and disposed as well as the length and number of new or modified river training structures.

The FINAL ARRAY of ALTERNATIVES included the No Action Alternative, and four alternatives developed by combining components from those listed above. The alternatives evaluated in the FEIS are identified below:

Alternative A - No Action (the environmentally preferred alternative). Alternative A would maintain the current channel depth of 9 feet. Although Alternative A would have the least adverse effects to terrestrial and aquatic resources, it would have significant adverse impact to several sites previously approved for dredged material disposal that are now covered with mature forest habitats. Alternative A was not selected because it did not result in improvements to the Navigation system.

Alternative B – Navigation Channel Maintenance Only. Alternative B is similar to Alternative A; both would maintain a 9-foot channel. However, Alternative B would allow use of new disposal sites. Dredged material disposal sites for Alternative B would impact more terrestrial and aquatic habitat than Alternative A. Alternative B was not selected because it would not provide all the desired benefits to navigation.

Alternative C - Navigation Channel Maintenance and Operations Only Flow Management. The dredging and disposal impacts associated with Alternative C are similar to Alternative B. Flow management changes would also be incorporated along with channel maintenance. Alternative C would enhance the efficiency and reliability of commercial navigation associated through reduction of high flows. Alternative C would have positive economic benefits, but it would not capture all the potential economic benefits, and was therefore not selected.

Alternative D - Navigation Channel Maintenance, Operations Only Flow Management, and 11-Foot Navigation Channel. Impacts associated with increased noise, sediment suspension, and impacts to recreational and aesthetic resources would occur during the initial deepening of the navigation channel. Implementation of Alternative D would impact more terrestrial and aquatic habitat along the length of the MKARNS than Alternatives A, B or C. The expanded river bottom dredging relative to the 9-foot channel may affect submerged archeological sites and documented shipwreck sites. Alternative D was not selected because it did not provide net positive economic benefits to the navigation system.

Alternative E - Navigation Channel Maintenance, Operations Only Flow Management, and 12-Foot Navigation Channel (the National Economic Development Plan alternative). The types of impacts resulting from Alternative E would be similar to those identified for Alternative D. The terrestrial impacts of Alternative E would be essentially the

same as Alternative D, however it would degrade a larger area of river bottom by dredging. The expanded river bottom dredging relative to the 9-foot of channel may affect more submerged archeological sites and documented shipwreck sites than the11-foot channel. Alternative E was selected because it would provide the greatest net economic benefits to the navigation system.

4. MITIGATION. Mitigation measures would be implemented by the USACE to eliminate or reduce unavoidable adverse impacts. Compensatory mitigation has been substantially reduced through efforts to avoid and minimize effects to high quality habitats.

Approximately 302 acres of forested habitat and 390 acres of grassland habitat would be lost with the use of all potential dredged material disposal sites over the 50-year economic life of the project. Creation of approximately 130 acres of higher quality bottomland forest and 248 acres of higher quality marsh would mitigate for these lost acres.

The mitigation for dike field/slackwater impacts would include notching approximately 200 dikes/revetments, maintaining or dredging the openings to about 30 backwaters or side channels, modifying or moving about 75 disposal areas, and constructing islands in 30 locations.

Alternative E will impact approximately 165 acres of in stream gravel bars. To achieve no net loss of gravel substrate/habitat, gravel from within the navigation channel will be deposited in selected locations adjacent to the channel and side channel locations.

Mussel (unionid) surveys estimated that there are approximately 2 million individuals in the Arkansas Post Canal. The San Bois and Sallisaw Creeks have been identified as particularly sensitive areas. Mitigation for Alternative E impacts would consist primarily of avoiding specific areas, utilizing silt curtains, relocating beds, monitoring and additional adaptive management measures as needed.

5. THREATENED AND ENDANGERED SPECIES. The U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) says the proposed action is not likely to jeopardize the continued existence of either the American burying beetle or interior least tern. The BO continues that the proposed action would likely result in incidental take of American burying beetles and interior least terns. Measures suggested in the USFWS BO for the interior least tern will include a series of in-channel islands to be created through dredged material disposal within each river pool. For the burying beetle, the emphasis would be on avoidance and minimization of impacts.

6. LONG TERM MONITORING AND ADAPTIVE MANAGEMENT. An MKARNS Adaptive Management Plan will serve as a template for task requirements to achieve defined goals and measurable objectives to accomplish mitigation results. It is the ultimate goal of the USACE to achieve a functioning, self-sustainable ecosystem by mitigating for impacts as a result of the navigation deepening and flow modification project. Long term monitoring will be based on Biological Evaluation Criteria Data evaluated in the context of projected future without project condition baseline data.

7. CULTURAL RESOURCES. The USACE has determined that project-related activities may have an effect upon properties potentially eligible for inclusion in the National Register of Historic Places (NRHP). The USACE has consulted with the Arkansas State Historic Preservation Officer (SHPO), the Oklahoma SHPO, and the Oklahoma Archaeological Survey (OAS) pursuant to Section 106 of the National Historic Preservation Act (NHPA). The USACE and the Arkansas SHPO have agreed that subsequent to completion of the NEPA documentation, a Programmatic Agreement (PA) shall be implemented to satisfy the USACE Section 106 responsibility. The USACE, Oklahoma SHPO, and the OAS have agreed that a PA is not necessary for the USACE to satisfy NHPA responsibilities for activities proposed as part of this project. In Oklahoma, the USACE will follow normal Section 106 procedures for all undertakings that may have an effect on historic properties. Mitigation of historic properties will be determined on a case-by-case basis in consultation with the Oklahoma SHPO and the OAS.

8. CONCLUSION. On behalf of the U.S. Army Corps of Engineers, I have decided to proceed with actions required to implement the Arkansas River Navigation Project. I have carefully considered all applicable laws, Executive Orders, regulations, the FEIS, supporting studies, and all comments provided during scoping and formal review comments throughout the NEPA process. Based on these considerations, I have determined that the USACE preferred action (Alternative E) strikes the proper balance between the necessary protection of the environment and achievement of the study purpose. Furthermore, I have determined that the USACE has identified and adopted all practicable means to avoid or minimize harm to the environment that may be caused by implementation of the planned action.

Date: SEP 2 7 2005

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