EXECUTIVE SUMMARY

U.S. FISH AND WILDLIFE SERVICE BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM, OPERATION AND MAINTENANCE OF THE MISSOURI RIVER BANK STABILIZATION AND NAVIGATION PROJECT, AND OPERATION OF THE KANSAS RIVER RESERVOIR SYSTEM

The Corps of Engineers provides the primary operational management of the Missouri River and is responsible under the Endangered Species Act to take actions within its authorities to conserve listed species. On April 3, 2000, the Corps asked the Fish and Wildlife Service to formally consult under the Endangered Species Act on the Operations of the Missouri River Main Stem System, and related Operations of the Kansas River Tributary Reservoirs, and the Operations and Maintenance of the Missouri River Bank Stabilization and Navigation Project. The Corps of Engineers prepared biological assessments for each of these projects and determined that their operations may affect listed species. The species covered under this consultation are the endangered pallid sturgeon, the endangered least tern, the threatened piping plover, and the threatened bald eagle. Current river operations on the Missouri and Kansas Rivers, as well as the continued maintenance of the Bank Stabilization and Navigation Project, are expected to perpetuate habitat loss, nest failure, reduction in forage base, reduction of spawning cues, and overall reductions in reproductive success of these species.

The Fish and Wildlife Service has reviewed project plans and determined that the operation of the three Missouri River projects under past and present operating criteria and annual plans have severely altered, and continue to alter under present operating plans, the natural hydrology and the riverine, wetland, and terrestrial flood plain habitats and fish and wildlife resources of the Missouri River and lower Kansas River ecosystems. Current operations, if continued without significant alterations, likely will cause further declines in other native species and likely will result in additional species listed as threatened or endangered. If more Missouri River species are listed in the future, operational conflicts and constraints will increase, while flexibility to manage the system will decrease.

After reviewing the current condition of the bald eagle, least tern, piping plover, and pallid sturgeon, the environmental baseline for the action area, the effects of the Corps' proposed operation of the Missouri River Main Stem Reservoir System, the operation and maintenance of the Bank Stabilization and Navigation Project, and operation of the Kansas River Reservoir System, and the cumulative effects, it is the Fish and Wildlife Service's opinion that the referenced actions, as proposed, are likely to jeopardize the continued existence of the least tern,

piping plover, and pallid sturgeon, but are not likely to jeopardize the continued existence of the bald eagle.

To avoid jeopardizing the continued existence of the tern, plover, and sturgeon, it is necessary to (A) restore a portion of suitable riverine aquatic habitats and hydrologic conditions necessary for successful reproduction and recruitment of the three species, and (B) provide culturing and population augmentation (in the near-term) for the pallid sturgeon to ensure genetic viability of the species until the necessary habitat and hydrologic conditions are restored. To achieve that while continuing Missouri and Kansas River operations and maintenance of the BSNP, it is necessary to: (a) implement flow (i.e., variability, volume, timing, and temperature) enhancement with the goal of providing the hydrologic conditions necessary for species reproduction and recruitment; (b) implement a concurrent habitat restoration program with the goal of restoring habitat quality, quantity, and diversity so that the benefits of adequate dynamic natural river processes are restored; (c) conduct a comprehensive endangered species habitat and monitoring program to better characterize habitat use (by all life stages), longevity, and availability in the Missouri River to facilitate and guide habitat restoration and flow modification; and (d) establish an adaptive management framework to implement, evaluate, and modify the actions in response to variable river conditions, species responses, and increasing knowledge base. The Service believes that those actions will assist in restoring and maintaining the functional ecosystem, and will ensure that the likelihood of survival and recovery of the pallid sturgeon, interior least tern, and the piping plover are not appreciably reduced.

The Service, working with the Corps, has developed a Reasonable and Prudent Alternative (RPA), that includes actions for the least tern, piping plover, and the pallid sturgeon, and the ecosystem in general, that we believe will avoid the likelihood of jeopardizing the continued existence of the three species. This alternative is designed to return some semblance of practical "form and function" of a river system to appropriate sections of the Missouri and Kansas Rivers. It is the combination of all parts of the alternative, working in concert, that will eliminate jeopardy to the species. The primary actions of the RPA include four parts that apply to the least tern, the piping plover, and the pallid sturgeon. A fifth action is designed for the pallid sturgeon. These actions can generally be described as follows:

1. Flow enhancement: The Service has determined that a spring rise and summer drawdown must be implemented from Gavins Point Dam to restore, in part, spawning cues for fish, maintain and develop sandbar habitat for birds and fish, enhance aquatic habitat through connection of the main channel to backwaters and side channels, and improve habitat conditions for summer nesting terns and plovers, forage availability, and fish productivity. A spring release from Fort Peck Dam will provide spawning cues and increase the amount of warm water habitat available to pallid sturgeon and native river fish.

2. Habitat restoration/creation/acquisition: The Service has determined that a portion of the historic habitat base must be restored, enhanced, and conserved in riverine sections that will benefit the listed birds and fish. Habitat restoration goals are 20-30 acres of shallow water

(<5 feet deep, < 2.5 ft/sec. velocity) per mile. Similarly, variable goals by river segment for emergent interchannel sandbar habitat are also identified.

3. Unbalanced system regulation: Unbalancing of the upper three reservoirs when runoff conditions permit, by holding one reservoir low, one at average levels, and one rising on a 3-year rotation will benefit spawning fish and increase forage, increase the availability of tern and plover habitat in reservoirs in drawndown years, create tern and plover sandbar habitat in riverine segments below Fort Peck or Garrison Dams in years of higher releases due to reservoir drawdown, and increase availability of tern and plover sandbar habitat in riverine segments below Fort Peck and Garrison in years of steady or rising reservoir levels.

4. Adaptive Management/Monitoring: The Corps should embrace an adaptive management process that allows efficient modification/implementation of management actions in response to new information and to changing environmental conditions to benefit the species. The two components of this process will be the establishment of an interagency coordination team that will coordinate and guide development and implementation of measures to benefit the species; and development and implementation of a robust monitoring program to better understand baseline conditions, analyze actions, and identify modification to improve results.

5. Propagation/Augmentation: The Corps and the Service will work together to increase pallid sturgeon propagation and augmentation efforts, while habitat and hydrology improvements are being implemented. This short-term action will ensure genetic integrity and prevent extinction of existing pallid sturgeon populations.

Details of the primary actions of the Reasonable and Prudent Alternative described above and the complementary actions are described in the biological opinion text.