



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

September 26, 2002

U.S. Nuclear Regulatory Commission
Document Control Center
Attn: Mr. Pao-Tsin Kuo, Program Director
Washington D.C. 20555-0001

RE: Request for List of Protected Species within the Area under Evaluation for the Fort Calhoun Nuclear Station License Renewal

Dear Mr. Kuo:

This is in response to your June 5, 2002, request for comments from the U.S. Fish and Wildlife Service (Service) regarding a proposed license renewal for the Fort Calhoun Nuclear Station (FCNS) which is located in Washington County, Nebraska on the southwestern bank of the Missouri River at river mile 646. The Service has completed its preliminary review of the proposed license renewal based on project details provided to this office and discussions at a June 20, 2002, meeting. The proposed action would include continued use and maintenance of existing plant facilities and a 7-mile transmission line. The 7-mile-long transmission line corridor passes through mostly cropland and connects to a substation located west of Blair, Nebraska. Water for the FCNS is drawn from the Missouri River to remove heat from cooling condensers at the station. No new construction is proposed as part of the license renewal. The Nuclear Regulatory Commission (NRC) is preparing a supplement to its "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" for this proposed license renewal.

AUTHORITY

The following comments are intended to assist the NRC in its planning efforts and are provided as technical assistance to ensure the protection of Federal trust fish and wildlife resources, including federally listed species pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), migratory birds pursuant to the Migratory Bird Treaty Act (16 U.S.C. 701 *et seq.*) and other fish and wildlife resources under the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*). The Service participates in scoping and review of actions significantly affecting the quality of the environment under authority of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4347). Additionally, the Service has authorities under several other legislative, regulatory, and executive mandates to promote conservation of fish and

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wildlife resources for the benefit of the public. Please note that these comments do not constitute a report by the Secretary under the FWCA, nor does it absolve Federal agencies from meeting their responsibilities under Section 7 of ESA.

In Nebraska, the Service has special concerns for migratory birds, endangered and threatened species, and other important fish and wildlife resources. We also are concerned about any direct and/or indirect impacts on Federal and State wildlife refuges and management areas and other public lands, and other areas that support sensitive habitats. Habitats frequented by important fish and wildlife resources include wetlands, streams, and riparian (streamside) forests and woodlands. We give special attention to proposed developments that propose modification of wetlands, or stream alteration, or could result in contamination of important habitats. The Service recommends ways to avoid, minimize, rectify, reduce, or compensate for damaging impacts to important fish and wildlife resources and their habitats that may be attributed to actions proposed by Federal agencies.

FEDERALLY LISTED SPECIES AND DESIGNATED/PROPOSED CRITICAL HABITAT

Pursuant to Section 7 of ESA, every Federal agency, in consultation or conference with the Service, is required to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any Federally listed or proposed species and/or result in the destruction or adverse modification of designated and/or proposed critical habitat. In accordance with Section 7(a)(2) of ESA, the Federal agency should determine if any federally listed/proposed threatened or endangered species and/or designated/proposed critical habitat would be directly and/or indirectly affected by the proposed project. The assessment of potential impacts (direct and indirect) must include an "affect" or "no effect" determination and be presented to the Service in writing. If the Service agrees with the determination made by the Federal agency, this office would provide a letter of concurrence. If federally listed/proposed species and/or designated/proposed critical habitat would be adversely affected by the proposed project, the federal agency will need to formally request further Section 7 consultation with the Service prior to making any irretrievable or irreversible commitment of federal funds (Section 7 (d) of ESA), or issuing any federal permits or licenses.

In accordance with Section 7 of ESA, the Service has determined that the following federally listed and candidate species may occur in the proposed project area or be affected by the proposed project:

<u>Listed Species</u>	<u>Expected Occurrence</u>
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Migration, winter
Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Lower Platte River and Missouri River

Bald Eagle

The bald eagle, federally listed as threatened, nests, migrates, and winters statewide. Bald eagles utilize mature, forested, riparian areas near rivers, streams, lakes, and wetlands and occurs along all the major river systems in Nebraska. The bald eagle southward migration begins as early as October and the wintering period extends from December-March. Additionally, many bald eagles nest in Nebraska from mid-February through mid-August. Disturbances within 0.5-mile of an active nest or within line-of-sight of the nest could cause adult eagles to discontinue nest building or to abandon eggs. There is an active bald eagle nest located at Desoto National Wildlife Refuge (NWR) located across the river from the FCNS, but continued operation of the FCNS is unlikely to have an affect on the nest. Human disturbances and loss of eagle wintering habitat can cause undue stress leading to cessation of feeding and failure to meet winter thermoregulatory requirements. These affects can reduce the carrying capacity of preferred wintering habitat and reproductive success for the species. Bald eagles are attracted to the area by the abundance of migratory waterfowl found near the Desoto NWR during the fall and spring migrations. The potential for collisions with transmission lines can increase if lines are located near migration corridors and foraging habitats for bald eagles.

Pallid Sturgeon

The pallid sturgeon was officially listed as an endangered species on September 6, 1990. In Nebraska, the pallid sturgeon is found in the Missouri and lower Platte rivers. Floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters formed the large-river ecosystem that provided macrohabitat requirements for the pallid sturgeon, a species that is associated with diverse aquatic habitats. These habitats historically were dynamic and in a constant state of change due to influences from the natural hydrograph, and sediment and runoff inputs from an enormous watershed spanning portions of 10 states. Navigation, channelization and bank stabilization, and hydropower generation projects have caused the widespread loss of this diverse array of dynamic habitats once provided to pallid sturgeon on the Missouri River, resulting in a precipitous decline in populations of the species. Multiple age classes of pallid sturgeon may be impacted by withdrawal, circulation, and discharge of cooling water through power plants.

Early FCNS Operational Studies

Numerous studies were done in the mid-1970s to ascertain the affects of FCNS on the Missouri River fish community (see Hesse et al. 1982b for a collection of papers). Of particular interest to the Service were studies about the affects of impingement and entrapment on adult and juvenile fish (Hesse et al. 1982a) and entrainment on larval fish (Hergenrader et al. 1982) at FCNS. These studies were particularly valuable for the purpose of establishing a baseline about the fish community of the Missouri River. Detailed statistical analyses were done on the most abundant fish or larvae collected (i.e., freshwater drum (*Aplodinotus grunniens*), carp (*Cyprinus carpio*), and gizzard shad (*Dorosoma cepedianum*) where adequate sample sizes ensured adherence to assumptions of various statistical tests utilized, thus facilitating development of meaningful conclusions. The studies were valuable in terms of providing discussions about the most abundant fish, but limited by study design and sample size from

providing discussions for fish that were rare and/or were rarely collected, such as threatened and endangered fish including the pallid sturgeon. Conclusively, ascertaining cause and affect relationships between even the most abundant fish species and power stations were difficult because of the dynamic nature of the Missouri River.

The Service is unaware of additional work regarding the affects of the water circulation process at FCNS on pallid sturgeon, or if additional data has since been collected that could be compared with the baseline information collected in the studies mentioned above. The cooling water circulation process is selective in its affects by age class or size (i.e., entrainment may affect larvae, but not adult pallid sturgeon; entrapment may affect large adults, but not larvae or juveniles; and impingement may affect juveniles, but not larvae or adults). The Service recommends that the NRC develop and implement a program to monitor the affects of the water circulation process on multiple age classes of pallid sturgeon. To assist the NRC in developing a monitoring program that can support a determination whether cooling water circulation at FCNS may/may not adversely affect the pallid sturgeon, the Service recommends the following considerations be incorporated into the protocol. The following should not be considered as an all-inclusive listing because other considerations also may be valid.

1. Seasonal Affects: Pallid sturgeon and other fish exhibit seasonal habitat shifts. The combined affects of FCNS operational capacity, river characteristics, and seasonal habitat shifts may result in pallid sturgeons being susceptible to impact from the water circulation process. Further, high ambient summer temperatures may exacerbate the affects of heat entrainment on larvae.
2. Daily Affects: Larvae are thought to exhibit a photoperiod response possibly becoming more active at night than day.
3. Operational Affects: High power demand and hence high capacity power production will require a greater volume of water for cooling, exacerbating the affect of entrapment, impingement, and entrainment on fish. These affects may be observable during warm periods of the summer and winter seasons. These affects could have serious implications should increased power production coincide with abundant sturgeon larvae in the drift.
4. River Conditions: Current velocities approaching traveling screens can vary with river level (Schlesinger et al. 1982). Additionally, a greater percentage of the total river flow is required when river volumes are low.
5. Lateral Distribution: Fish are unevenly distributed across the lateral plane of a river due to the influence of current velocity, availability of dissolved oxygen, and presence of aquatic habitat. Thus, although water circulation may draw less than 5 percent of the total flow, that percentage may be from a portion of the lateral river where a large percentage of larvae are found.

6. Longitudinal Distribution: At some times of the year, adult fish may be present in sections of the unchannelized Missouri River between Ponca, Nebraska and Gavins Point Dam. Adults may winter in the middle Missouri River during the winter. Larvae and recently spawned fish may only be present during late spring or early summer.
7. Multiple-year Monitoring: The Service recommends that NRC consider developing and implementing a multiple-year monitoring program as a way to address variability inherent to the Missouri River.

Surrogate Group

Given the rarity of the pallid sturgeon, the Service recommends that the NRC monitor a group of fish with similar life history and habitat requirements. Results from the monitoring project may be used by the NRC to support a "affect/no affect" determination. For example, a suitable group of fish may be composed of shovelnose (*S. platyrhynchus*), lake (*Acipenser fulvescens*), and pallid sturgeons.

Review Monitoring Protocol

The Service would be willing to provide technical assistance with regard to development of the aforementioned monitoring protocol. Additionally, given their extensive experience with the Missouri River fishery, we also would recommend that you coordinate closely with the Nebraska Game and Parks Commission during development of the monitoring protocol.

Affect/No Affect Determination

The Service recommends that NRC consider the information provided above about the bald eagle and pallid sturgeon in making its assessment of potential impacts of the proposed license renewal on federally listed species, and in making the "affect/no affect determination," as discussed above. Further, the Service recommends that the lead Federal agency not limit its consideration of affect to just the above project information, but other potential affects as they become apparent during the course of other project studies and/or project development and modification.


MIGRATORY BIRD TREATY ACT

Under the Migratory Bird Treaty Act (16 U.S.C. 703-712: Ch. 128 *as amended*), take of migratory birds at transmission lines due to such causes as electrocution and collision is prohibited. Such impacts can be exacerbated if lines are located near foraging, nesting, and roosting habitats, or along migratory corridors. The 7-mile long transmission line is located near such habitats and the Missouri River, a migration corridor for a variety of migratory species. Thus, the Service recommends that the NRC conduct a study of the 7-mile transmission line to determine its affect on migratory birds. Should the study document that the transmission line has a negative affect on migratory birds, we recommend that mitigative measures be developed and implemented to offset such affects. The Avian Powerline

Interaction Committee prepared a useful reference regarding the affects of bird collisions with power lines (APLIC 1994). We recommend that NRC review the reference and use it in the development of the mitigation strategies, if necessary. The Service requests that NRC provide us with a copy of the recommended study once completed for review and comment. The results of such a study would be applicable to the "affect/no affect determination" for bald eagles as discussed above.

The Service appreciates the opportunity to provide comments on the proposed relicensing of FCNS. The NRC's involvement in assuming a shared responsibility for protecting federal trust fish and wildlife resources in Nebraska is also appreciated. Should you have any questions regarding these comments, please contact Mr. Robert Harms within our office at (308) 382-6468, extension 17.

Sincerely,



Steve Anschutz
Nebraska Field Supervisor

References

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- Schlesinger A.B., L.J. Cooper, and L.G. Harrow. 1982. Introduction. Pages 1-13 *in* Hesse, L.W., G.L. Hergenrader, H.S. Lewis, S.D. Reetz, and A.B. Schlesinger, editors. 1982. *The Middle*

Missouri River, a Collection of Papers on the Biology with Special Reference to Power Station Effects. Missouri River Study Group. 301 pp.

cc: USFWS; Desoto NWR (Attn: Larry Klimek)
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