

BEFORE THE SECRETARY OF INTERIOR

PETITION TO DESIGNATE CRITICAL HABITAT FOR
THE ENDANGERED PALLID STURGEON (*Scaphirhynchus albus*)

UNDER THE ENDANGERED SPECIES ACT

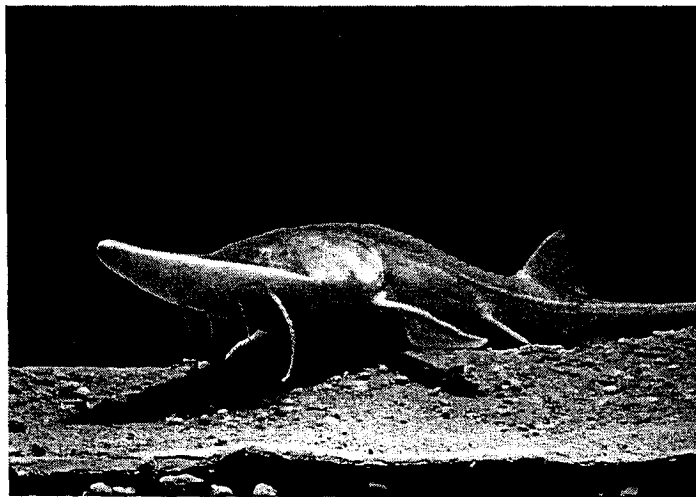


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MISSOURI COALITION FOR THE ENVIRONMENT,
MISSOURI CLEAN WATER CAMPAIGN,

and

GREAT RIVERS ENVIRONMENTAL LAW CENTER

November 17, 2010

NOTICE OF PETITION

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The Missouri Coalition for the Environment is a nonprofit citizens' group that works to protect and restore the environment through education, public engagement, and legal action.

The Missouri Clean Water Campaign is a program of the National Water Sentinels of the Sierra Club. The Missouri Campaign works to protect Missouri waterways by monitoring water quality, administrative advocacy and direct citizen actions including trash cleanups, household hazardous waste and electronics recycling events, and installing rain gardens to clean polluted urban stormwater runoff.

Great Rivers Environmental Law Center is a nonprofit public interest law firm dedicated to providing free and reduced-fee legal services to individuals and organizations seeking to preserve and protect the environment and public health. Great Rivers is also devoted to preserving floodplains and wetlands for their recreational, aesthetic, and agricultural benefits, and their values as flood storage and habitat for native species.

ACTION REQUESTED

The Missouri Coalition for the Environment, Missouri Clean Water Campaign and Great Rivers Environmental Law Center (collectively "Petitioners") hereby petition the Secretary of the Interior (Secretary), through the U.S. Fish and Wildlife Service (Service), pursuant to the

Endangered Species Act of 1973 (ESA)¹, to revise its 1990 determination that designation of critical habitat for the endangered pallid sturgeon (*Scaphirhynchus albus*) was not prudent or determinable, based on criteria outlined in the applicable regulations, and to designate critical habitat.² As detailed below, the rationales for the Service's previous determination are no longer viable. This petition is filed pursuant to Section 4 of the Administrative Procedure Act (APA), 5 U.S.C. § 553³ and 50 C.F.R. § 424.14.⁴ The act of designating critical habitat is within the Secretary's jurisdiction and is a duty delegated to the Service.⁵

The submission of this petition to the Service initiates the process delineated at 50 C.F.R. § 424.14 and requires a definite response from the Service.⁶ Indeed, the ESA and its corresponding regulations require that "within 90 days of receiving a petition to revise a critical habitat designation, the Secretary shall make a finding as to whether the petition presents substantial scientific information indicating that the revision *may* be warranted."⁷ The Secretary shall promptly publish such finding in the Federal Register and so notify the petitioner.⁸ The language used does not indicate that the revision *must* be warranted. The use of the word "may" denotes that if there is a possibility that substantial scientific information would show designation is warranted, the Secretary must so find and promptly publish that finding in the Federal Register. Given the substantial scientific information presented in this petition, we believe that critical habitat designation pallid sturgeon *is*, indeed, warranted. It follows that it cannot reasonably be disputed that critical habitat designation *may* be warranted, particularly in light of the fact that the arguments for designation rest upon the best available studies, most of which are the product of research done by the Service. Within 12 months of receiving this petition, the Secretary must also decide how to proceed with the requested designation and propose a rule designating critical habitat if deemed proper.⁹ This is also a petition for rulemaking under the APA, which states, "Each agency (of the Federal Government) shall give an interested person the right to petition for the issuance...of a rule."¹⁰

The areas proposed for critical habitat designation meet the requirements specified at 16 U.S.C. § 1532(5)(A) and 50 C.F.R. §§ 424.02, 424.12.¹¹ The proposed areas represent a baseline for what may be designated as critical habitat; there may be additional areas not proposed in this petition that meet the requirements for designation, as well. In the event that the Service determines any portion of the proposed areas do not meet the criteria for critical habitat designation, we, in the alternative, ask that the Service determine whether the remaining proposed areas, and/or other essential habitat would satisfy the criteria for critical habitat designation.

¹ 16 U.S.C. § 1533(b)(3)(D)(i).

² 50 C.F.R. § 424.12(a).

³ 5 U.S.C. § 553(e).

⁴ 50 C.F.R. § 424.14(a).

⁵ 16 U.S.C. § 1532(5)(B).

⁶ 50 C.F.R. § 424.14.

⁷ 50 C.F.R. § 424.14(c)(1) (emphasis added). *See also* 1533(b)(3)(D)(i).

⁸ *Id.*

⁹ 50 C.F.R. § 424.14(c)(3). *See also* 1533(b)(3)(D)(ii).

¹⁰ 5 U.S.C. § 553(e).

¹¹ 50 C.F.R. § 424.02(d); 50 C.F.R. § 424.12.

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EXECUTIVE SUMMARY

This petition requests the designation of critical habitat for the federally endangered pallid sturgeon (*Scaphirhynchus albus*) pursuant to the Endangered Species Act of 1973.¹² The pallid sturgeon has been listed as a federally endangered species since September 6, 1990.¹³ The damming and channelization of rivers in the pallid sturgeon's range have caused the disappearance of 90 percent of the species' habitat.¹⁴ Human-induced modifications have been identified as the leading threat to the pallid sturgeon's survival.¹⁵ In some segments of the species' range, predictions estimate that the pallid sturgeon could become extinct by 2018 if current management practices remain in effect.¹⁶ Despite the fact the species was listed as endangered in 1990, it has not yet received critical habitat designation. This petition is being submitted pursuant to the language of the ESA, which states, "Critical habitat may be established for those species now listed as threatened or endangered species for which no critical habitat has heretofore been established...."¹⁷

Designation of critical habitat fulfills the purpose behind the ESA, which is to protect endangered species and their habitats.¹⁸ The ESA provides for the conservation of the qualities of ecosystem found "essential to the conservation of the species" and that "may require special management considerations or protection...."¹⁹ Critical habitat designation provides an additional layer of protection over that provided by the listing of an endangered species. The protection that is afforded by listing an endangered species includes ensuring that any agency action "authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species...."²⁰ However, when critical habitat is designated in addition to listing, the same types of actions also cannot "result in the destruction or adverse modification of [the] habitat of such species...."²¹

This petition discusses the pallid sturgeon's biology, behavior and habitat needs, along with the threats to the species' continuation. It further addresses the factors the Service must take into account in its decision to designate critical habitat for the species. In this petition, the proposed areas for critical habitat for the pallid sturgeon most aptly meet the requirements of the ESA's definition for critical habitat. These are the same areas originally described in the pallid sturgeon's Recovery Plan.²² The areas proposed for designation include, but are not limited to:

¹² 16 U.S.C. §§ 1531-1544.

¹³ 55 Fed. Reg. 36641 (Sept. 6, 1990) ("Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Pallid Sturgeon") [hereinafter Determination of Endangered Status].

¹⁴ U.S. Fish and Wildlife Serv., *2003 Amendment to the 2000 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*, at 44, (2003) [hereinafter 2003 BiOp].

¹⁵ U.S. Fish and Wildlife Serv., *Missouri River Final Biological Opinion*, at 112, (2000) [hereinafter 2000 BiOp].

¹⁶ U.S. Fish and Wildlife Serv., *Pallid Sturgeon Recovery Update*, at 3, (April, 2004) [hereinafter Recovery Update].

¹⁷ 16 U.S.C. § 1532(5)(B).

¹⁸ 16 U.S.C. § 1531(b).

¹⁹ 16 U.S.C. § 1532(5)(A).

²⁰ 16 U.S.C. § 1536(a)(2).

²¹ *Id.*

²² U.S. Fish and Wildlife Serv., *Pallid Sturgeon (Scaphirhynchus albus) Recovery Plan*, at 17 (Nov. 7, 1993) [hereinafter Recovery Plan].

1. The Missouri River from the mouth of the Marias River to the headwaters of the Fort Peck Reservoir;
2. The Missouri River from the Fort Peck Dam to the headwaters of Lake Sakakawea, including the Yellowstone River upstream to the mouth of the Tongue River;
3. The Missouri River from 20 miles upstream of the mouth of the Niobrara River to the Lewis and Clark Lake;
4. The Missouri River below Gavins Point Dam to its confluence with the Mississippi River;
5. The Mississippi River from its confluence with the Missouri River to the Gulf of Mexico; and
6. The Atchafalaya River Distributary system to the Gulf of Mexico.

Critical habitat for the pallid sturgeon contains areas that have the characteristics needed for the species to survive which include sandbar complexes, side-channels and deep holes that have warm, free-flowing waters with high turbidity.²³ These regions are described with greater detail below and can be found on the map depicted in Section IV.C.3 on page 23.

I. INTRODUCTION

The pallid sturgeon, once common throughout its historical range, has become the most rare species of freshwater fish in North America.²⁴ The pallid sturgeon originated in the Cretaceous Period over 70 million years ago.²⁵ Although the species was robust enough to survive the Ice Age, it was no match for the more than 50 years of human-induced modifications that occurred throughout its habitat range.²⁶ Due to the construction of dams and channelization of the rivers upon which this fish depends, 90 percent of its wetland habitat has been destroyed.²⁷ The species continues to be confronted with these threats along with others such as fishing and caviar harvesting, entrainment, contaminants, hybridization, invasive species and Iridovirus.²⁸

Considerable research has been done to understand the pallid sturgeon's behavior, biology and habitat. These studies enable areas of habitat that are "essential to the conservation of the species" and that "may require special management considerations or protection"²⁹ to be identified and designated. While measures have been put in place to aid in the conservation and protection of the pallid sturgeon, no evidence indicates that the wild population is capable of sustaining itself. Meanwhile, the species' habitat continues to degrade, signifying grave consequences for the recovery of its numbers. If critical habitat were designated, the areas that provide for the pallid sturgeon's physiological needs would be protected. Protection of the species from peril, by itself, is of no use if the habitat in which it needs to live and propagate no

²³ *Id.* at 16-17.

²⁴ Daniel Cusick, *Conflicting Priorities Snare 'Big Muddy' Restoration*, Earth News, Apr. 8, 2008, at para. 14, <http://www.earthportal.org/news/?p=1017> (last visited Sept. 30, 2010).

²⁵ United States Fish & Wildlife Service, Mountain-Prairie Region, *The Pallid Sturgeon, a Missouri River "Dinosaur"*, at para. 2, (n.d.) <http://www.fws.gov/mountain-prairie/feature/sturgeon.html> (last visited Sept. 30, 2010) [hereinafter *Sturgeon* 1].

²⁶ 2003 BiOp, *supra* note 14, at 27.

²⁷ 2000 BiOp, *supra* note 15, at 121.

²⁸ 2003 BiOp, *supra* note 14, at 73-78.

²⁹ 50 C.F.R. § 424.02(d)(1).

longer exists. If critical habitat is not designated, the pallid sturgeon will eventually be extirpated. As will be established in this petition, the requirements for critical habitat designation under the ESA have been satisfied and, thus, the Service is mandated by the Act to make such designation.

II. NATURAL HISTORY OF THE PALLID STURGEON

A. Taxonomy and Physical Description

The pallid sturgeon, *Scaphirhynchus albus*, is a fish that is one of three species in the subfamily *Scaphirhynchinae* of the *Acipenseridae* family.³⁰ The word 'pallid' means deficient in color, and the first part of its scientific name means 'spade-snout,' while the latter means 'white.'³¹ Initially, the pallid sturgeon, shovelnose sturgeon and Alabama sturgeon were all thought to be the same species of fish. However, genetic studies led to the conclusion that there were three distinct species.³² Its closest relative is the shovelnose sturgeon and, at younger life stages, its characteristics are frequently confused with this non-endangered breed.³³

The pallid sturgeon can weigh upwards of 80 pounds and measure over 6 feet in length.³⁴ Juvenile fish are darker, but when the fish reaches maturity, it becomes white. The fish has a flat, shovel-shaped snout, and its body is armored with cartilage plates rather than scales.^{35,36} The skeleton is made entirely of cartilage, making it difficult to determine the fish's age.³⁷ Its toothless mouth is positioned under its snout, and it is able to stretch outwards to swallow prey.³⁸ Four whisker-like barbels located by the mouth also aid in seeking food.³⁹ The sturgeon has tiny, beady eyes that cannot see very well, but this is due to its adaptation to waters with low visibility.⁴⁰ It has a reptilian-like tail.⁴¹

B. Distribution and Movement

The pallid sturgeon's historical range included the Yellowstone, Platte, Kansas, Missouri and middle and lower Mississippi River regions.^{42,43} Today, it can be found in most of its

³⁰ Edward J. Peters, et al., *Pallid Sturgeon Literature Review: Final Report to the Platte River Recovery Implementation Program*, at 10 (Oct. 27, 2008).

³¹ Jim Riis, South Dakota Department of Game, Fish and Parks, *Pallid Sturgeon (Scaphirhynchus albus)*, at para. 1, (1993), <http://www3.northern.edu/natsource/ENDANG1/Pallid1.htm> (last visited Sept. 30, 2010).

³² 2003 BiOp, *supra* note 14, at 56-57.

³³ 2000 BiOp, *supra* note 15, at 95.

³⁴ *Id.*

³⁵ *Id.* at 96.

³⁶ Paul A. Johnsgard, *The Nature of Nebraska*, at 169-170, (2005).

³⁷ *Id.*

³⁸ 2000 BiOp, *supra* note 15, at 95.

³⁹ *Id.*

⁴⁰ Bureau of Reclamation, *Intake Diversion Dam Modification, Lower Yellowstone Project Science Review Report-Missouri River Recovery Implementation Committee Questions on the Intake Project*, at 15, (2009), <http://www.usbr.gov/gp/mtao/loweryellowstone/Intake%20Diversion%20Dam%20Modification%20-%20Science%20Review%20Final%20Report%20PBSJ%20%28November%202009%29.pdf> (last visited Sept. 30, 2010).

⁴¹ Sturgeon 1, *supra* note 25, at para. 2.

⁴² 2000 BiOp, *supra* note 15, at 97.

original range, albeit the population has declined dramatically throughout it.⁴⁴ During the months of July through October, the fish travels upstream, and between December and March it travels downstream.⁴⁵ This migration has been attributed to fluctuating temperatures and discharges.⁴⁶

The sturgeon can cover great distances when it migrates.⁴⁷ It has been documented as going lengths of 16 miles per day swimming upstream and 25 miles per day swimming downstream.⁴⁸ It can swim as fast as 5.7 miles per hour.⁴⁹ The longest distances the fish has been recorded to have traveled correlate with flow events in the spring and late fall.⁵⁰ However, due to river modification, the natural pulses do not occur, and the fish cannot migrate to spawning areas they once could reach.⁵¹

C. Abundance and Population

The pallid sturgeon was not recognized as a distinct species until 1905, and, thus, there is no supporting data of its population prior to that date.⁵² Until the middle of the 20th century, the pallid sturgeon was frequently misidentified by the commercial fishing industry as a shovelnose sturgeon.⁵³ The species was relatively common in the Missouri and Mississippi Rivers until the incidence of river channelization and stabilization in the mid to late 1960's.⁵⁴ Despite this being the case, the pallid sturgeon was not, at any time, as numerous as the shovelnose sturgeon.⁵⁵

In a study conducted in 1905, one-fifth of the sturgeons captured in the lower Missouri River were pallid sturgeons.⁵⁶ In contrast, a study implemented from November 1997 to April 2000 on the lower Missouri River and middle Mississippi River revealed that of 4,435 sturgeons captured, only 18 (0.41 percent) were pallid sturgeons.⁵⁷ Nine of these originated from hatchery releases and nine were presumed bred in the wild.⁵⁸ Studies in 2002 and 2003 showed estimates that there were approximately 151 adult pallid sturgeons in the upper Missouri River and between 25 and 50 adults in the middle Missouri River (from Gavins Point Dam to Fort Randall

⁴³ 2003 BiOp, *supra* note 14, at 57.

⁴⁴ 2000 BiOp, *supra* note 15, at 99.

⁴⁵ 2003 BiOp, *supra* note 14, at 60.

⁴⁶ *Id.*

⁴⁷ *Id.* at 59.

⁴⁸ *Id.* at 60.

⁴⁹ Robert Bramblett & Robert White, *Habitat Use and Movements of Pallid and Shovelnose Sturgeon in the Yellowstone and Missouri Rivers in Montana and North Dakota*, Transactions of the American Fisheries Society, at 1006-1025, (2001).

⁵⁰ 2003 BiOp, *supra* note 14, at 60.

⁵¹ Andrew McKean, *A Whisker Away from Winking Out... Will the pallid sturgeon go extinct on our watch?*, Montana Outdoors, May-June 2006, at para. 9, <http://fwp.mt.gov/mtoutdoors/HTML/articles/2006/pallidsturgeon.htm> (last visited Sept. 30, 2010) [hereinafter Sturgeon 2].

⁵² 2000 BiOp, *supra* note 15, at 104.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

Dam).⁵⁹ Ratios of pallid sturgeons to shovelnose sturgeons were recorded as 1:89 on the middle Mississippi, and 1:387 on the lower Missouri and middle Mississippi, combined.⁶⁰

While efforts to restock rivers with hatchery-reared fish have inflated pallid sturgeon numbers, evidence of successful reproduction is rare. In a study by the Service's Columbia Missouri Fishery Resources Office, a collection of more than 10,000 small fish contained only 1 confirmed and 2 probable pallid sturgeon larvae.⁶¹ Today, it is believed there are fewer than 10,000 pallid sturgeons left in the Missouri and Mississippi rivers.⁶²

D. Habitat

Pallid sturgeons prefer large, warm, free-flowing waters with high turbidity.⁶³ The fish can be found in different types of habitat including sandbar complexes, deep holes or, occasionally, side-channel border habitat types.⁶⁴ Areas that have complex current patterns, such as wing dike tips, sandbars and drop offs, are the most ideal for the fish; slack water areas seem to be devoid of the adult species.⁶⁵ The ideal range of current speed is between .33 and 2.9 feet per second.⁶⁶ The pallid sturgeon has a propensity towards certain substrates. In one study, the species was found in sandy areas 81.8 percent of the time, in gravel 9.1 percent of the time, and mud or silt 5.5 percent of the time.⁶⁷ It has been found at depths between three and 26 feet and in temperatures ranging from 32 to 86 degrees Fahrenheit.⁶⁸

E. Feeding and Prey Selection

During its earliest life stages, the pallid sturgeon eats benthic macroinvertebrates.⁶⁹ As the fish matures, it eats more fish, but will also continue to eat drifting invertebrates.⁷⁰ It is believed the species is an opportunistic feeder because it will eat certain fish and insects during some seasons and different ones in others.⁷¹ The pallid sturgeon has been known to stand on its fins and wait for currents to wash food into its mouth.⁷² It is also a suction bottom feeder, which means it will use its protrusible mouth to take in fish.⁷³ In one study, 82 percent of the fish's

⁵⁹ 2003 BiOp, *supra* note 14, at 60-61.

⁶⁰ *Id.* at 63-64.

⁶¹ 2000 BiOp, *supra* note 15, at 106-07.

⁶² Tennessee Technological University, *Biologists Help Save Endangered Pallid Sturgeon*, Science Daily, (Jul. 23, 2010) <http://www.sciencedaily.com/releases/2010/07/100722144423.htm> (last visited Sept. 30, 2010).

⁶³ 2003 BiOp, *supra* note 14, at 55.

⁶⁴ *Id.* at 67.

⁶⁵ *Id.* at 68.

⁶⁶ Office of Pesticide Programs, United States Environmental Protection Agency, *Status and Life History of the Pallid Sturgeon*, at 2, (2007), http://www.epa.gov/espp/litstatus/effects/appendix_c_life_history_sturgeon.pdf (last visited Sept. 30, 2010) [hereinafter *Sturgeon 3*].

⁶⁷ 2003 BiOp, *supra* note 14, at 69.

⁶⁸ *Sturgeon 3*, *supra* note 66, at 6.

⁶⁹ 2003 BiOp, *supra* note 14, at 56.

⁷⁰ *Id.*

⁷¹ *Sturgeon 3*, *supra* note 66, at 7.

⁷² 2000 BiOp, *supra* note 15, at 111.

⁷³ *Sturgeon 3*, *supra* note 66, at 7.