

(Catalog of Federal Domestic Assistance No. 97.022, "Flood Insurance.")

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS-R4-ES-2008-0058; 92210-1117-0000-FY08-B4]

RIN 1018-AV51

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Alabama Sturgeon (*Scaphirhynchus suttkusi*)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for the Alabama sturgeon (*Scaphirhynchus suttkusi*) under the Endangered Species Act of 1973, as amended (Act). In total, approximately 524 kilometers (326 miles) of river are proposed as critical habitat. The proposed critical habitat includes portions of the Alabama and Cahaba Rivers in Autauga, Baldwin, Bibb, Clarke, Dallas, Lowndes, Monroe, Perry, and Wilcox Counties, in Alabama.

DATES: We will accept comments received or postmarked on or before July 28, 2008. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by July 11, 2008.

ADDRESSES: You may submit comments by one of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- U.S. mail or hand-delivery: Public Comments Processing, Attn: FWS-R4-ES-2008-0058; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

FOR FURTHER INFORMATION CONTACT: Jeff Powell, Aquatic Species Biologist, U.S. Fish and Wildlife Service, Alabama Ecological Services Field Office, 1208-B Main Street, Daphne, AL 36526; telephone 251/441-5858; facsimile 251/441-6222. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Public Comments

We intend any final action resulting from this proposal to be as accurate and effective as possible. Therefore, we request comments or suggestions on this proposed rule. We particularly seek comments concerning:

(1) The reasons why we should or should not designate habitat as "critical habitat" under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including whether the benefit of designation would outweigh threats to the species caused by the designation, such that the designation of critical habitat is not prudent;

(2) Specific information on:

- The amount and distribution of Alabama sturgeon habitat, flows needed by the species; and amount and distribution of free-flowing waters within the species' historical or present range,

- What areas occupied at the time of listing that contain features essential to the conservation of the species we should include in the designation and why, and

- What areas not occupied at the time of listing are essential for the conservation of the species and why;

(3) Land-use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat;

(4) Information regarding the potential impacts of this proposed designation on the activities we have identified that may adversely affect critical habitat (see the Application of the "Adverse Modification" Standard section), specifically those that are associated with the following actions:

- Actions that would significantly alter the existing flow regime to the point at which the habitat could no longer sustain normal behavior and promote species recovery,

- Actions that would significantly alter the morphology and stability of the river channel,

- Actions that would significantly decrease the amount of currently available free-flowing habitat, and

- Actions that would significantly alter water chemistry beyond what is

required in the State of Alabama water quality standards;

(5) Any foreseeable economic, national-security, or other potential impacts resulting from the proposed designation, and, in particular, any impacts on small entities, and the benefits of including or excluding areas that exhibit these impacts; and

(6) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not consider comments sent by e-mail or fax or to an address not listed in the **ADDRESSES** section.

If you submit a comment via <http://www.regulations.gov>, your entire comment—including any personal identifying information—will be posted on the Web site. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy comments on <http://www.regulations.gov>.

Background

In this proposed rule, we intend to discuss only those topics directly relevant to the distribution of the Alabama sturgeon and the designation of its critical habitat. For more information on the species, refer to the final and proposed listing rules published in the **Federal Register** on May 5, 2000 (65 FR 26438), and on March 26, 1999 (64 FR 14676), respectively.

Sturgeon is the common name used for large, bony-plated, primitive fishes in the family Acipenseridae which typically grow slowly and mature late in life. The Alabama sturgeon (*Scaphirhynchus suttkusi*) is the smallest of all the North American sturgeons, typically weighing only 1 to 2 kilograms (2 to 4 pounds) at maturity. The head is broad and flattened shovel-like at the snout, with a tubular and protrusive mouth. As with all sturgeon species, there are four barbels (whisker-like appendages) located on the bottom of the snout in front of the mouth that are used to locate prey. The body is lined with five rows of bony plates called scutes. Bony plates also cover the head, back, and sides, and the body narrows abruptly to the rear forming a

narrow stalk between the body and tail. The upper lobe of the tail fin is elongated and ends in a long filament. Coloration of the upper body is light tan to golden yellow, with a creamy white belly. The life span of the Alabama sturgeon is unknown. Although few individuals probably exceed 12 to 15 years of age, it is possible the species may live longer.

The Alabama sturgeon is endemic to rivers of the Mobile River Basin below the Fall Line (inland boundary of the Coastal Plain) (Mettee *et al.* 1996, p. 83; Boschung and Mayden 2004, p. 109). Its current range includes the Alabama River from R.F. Henry Lock and Dam downstream to the confluence of the Tombigbee River. The species is also known to survive in the Cahaba River. For information on range of the species see the Criteria Used to Identify Critical Habitat section of this rule.

Despite extensive and intensive efforts in the decade prior to its listing, only eight Alabama sturgeon were captured, or reported captured and released. These fish were collected from several locations in the Alabama River between Millers Ferry Lock and Dam and its confluence with the Tombigbee River (Rider and Hartfield 2007, p. 490). Since the 2000 publication of the final rule listing the species, two Alabama sturgeon have been captured or reported captured. One of these was captured, videotaped, and released in the lower Cahaba River shortly after publication of the final rule by a fisherman in July 2000. The most recent capture was an individual collected from the Alabama River below Claiborne Lock and Dam in April 2007, by the Alabama Department of Conservation and Natural Resources (ADCNR). This fish was implanted with a sonic tag and released in May 2007 at the location at which it was captured.

Flows in the Alabama River are heavily influenced by upstream releases from Alabama Power Company and Corps hydropower projects, and riverine habitats are fragmented by Claiborne and Millers Ferry Locks and Dams. This 240-mile (386-kilometer) stretch of the Alabama River, along with the lower Cahaba River, represents the last remaining viable habitat for the sturgeon.

Previous Federal Actions

On May 5, 2000, we listed the Alabama sturgeon as endangered under the Act (65 FR 26438). In the final listing rule, we determined that designation of critical habitat was prudent but critical habitat was not determinable, due to the lack of information on the sturgeon's biological and habitat needs.

Following this listing decision, the Alabama-Tombigbee Rivers Coalition (Coalition) brought suit in the United States District Court for the Northern District of Alabama under the citizen-suit provision of the Act and the judicial review provisions of the Administrative Procedure Act, alleging several defects in the listing process. The district court dismissed the Coalition's lawsuit for lack of standing, but on appeal the U.S. Court of Appeals for the Eleventh Circuit reversed, concluding that the Coalition did have standing to challenge the listing decision. On remand, the District Court granted the United States' motion for summary judgment but ordered the Service to issue both a proposed and final rule designating critical habitat by May 14, 2006, and November 14, 2006, respectively. *Alabama-Tombigbee Rivers Coalition et al. v. Norton et al.*, No. CV-01-0194-VEH (Final Order, Nov. 14, 2005). The Coalition appealed and the District Court stayed the judgment pending review by the Eleventh Circuit. Under the direction of the District Court, the Service would have two years from the time of the Eleventh Circuit's decision to complete the designation of critical habitat.

On February 8, 2007, the Eleventh Circuit affirmed the decision of the District Court, finding among other things that vacating the listing decision was not the proper remedy for failure to designate critical habitat. *Alabama-Tombigbee Rivers Coalition et al. v. Kempthorne et al.*, 477 F.3d 1250 (11th Cir. 2007). On May 16, 2007, the Eleventh Circuit issued its judgment as a mandate, thus lifting the stay imposed by the District Court and requiring the Service to issue a prudency determination and, if prudent, a proposed rule designating critical habitat within one year (May 16, 2008), and a final rule designating critical habitat within one year after that (May 16, 2009). It should be noted that the Coalition asked the Supreme Court to review the Eleventh Circuit's decision; that request was denied on January 7, 2008. *Alabama-Tombigbee Rivers Coalition et al. v. Kempthorne et al.*, 128 S. Ct. 877 (2008).

For more information on previous Federal actions concerning Alabama sturgeon, refer to the final listing rule, which we published in the **Federal Register** on May 5, 2000 (65 FR 26438). We are proposing this action in accordance with section 4(b)(2) of the Act.

Critical Habitat

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features:

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring any endangered species or threatened species to the point at which the measures provided under the Act are no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7 of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by the landowner. Where the landowner seeks or requests federal agency funding or authorization that may affect a listed species or critical habitat, the consultation requirements of section 7 would apply, but even in the event of a destruction or adverse modification finding, the landowner's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must contain features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)). Occupied habitat that contains the features essential to the conservation of the species meets the definition of critical habitat only if those features may require special

management considerations or protection. Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed only when we determine that those areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific and commercial data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be proposed as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that we may eventually determine, based on scientific data not now available to the Service, are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be required for recovery of the species.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions we implement under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the

agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

As required by section 4(b) of the Act, we used the best scientific data available in determining areas within the geographical area occupied at the time of listing that contain features essential to the conservation of Alabama sturgeon, and areas outside of the geographical area occupied at the time of listing that are essential for the conservation of Alabama sturgeon. We have reviewed available information pertaining to the habitat requirements of this species. This information includes our own published and unpublished data, field notes, unpublished survey reports, communications with qualified experts, peer-reviewed scientific publications, and the final and proposed listing rules for the species. We are not currently proposing any areas outside the geographical area presently occupied by the species because we are unaware of any suitable areas of habitat for this species outside of the area being proposed.

At the time of listing, we lacked the biological and habitat information necessary to identify the primary constituent elements and areas essential for conservation. This lack of information continues to be an issue, since we have only two confirmed Alabama sturgeon captures since publication of the final rule. Therefore, we reviewed the available data and information on the Alabama sturgeon's closest related species, the pallid (*Scaphirhynchus albus*) and the shovelnose sturgeons (*S. platirhynchus*). Unfortunately, although both the pallid and shovelnose sturgeons are more abundant and widely distributed, very little specific information is available concerning their biological and physical requirements. However, by synthesizing the best scientific available data on all three species, and considering historical and current conditions at the locations where Alabama sturgeon have been collected, we have identified the physical and biological requirements of the Alabama sturgeon.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and the regulations at 50 CFR 424.12, in determining which areas occupied by the species at the time of listing to propose as critical habitat, we consider the physical and biological features that are essential to the conservation of the species to be the primary constituent elements laid out in the appropriate quantity and spatial arrangement for conservation of the species. These include, but are not limited to:

- (1) Space for individual and population growth and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, or rearing (or development) of offspring; and
- (5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

We derive the specific primary constituent elements (PCEs) required for the Alabama sturgeon from its biological needs.

Space for Individual and Population Growth and for Normal Behavior

All river sturgeons (*Scaphirhynchus spp.*) are migratory and may migrate hundreds of kilometers to spawn. The newly hatched larvae of other river sturgeon are free-floating and may drift hundreds of kilometers before settling to a benthic juvenile existence. Therefore, connectivity of spawning, juvenile, and adult feeding and growing habitats is necessary for the conservation of the species.

Based on collection records, the species is known to inhabit the main channel of large coastal plain rivers of the Mobile River Basin. Specimens have been taken over a variety of substrates including sand, gravel, and mud, from 6 to 14 meters (m) (20 to 46 feet (ft)) deep (Williams and Clemmer 1991, p. 26). The U.S. Army Corps of Engineers identified 30 locations in the Alabama River where 58 Alabama sturgeon were reportedly captured between 1950 and 1998, and documented channel morphology and substrate types at 12 of the capture locations during low flow conditions. Substrates associated with these capture sites included sand, gravel, and limestone outcrops. All capture locations downstream of Claiborne Lock and Dam were either on or within 300 m (984 ft) of a sandbar.

Most historical and recent sturgeon capture sites are at or near features

presumably associated with feeding, reproduction, or refugia and include rock walls, channel training devices, deep pools, mussel beds, and/or stable sand and gravel bottoms (Burke and Ramsey 1985, p. 53, Mayden and Kuhajda 1996, p. 257, Hartfield and Garner 1998, p. 4). The presence of mussel beds represents stable channel habitats with high aquatic invertebrate diversity and density that are likely important feeding areas for sturgeon; deeper holes may be used as thermal refugia during times of low flow and warmer temperatures (Hartfield and Garner 1998, p. 5).

Data collected from a radio-tagged Alabama sturgeon, released in 1985 near Millers Ferry Lock and Dam on the Alabama River and tracked for four months, showed that its preferred position was in swift current at a depth of 7.7 to 12.3 m (25 to 40 ft), but never at the deepest part at any location except where bottom contour was uniform (Burke and Ramsey 1985, p. 32). Irwin *et al.* (2005, p. 5) and Kynard *et al.* (2007, p. 369) documented that adult shovelnose sturgeon are more active at night. This type of behavior was also observed in juvenile shovelnose sturgeon (Kynard *et al.* 2007, p. 369), and a similar pattern is currently being observed by the Alabama sturgeon collected in 2007 that is being tracked in the lower Alabama River (ADCNR and Service unpublished data 2007, 2008). During daylight hours in the summer of 2007, this sturgeon remained in the deeper, flowing portions of the channel. However, during the late afternoon and early evening hours, the sturgeon moved into shallower habitats directly adjacent to a small perennial tributary. We have no evidence that the sturgeon moves into these tributaries; it may be taking advantage of cooler water found at the interface between the tributaries and the main stem of the river. The amount of time this tagged fish spent in these areas suggests these areas are important for feeding or for providing a thermal refugia during the warmer summer months.

Food

Reports suggest that the species is an opportunistic bottom feeder (Mayden and Kuhajda 1996, p. 257, Williams and Clemmer 1991, p. 26, Burke and Ramsey 1985, p. 35). Keevin *et al.* (2007, p. 500) conducted a stomach content analysis on 12 Alabama sturgeon from museum collections and found aquatic insects and fish to be the dominate food items. This is quite similar to the diets of the pallid and shovelnose sturgeons described by Gerrity *et al.* (2006, p. 606)

and Hoover *et al.* (2007, p. 494). Except for the absence of fish in the diet of shovelnose sturgeon, all three species tended to feed on similar items, primarily aquatic insects. The insects identified in these studies are found over a variety of substrates including soft and hard rocky bottoms; therefore, protection of most shallow-water habitat (shoals, gravel or sand bars) is essential to maintaining an acceptable food base. A distinct difference observed by Keevin *et al.* (2007, p. 502) in the diet of the Alabama sturgeon was the presence of ceratopogonids (biting midges) and siphlonurids (of a family of mayflies). These small, aquatic larvae are very active, strong swimmers that tend to occupy the water column or areas near the surface (Keevin *et al.* 2007, p. 502), indicating that the sturgeon may be a mid-water column feeder. Irwin *et al.* (2005, p. 39) found that juvenile shovelnose sturgeon overwhelmingly preferred feeding in sandy substrates and actively avoided gravel areas. It is unknown if this behavior is displayed by the Alabama sturgeon, but 2007 tracking data suggest that the species may rest in the deeper, fast-flowing areas during the day and feed in shallow, sandy shoal areas at night (ADCNR and Service unpublished data).

Water Quality

Egg development and hatching and larval and juvenile development require moderate to high levels of dissolved oxygen, as well as acceptable levels of other water quality parameters. For example, research indicates a high incidence of hermaphroditism in shovelnose and pallid sturgeon may be linked to water contamination (U.S. Environmental Protection Agency (USEPA) 2007, p. 4).

There are currently more than 1,600 National Pollutant Discharge Elimination System (NPDES) permits issued within the Alabama River downstream of the Fall Line, which could impact sturgeon habitat. It is possible that some of these point-source discharges, along with other non-point sources of pollutants, could produce pollutant concentrations that may be harmful to the Alabama sturgeon. At the time of listing in May 2000, we believed that State water quality standards (which the State adopted from the national standards set by the USEPA) were protective of the Alabama sturgeon as long as discharges were within permitted limits and enforced according to the provisions of the Clean Water Act (Biggins 1994, p. 4). These water quality requirements were established with the intent to protect all aquatic resources

within the State of Alabama and were presumed to be protective of the Alabama sturgeon. However, the Service is currently in consultation with the USEPA to evaluate the protectiveness of criteria approved in USEPA's water quality standards for Alabama sturgeon and other threatened and endangered species and their critical habitats as described in the Memorandum of Agreement our agencies signed in 2001 (66 FR 11201). Other factors that can potentially alter water quality are droughts and periods of low flow, non-point source runoff from adjacent land surfaces (e.g., excessive amounts of nutrients, pesticides, and sediment), and random spills or unregulated discharge events. This could be particularly harmful during drought conditions when flows are depressed and pollutants are more concentrated. Therefore, adequate water quality is essential for normal behavior, growth, and viability during all life stages of the sturgeon, including egg development and hatching, and larval and juvenile development.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

The Alabama sturgeon is believed to reach sexual maturity between 5 and 7 years of age. Spawning frequency of both sexes is likely influenced by food supply and fish condition, and may occur every 1 to 3 years. Similar to other river sturgeon, the Alabama sturgeon is believed to migrate upstream during the late winter and spring to spawn. These movements are likely extensive and cover long distances.

The capture of 12 individuals (including several gravid females) during a single collection trip near the mouth of the Cahaba River on March 21, 1969, suggests directional movements during the spawning season (Williams and Clemmer 1991, p. 27). Gravid females with ripe eggs have also been collected during late March, April, and early May, which may indicate a prolonged spring spawning or yearly variations in the occurrence of preferred spawning temperatures. Actual timing of spawning during this period may also vary depending on water temperature and river discharge. All sturgeon species produce eggs that are adhesive and require a current for proper development. Although specific locations at which eggs have been deposited have not been identified for the Alabama sturgeon, they are presumably similar to those of other river sturgeons, where eggs are deposited on hard bottom substrates such as bedrock, armored gravel, or channel training works in deep water

areas, and possibly in some larger tributaries, such as the Cahaba River (Burke and Ramsey 1985, p. 53).

Although no information about larval development exists for the Alabama sturgeon, we assume that the Alabama sturgeon may have similar needs as other river sturgeons which require highly oxygenated, long stretches of free-flowing water for development. The larvae are planktonic, drifting with river currents for 12 to 13 days after hatching, and exhibit a swim-up and drift behavior while floating in currents (Kynard *et al.* 2007, p. 365). Research indicates that pallid sturgeon larvae can drift more than 200 kilometers (km) (125 miles (mi)) during the first 11 days of the larval life stage, depending on water velocities, before settling to the benthic environment (Braaten and Fuller 2007, p. 1). It is unclear, at present, whether Alabama sturgeon require distances comparable to those exhibited by pallid sturgeon, but the life history strategy is thought to be the same. A further reduction in the distance of free-flowing habitat currently available would likely be detrimental to the sturgeon.

Riverine Flows and Channel Stability

Flows in the Mobile River Basin have been substantially altered from natural conditions due to the construction and operation of the large number of impoundments. Additionally, the river's temperature, biogeochemical processes that would have occurred in the absence of the dams, and pollution assimilation capabilities have also been altered. Flowing water provides a means for transporting nutrients and food items, moderating water temperatures and dissolved oxygen levels, and diluting pollutants, as well as transporting and suspending developing sturgeon eggs and larvae.

The quality of water, which comprises the sturgeon's chemical habitat, is directly related to the volume of water present in the river. It affects sturgeon behavior, growth, and viability in all life stages. In 1972, prior to the listing of the sturgeon, a 4,640 cubic-feet-per-second flow requirement in the Alabama River at Montgomery was established. This flow, which is approximately the 7Q10 (a measure of lowest 7-day flow measured over a 10-year period) for this section of the river, is believed to be protective of the Alabama sturgeon. We believe this flow would result in the magnitude, frequency, duration, and seasonality of discharge over time that is necessary to maintain all life stages of the species in the riverine environment, including migration, breeding site selection, resting, larval development, protection of cool water refuges during

low flow periods, as well as sufficient velocities to inhibit excessive sedimentation.

Aquatic life, including fish, requires acceptable levels of dissolved oxygen. The type of organism and its life stage determine the level of oxygen required. Generally, among the fish, cold water species are the most sensitive, with young life forms being most critical. Temperature, another water quality parameter, is related to dissolved oxygen. The amount of dissolved oxygen that is present in water (the saturation level) depends upon water temperature. As the water temperature increases, the saturated dissolved oxygen level decreases. The more oxygen there is in the water, the greater the assimilative capacity (ability to consume organic wastes with minimal impact) of that water (Pitt 2000, pp. 6–7). Biochemical oxygen demand (BOD) is the oxygen that would be required to stabilize the waste after its discharge into a body of water. Wastewater discharges that have a high BOD will have a much greater detrimental effect on stream dissolved oxygen during critical summer months than they would during colder months. Summer months also have lower stream flow rates, which worsens the problem by further reducing the water's assimilative capacity (Pitt 2000, pp. 6–7). Flows should be sufficient to ensure at least 4 milligrams per liter of dissolved oxygen during low flow periods based on the State water quality standards.

During 2007 and 2008, the Alabama River Basin experienced the worst drought ever recorded. Although this drought is currently recognized as the worst drought in modern history, some researchers believe that it may not have been that unusual (B. Erhardt, U.S. Army Corps of Engineers Meteorologist, pers. comm. 2008). Using bald cypress (a long-lived species) growth rings as an indication, the 2007–08 hydrologic period may have actually been more normal over the last 1000 years than conditions experienced over the last 40 years (which may have been exceptionally wet). Therefore, considering that sturgeon species have survived a range of hydrologic conditions over the years, we believe sturgeon are adapted to these periodic low flow conditions. Although the sturgeon we are currently tracking survived the 2007–08 drought, we do not believe that the Alabama sturgeon is adapted to survive extended drought periods where water quality is compromised by excessive discharges that the river is unable to assimilate. More specifically, as described above, low-flow conditions affect the chemical

environment occupied by the fish and extended low-flow conditions coupled with higher pollutant levels would likely result in behavior changes within all life stages, but could be particularly detrimental to early life stages (e.g., eggs and larvae).

Stable river bottoms also are required by the sturgeon. The presence of stable river bottoms has been associated with the recent and historical captures of sturgeon in the Alabama and Tombigbee Rivers. Hartfield and Garner (1998, p. 6) documented the presence of stable substrates interspersed between dredge and disposal sites in the lower Alabama River. These included areas with stable sand and gravel river bottoms, and bedrock walls. The presence of mussel beds and a diverse and dense insect community provide an indication that channel bottoms are relatively stable (Hartfield and Garner 1998, p. 6). As mentioned above, the preferred diet of the sturgeon is aquatic invertebrates; therefore, the presence of mussel beds may be an important indicator of suitable sturgeon feeding habitat. This is consistent with the data that are currently being collected from the sturgeon that was released and tracked in 2007. This fish has remained in the vicinity of well-known mussel beds on the lower Alabama River since its release.

Primary Constituent Elements (PCEs) for the Alabama Sturgeon

Within the geographical area occupied by the Alabama sturgeon at the time of listing, we must identify the PCEs that may require special management considerations or protections.

Based on the above needs and our current knowledge of the life history, biology, and ecology of the species, we have determined that Alabama sturgeon's PCEs are:

1. A range of flows with a minimum 7-day flow of 4,640 cubic feet per second during normal hydrologic conditions, measured in the Alabama River at Montgomery.
2. River channel with stable sand and gravel river bottoms, and bedrock walls, including associated mussel beds.
3. Limestone outcrops and cut limestone banks, large gravel or cobble such as that found around channel training devices, and bedrock channel walls that provide riverine spawning sites with substrates suitable for egg deposition and development.
4. Long sections of free-flowing water to allow spawning migrations and development of eggs and larvae.
5. Water temperature not exceeding 90 °Fahrenheit (32 °Celsius), dissolved

oxygen content over 4 milligrams per liter, and pH (a measure of acidity) within the range of 6.0 to 8.5.

With this proposed designation of critical habitat, we intend to conserve the physical and biological features that are essential to the conservation of the species, through the identification of the appropriate quantity and spatial arrangement of the PCEs sufficient to support the life history functions of the species. The critical habitat unit proposed for designation contains all of the PCEs and supports multiple life processes.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the occupied areas contain the physical or biological features essential to the conservation of the species, and whether these features may require special management considerations or protection. It is recognized that numerous activities in and adjacent to the unit designated as critical habitat, as described in this proposed rule, may affect one or more of the PCEs found in that unit. These activities include, but are not limited to, those listed in the Application of the "Adverse Modification" Standard section as activities that may destroy or adversely modify critical habitat. We summarize here the primary threats to the physical and biological features essential to the conservation of the species.

Water quality, as discussed in the Application of the "Adverse Modification" Standard section, can influence all life stages of the sturgeon. Water pollution and changes in water quality can originate from either non-point or point source discharges. Non-point source pollution is ubiquitous in the Mobile Basin and can originate from a variety of land use practices (such as livestock grazing, row crop farming, silvicultural, and residential development). The impacts from nearly all non-point source pollutant sources can be managed by implementing the appropriate best management practices. This may include creation and maintenance of riparian buffers, and control of soil loss and runoff from adjacent lands. Point source pollution typically originates from industrial and municipal discharges, but may include any discharge that originates from a single point. Point source pollution can be managed by ensuring that NPDES permitted discharges are within compliance at all times. This requires proper water quality monitoring and record keeping, and ensuring that enough flow is present in the river to

assimilate the volume of material that is being discharged.

The Service should be consulted with for disturbances to areas upstream of those known to support sturgeon, including perennial streams that may provide critical thermal refuges to the sturgeon at the interface with the main channel, especially during times when river flows are experiencing abnormally low levels (i.e., during droughts). Therefore, prior to channel-disturbing activities, these areas should be identified and precautions should be taken to ensure that the integrity of these areas is maintained. Minimizing the effects of navigational dredging and channelization (past evidence of which can be seen throughout the historical range of the sturgeon) can be accomplished by avoiding the removal of consolidated bed material and rock walls, and consulting with the Service on the proper disposal areas.

Criteria Used To Identify Critical Habitat

The Alabama sturgeon is extremely rare. Despite extensive and intensive efforts in the decade prior to its listing, only eight Alabama sturgeon were captured, or reported captured and released. All river sturgeons are migratory and may migrate hundreds of kilometers to spawn, and newly hatched larvae may drift hundreds of kilometers before settling. Therefore, connectivity of spawning, juvenile, and adult feeding and developmental habitats is necessary for the conservation of the species.

We began our analysis by evaluating the Alabama sturgeon in the context of its distribution throughout the historical range to determine what portion of the range must be included to ensure conservation of the species. We considered several factors in this evaluation: (1) Inclusion of reaches that provide the highest likelihood of egg and juvenile development, (2) inclusion of reaches that contain suitable spawning habitat, and (3) inclusion of areas that provide protection of the species during low flow periods and other catastrophic events.

The historical range of the Alabama sturgeon included nearly every major basin in the Mobile River basin downstream of the Fall Line, comprising nearly 1,600 km (1,000 mi) of riverine habitat in the Mobile River Basin in Alabama and Mississippi. There are records of Alabama sturgeon from nearly all the major rivers in the Mobile River Basin below the Fall Line, including the Black Warrior, Tombigbee, Alabama, Coosa, Tallapoosa, Mobile, Tensaw, and Cahaba Rivers (Burke and Ramsey 1985,

p. 1). However, over the last century, the species has disappeared from at least 85 percent of its historical range, and since the 1960s has experienced a significant decline in the remaining range.

Recent collections (since 1990) of the Alabama sturgeon are confined to the lower Alabama River from its confluence with the Tombigbee River upstream to R.F. Henry Lock and Dam, including the lower Cahaba River (Rider and Hartfield 2007, p. 492). The entire historical range of the Alabama sturgeon is now controlled by a series of more than 25 large locks or dams. These man-made structures have resulted in a series of impoundments that are interspersed with free-flowing reaches of varying lengths. Within the Alabama sturgeon's historical range there are three dams on the Alabama River (completed between 1969 and 1971), two on the Black Warrior River (completed by 1971), and six on the Tombigbee River (completed between 1955 and 1985). These 11 dams alone have impounded and fragmented more than 970 km (583 mi) of riverine habitat once occupied by sturgeon. Prior to construction of these structures, sturgeon could move freely between feeding areas, and from feeding areas to sites that were suitable for spawning and development of eggs and larvae.

The locks and dams that impound the river constitute barriers to sturgeon passage. Although fish species that occupy the middle of the water column (e.g., shad, catfishes, paddlefish) could, and do, pass through the locks while they are being operated, there is no evidence to suggest that sturgeon pass through the lock chambers during normal lockages. Most adult sturgeons, including the Alabama sturgeon, are benthic (bottom-dwelling) cruisers, and are not likely to move up in the water column to scale physical hurdles (Cooke *et al.* 2002, p. 108). The lock chambers at Millers Ferry and Claiborne Locks and Dams have upper and lower sills which form a rather large hurdle (about 30 feet above the river floor at the upper end of Miller Ferry) for sturgeon moving upstream and downstream.

With migration routes impeded, isolated subpopulations of Alabama sturgeon are unable to successfully recruit adequate numbers to replenish the population. Reduced numbers of recruited sturgeon and surviving adult fish can become more vulnerable to localized declines in water and habitat quality caused by hydropower releases, local riverine and land management practices, or by polluted discharges. It is unlikely that Alabama sturgeon habitat and life cycle requirements can be met in long stretches of low flow, such as those that exist in the impounded areas

of the river, where decreased flows typically cause silt and other fine sediments to accumulate over bottom habitats, creating unsuitable conditions for spawning, feeding, and larval growth and development.

The Alabama sturgeon is considered extirpated from the upper Alabama, Black Warrior, Tombigbee, Coosa, Tallapoosa, Mobile, and Tensaw Rivers. The Upper Alabama is isolated by Robert F. Henry Lock and Dam, and this reach of the river is essentially impounded to the confluence of the Coosa and Tallapoosa Rivers, and does not contain appropriate habitat for the conservation of the Alabama sturgeon.

Sturgeon have not been collected from the Black Warrior, Coosa, Tallapoosa or Tombigbee Rivers in more than 30 years. With the exception of the extreme lower Tombigbee River, all of these areas are isolated from currently occupied river reaches and their riverine habitats are impounded and highly fragmented by multiple large river dams. Although some isolated areas within these drainages may contain some of the appropriate habitat features for Alabama sturgeon, their limited extent and the lack of continuity or accessibility to other habitats limits their value to the species.

The Mobile, Tensaw, and lower Tombigbee Rivers are currently accessible to Alabama sturgeon; however, there have been no confirmed collections of the species in more than 20 years. In addition, the natural hydrograph of the lower Mobile Basin has been radically altered by multiple navigation and hydropower dams on the Tombigbee River, and the flows are seasonally highly variable. These areas may be occasionally used or visited by subadult or adult Alabama sturgeon; however, there is no recent evidence that this is occurring and little historical evidence of such use. Although some habitat features occur in these river reaches, their value in conservation of the species is not known.

At the time of listing, we considered the Alabama River from south of Miller's Ferry Lock and Dam to the confluence of the Tombigbee River to be occupied. Shortly after publication of the listing rule, an Alabama sturgeon was captured and released at river mile 8.5 in the Cahaba River. This capture of an adult sturgeon indicated that this area also was occupied at the time of listing, given that the fish could not have reached this area from other sections of the river due to the lock and dam arrangement (see the Riverine Flows and Channel Stability section), and would have been present at the time

the rule was published in the **Federal Register**. Given the fish's proximity to the mouth of the Cahaba River and the lack of barriers with the Alabama River section located between R.F. Henry Lock and Dam and the Millers Ferry Lock and Dam, we believe the fish likely to use all of these areas, and, therefore, consider them occupied at the time of listing. There is some evidence of past upstream spawning runs in the Cahaba River as well (Williams and Clemmer 1991, p. 27). Based on historical information and recent collections, we consider all of the following areas to be currently occupied: The Alabama River from R.F. Henry Lock and Dam downstream to the confluence of the Tombigbee River, and the Cahaba River from its confluence with the Alabama River upstream to U.S. Highway 82 which is close to the Fall Line at Centreville, Alabama. Given the lack of appropriate habitat elsewhere within the historical range, we conclude that this proposed designation should include all currently occupied habitat.

Once we determined that the proper scale of the proposed critical habitat designation should cover the area currently occupied by the species, we assessed the critical life history components of Alabama sturgeon as they relate to habitat. Alabama sturgeon use the rivers for spawning, larval and juvenile feeding and development, adult resting, feeding, and staging, and to move between the areas that support these components. Therefore, all areas meeting these requirements were considered for inclusion.

We then investigated the habitat types that support these life history components and where these habitat areas are located. We evaluated empirical data (including that gathered from recent radiotelemetry), recent channel bathymetry data (collected by the U.S. Army Corps of Engineers), as well as published and unpublished literature. These habitat components are described in the Primary Constituent Elements section of this proposed rule.

To determine which areas should be designated as critical habitat, we then evaluated where the necessary physical and biological features of Alabama sturgeon habitat occur within the currently occupied habitat. Detailed location data are included in the unit description in the Proposed Critical Habitat Designation section of this proposed rule. We have determined that these areas occur from the Alabama River, at its confluence with the Tombigbee River, upstream to R.F. Henry Lock and Dam. This also includes the Cahaba River upstream to U.S.

Highway 82 near the Fall Line in Bibb County. All of these areas support one or more of the PCEs and are accessible to sturgeon (i.e., not entirely blocked by dams). All life stages are associated with flowing waters and other features characteristic of free-flowing riverine habitats. Nearly the entire length of the Alabama and Cahaba River currently meet these requirements. This area is being proposed as critical habitat to ensure adequate protection of spawning sites, habitat needed for juvenile development, and movement of adult sturgeon to and from spawning areas.

When determining proposed critical habitat boundaries within this proposed rule, we made every effort to avoid including developed areas such as waterways covered by buildings, docks, dams, and other structures because such waterways lack PCEs for Alabama sturgeon. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developments. Any such areas inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, a Federal action involving these areas would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action may affect adjacent critical habitat.

Proposed Critical Habitat Designation

We are proposing to designate one contiguous section of the Alabama River and a portion of the lower Cahaba River as one critical habitat unit for Alabama sturgeon. The areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the Alabama sturgeon. The single unit we propose as critical habitat is the Alabama River from its confluence with the Tombigbee River, Clarke and Baldwin Counties, Alabama, upstream to R.F. Henry Lock and Dam, Autauga and Lowndes Counties, Alabama; and the Cahaba River from its confluence with the Alabama River upstream to U.S. Highway 82 near the Fall Line in Bibb County, Alabama.

Following review of all areas within the range of the species, we have determined that the proposed critical habitat area meets the definition of critical habitat.

Table 1 shows the occupied unit, land ownership and approximate area.

TABLE 1.—OCCUPANCY OF ALABAMA STURGEON AND LAND OWNERSHIP OF THE PROPOSED CRITICAL HABITAT UNIT

Critical habitat unit	Occupied at time of listing	Currently occupied	Size of unit in kilometers (miles)	Land ownership by type
Alabama and Cahaba Rivers	yes	yes	524 (326)	State.

Below, we present a brief description of the unit and reasons why it meets the definition of critical habitat for the Alabama sturgeon.

Unit: Alabama and Cahaba Rivers, Alabama

The critical habitat unit encompasses 524 km (326 mi) of river channel. The portion of river channel in the Alabama River extends 394 km (245 mi) from its confluence with the Tombigbee River, Baldwin and Clarke Counties, Alabama, upstream to R.F. Henry Lock and Dam, Autauga and Lowndes Counties, Alabama; and the portion of river channel in the Cahaba River extends 130 km (81 mi) from its confluence with the Alabama River, Dallas County, Alabama, upstream to U.S. Highway 82, Bibb County, Alabama. The Alabama and Cahaba Rivers are the last known areas that still support the sturgeon, both of which were occupied at the time of listing. This was recently confirmed by the 2007 collection of an individual from the Alabama River below Claiborne Lock and Dam, and the 2000 collection of an individual from the lower Cahaba River (ADCNR pers. comm. 2007). Although the Alabama River, within this unit, contains two physical barriers (Claiborne and Millers Ferry Locks and Dams), it supports the PCEs to sustain this extremely rare fish. The single critical habitat unit includes the channel of the rivers and streams listed between the ordinary high water mark on each bank, which is defined in 33 CFR 329.11 as “the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas.” The distances between landmarks marking the upstream and downstream boundaries of the unit are given in kilometers and equivalent miles, as measured by tracing the thalweg (a line connecting the lowest points of successive cross sections) of the stream, not the straight-line distance. River miles referenced in this rule were taken from a Corps of Engineers 1985 stream mileage table.

The river channel within the entire unit is owned by the State of Alabama, and the vast majority of adjacent lands are under private ownership, with the exception of a portion of the Cahaba River that includes Talladega National Forest (Oakmulgee Division). Although the Oakmulgee Division encompasses a total of 63,483.7 hectares (ha) (156,871 acres (ac)), there are only about 9,951.6 ha (24,591 ac) that are directly adjacent to the Cahaba River. The Barton Beach Reserve, a small tract owned by The Nature Conservancy, encompasses 45.3 ha (112 ac) and covers approximately 1,150 meters (m) (3,773 ft) along the Cahaba River. This unit meets the definition of critical habitat based on the discussion above and contains all PCEs. This unit was known to be occupied at the time of listing and is currently occupied. Special management of the PCEs for the Alabama sturgeon and its habitat may be required for the following threats: low flow conditions, detrimental changes in water quality, reduction in the amount of free-flowing habitat, and detrimental changes to the morphology or stability of the river channel.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify designated critical habitat. Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our definition of “destruction or adverse modification” (50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir 2004) and *Sierra Club v. U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs

to be functionally established) to serve its intended conservation role for the species.

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain an opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as the biological opinion when the critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)). The conservation recommendations in a conference report are advisory.

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that are likely to adversely affect listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define “Reasonable and Prudent Alternatives” at 50 CFR 402.02 as

alternative actions identified during consultation that:

- (1) Can be implemented in a manner consistent with the intended purpose of the action,
- (2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,
- (3) Are economically and technologically feasible, and
- (4) Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

When we issue a biological opinion concluding that a project is not likely to jeopardize a listed species or adversely modify critical habitat, but may result in incidental take of listed animals, we provide an incidental take statement that specifies the impact of such incidental taking on the species. We then define "Reasonable and Prudent Measures" considered necessary or appropriate to minimize the impact of such taking. Reasonable and prudent measures are binding measures the action agency must implement to receive an exemption to the prohibition against take contained in section 9 of the Act. These reasonable and prudent measures are implemented through specific "Terms and Conditions" that must be followed by the action agency or passed along by the action agency as binding conditions to an applicant. Reasonable and prudent measures, along with the terms and conditions that implement them, cannot alter the basic design, location, scope, duration, or timing of the action under consultation and may involve only minor changes (50 CFR 402.14). The Service may provide the action agency with additional conservation recommendations, which are advisory and not intended to carry binding legal force.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies may sometimes need to request reinitiation of consultation with

us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Federal activities that may affect Alabama sturgeon or its designated critical habitat will require section 7(a)(2) consultation under the Act. Activities on State, Tribal, local or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10(a)(1)(B) of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are examples of agency actions that may be subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local or private lands that are not federally funded, authorized, or permitted, do not require section 7(a)(2) consultations.

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or would retain its current ability for the primary constituent elements to be functionally established. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for Alabama sturgeon. Generally, the conservation role of Alabama sturgeon critical habitat unit is to support the various life-history needs of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that, when carried out, funded, or authorized by a Federal agency, may adversely affect critical habitat and, therefore, should result in consultation for Alabama sturgeon include, but are not limited to the following (please see Special Management Considerations or Protection section for a more detailed

discussion on the impacts of these actions to the listed species):

(1) Actions that would significantly alter the existing flow regime to the point at which the habitat could no longer sustain normal behavior and promote species recovery. Such activities could include, but are not limited to, construction and operation of dams, water withdrawals, and channelization. These activities could eliminate or reduce spawning habitats, impair the development of eggs and larvae, impede or eliminate normal migration patterns, reduce the ability of the river to adequately assimilate pollution, and compromise the integrity and utility of cool water refuges (perennial tributaries). In addition, flows less than 4,640 cubic feet per second, as determined by the U.S. Army Corps of Engineers at Montgomery, would need to be evaluated on an individual basis to determine if they may affect the critical habitat, and conclusions could be dependent, in part, on intervening flows (e.g., Catoma Creek, Cahaba River), water temperature, and dissolved oxygen content in the Alabama River downstream of Montgomery. Dependent on these factors and conditions in the river at the time of the consultation, a Not Likely to Adversely Affect Determination could still be possible.

(2) Actions that would significantly alter the morphology and stability of the river channel. Such activities would include, but are not limited to, dredging and mining of consolidated bed material, impoundments, road and bridge construction, and destruction of riparian vegetation. These activities could eliminate suitable substrates for egg deposition and development, increase turbidity, and initiate erosion along the banks, which could increase water temperatures and reduce the width of the riparian zone.

(3) Actions that would significantly decrease the amount of currently available free-flowing habitat. Such activities would include, but are not limited to, construction and operation of dams, water withdrawals, and diversions. These activities could further minimize the currently available length of free-flowing habitat to support spawning migrations and development of eggs and larvae.

(4) Actions that would significantly alter water chemistry beyond what is required in the State of Alabama water quality standards. Such activities would include, but are not limited to, the discharge of chemicals, biological pollutants, nutrients, and other toxic substances that originate from non-point or point source discharges. These

substances could directly, or through accumulation in tissue, impair sturgeon behavior, reproduction, and growth.

We consider the unit proposed as critical habitat to contain features essential to the conservation of Alabama sturgeon. The unit is within the geographic range of the species, it was occupied by the species at the time of listing, and it is currently occupied. Federal agencies already consult with us on activities that may affect the species, to ensure that their actions do not jeopardize the continued existence of Alabama sturgeon.

Exemptions and Exclusions

Following review of all areas within the range of the species, we have determined that the proposed critical habitat area meets the definition of critical habitat.

Application of Section 4(a)(3) of the Act

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108-136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: "The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Improvement Act of 1997 (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation."

There are no Department of Defense lands with a completed integrated natural resources management plan within the proposed critical habitat designation.

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary must designate and revise critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the legislative history is clear that the

Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If based on this analysis, we make this determination, then we can exclude the area only if such exclusion would not result in the extinction of the species.

In the following sections, we address a number of general issues that are relevant to the exclusions we are considering. In addition, we are conducting an economic analysis of the impacts of the proposed critical habitat designation and related factors, which will be available for public review and comment when it is complete. Based on public comment on that document, the proposed designation itself, and the information in the final economic analysis, the Secretary may exclude from critical habitat additional areas beyond those identified in this assessment under the provisions of section 4(b)(2) of the Act. This is also addressed in our implementing regulations at 50 CFR 424.19.

Under section 4(b)(2) of the Act, we must consider economic impacts. We also consider a number of factors in a section 4(b)(2) analysis. For example, we consider whether there are lands owned or managed by the Department of Defense where a national security impact might exist. We also consider whether landowners having proposed critical habitat on their lands have developed any conservation plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any Tribal issues, and consider the government-to-government relationship of the United States with Tribal entities. We also consider any social or other impacts that might occur because of the designation.

In preparing this proposal, we have determined that the lands within the proposed designation of critical habitat for the Alabama sturgeon are not owned or managed by the Department of Defense, there are currently no HCPs for the Alabama sturgeon, and the proposed designation does not include any Tribal lands or trust resources.

We anticipate no impact to national security, Tribal lands, partnerships, or HCPs from this proposed critical habitat designation. Based on the best available

information, we believe that this unit contains the features essential to the species. As such, we have considered but not excluded any lands from this proposed designation. However, during the development of a final designation, we will be considering economic impacts, public comments, and other new information, and areas may be excluded from the final critical habitat designation under section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Economics

Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for economic reasons if the Secretary determines that the benefits of such exclusion exceed the benefits of designating the area as critical habitat. However, this exclusion cannot occur if it will result in the extinction of the species concerned.

We are preparing an analysis of the economic impacts of proposing critical habitat for Alabama sturgeon. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at the Federal eRulemaking Portal: <http://www.regulations.gov>, or by contacting the Alabama Ecological Services Field Office directly (see **FOR FURTHER INFORMATION CONTACT**). We may exclude areas from the final rule based on the information in the economic analysis.

Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we are obtaining the expert opinions of at least three appropriate independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed designation of critical habitat.

We will consider all comments and information we receive during this comment period on this proposed rule during our preparation of a final determination. Accordingly, our final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if we receive any requests for hearings. We

must receive your request for a public hearing within 45 days after the date of this **Federal Register** publication. Send your request to the person named in the **FOR FURTHER INFORMATION CONTACT** section. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the first hearing.

Required Determinations

Regulatory Planning and Review

The Office of Management and Budget (OMB) has determined that this rule is not significant and has not reviewed this rule under Executive Order (E.O.) 12866. OMB bases its determination upon the following four criteria:

(1) Whether the rule will have an annual effect of \$100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government.

(2) Whether the rule will create inconsistencies with other Federal agencies' actions.

(3) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

(4) Whether the rule raises novel legal or policy issues.

At this time, we lack the available economic information necessary to determine whether the rule would have an annual effect on the economy of \$100 million or more or affect the economy in a material way.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

At this time, we lack the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, we defer the RFA finding until completion of the draft economic analysis prepared under section 4(b)(2) of the Act and E.O. 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, we will announce availability of the draft economic analysis of the proposed designation in the **Federal Register** and reopen the public comment period for the proposed designation. We will include with this announcement, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination. We have concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that we make a sufficiently informed determination based on adequate economic information and provide the necessary opportunity for public comment.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or [T]ribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and [T]ribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or Tribal governments "lack authority" to adjust

accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because the lands being proposed for critical habitat designation are river bottoms owned by the State of Alabama and do not fit the definition of "small governmental jurisdiction." Therefore, a Small Government Agency Plan is not required. However, as we conduct our economic analysis, we will further evaluate this issue and revise this assessment if appropriate.

Takings

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for Alabama sturgeon in a takings implications assessment. The takings implications assessment concludes that this designation of critical habitat for Alabama sturgeon does not pose

significant takings implications for lands within or affected by the designation.

Federalism

In accordance with E.O. 13132, this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Alabama. The designation of critical habitat in areas currently occupied by the Alabama sturgeon imposes no additional restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments because the areas that contain physical and biological features essential to the conservation of the species are more clearly defined, and the primary constituent elements necessary to support the life processes of the species are specifically identified. This information does not alter where and what federally-sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with E.O. 12988 (Civil Justice Reform), it has been determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies physical and biological features essential to the conservation of the species within the designated areas to assist the public in understanding the habitat needs of the Alabama sturgeon.

Paperwork Reduction Act of 1995

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (NEPA)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA (42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

- (1) Be logically organized;
- (2) Use the active voice to address readers directly;
- (3) Use clear language rather than jargon;
- (4) Be divided into short sections and sentences; and
- (5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, *Government-to-Government Relations with Native American Tribal Governments* (59 FR 22951), E.O. 13175, and the Department of the Interior's manual at 512 DM 2, and Secretarial Order 3206, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not

subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We have determined that there are no Tribal lands that meet the definition of critical habitat for Alabama sturgeon. Therefore, we have not proposed designation of critical habitat for Alabama sturgeon on Tribal lands.

Energy Supply, Distribution, or Use

On May 18, 2001, the President issued an Executive Order (E.O. 13211; *Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use*) on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. There are currently two hydroelectric dams (Robert F. Henry and Millers Ferry Locks and Dams) located on portions of the rivers under consideration for designation of critical habitat. Both Robert F. Henry and Millers Ferry Locks and Dams are located on the Alabama River and are owned and operated by the U.S. Army Corps of Engineers, and have total generating capacities of 68 and 75 megawatts, respectively. Hydroelectric production was likely impacted by low flows resulting from recent drought conditions; however, under normal hydrologic conditions, where flows at Montgomery equal a 7-day average of 4,640 cubic feet per second, flows would not be altered by this designation of critical habitat. With designation of critical habitat, the Service's ongoing consultation and future consultations with the U.S. Army Corps of Engineers on their management of the Mobile River Basin reservoirs regarding the Alabama sturgeon will require assessment of potential impacts to critical habitat. However, these consultations were already required because of the presence of Alabama sturgeon in the rivers that are being proposed for designation. Flow recommendations for the Alabama sturgeon remain the same as the levels we consulted on prior to the designation. Consequently, we do not expect this proposed rule to designate critical habitat for Alabama sturgeon to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

References Cited

To obtain a complete list of all references we cited in this rulemaking, contact the Field Supervisor, Alabama Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Author(s)

The primary authors of this package are the staff of the Alabama Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and

recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Public Law 99–625, 100 Stat. 3500; unless otherwise noted.

2. In § 17.11(h), revise the entry for “Sturgeon, Alabama” under “Fishes” in the List of Endangered and Threatened Wildlife to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species	Common name	Scientific name	Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
*	*	*	*	*	*	*	*	*
FISHES								
*	*	*	*	*	*	*	*	*
Sturgeon, Alabama ..		<i>Scaphirhynchus suttkusi</i> .	U.S.A. (AL, MS)	NA	E	697	17.95(e)	NA
*	*	*	*	*	*	*	*	*

3. In § 17.95, amend paragraph (e) by adding an entry for “Alabama sturgeon (*Scaphirhynchus suttkusi*),” in the same alphabetical order that the species appears in the table at § 17.11(h), between the existing entries for Colorado squawfish and Gulf Sturgeon, to read as follows:

§ 17.95 Critical habitat-fish and wildlife.

* * * * *

(e) Fishes

* * * * *

Alabama sturgeon (*Scaphirhynchus suttkusi*)

(1) Critical habitat unit is depicted for Baldwin, Monroe, Wilcox, Clarke, Dallas, Lowndes, Autauga, Bibb, and Perry Counties, Alabama, on the map below.

(2) The primary constituent elements of critical habitat for the Alabama sturgeon are:

(i) A range of flows with a minimum 7-day flow of 4,640 cubic feet per second, during normal hydrologic conditions, measured in the Alabama River at Montgomery.

(ii) River channel with stable sand and gravel river bottoms, and bedrock walls, including associated mussel beds.

(iii) Limestone outcrops and cut limestone banks, large gravel or cobble such as that found around channel training devices, and bedrock channel walls that provide riverine spawning sites with substrates suitable for egg deposition and development.

(iv) Long sections of free-flowing water to allow spawning migrations and development of eggs and larvae.

(v) Water temperature not exceeding 90 °Fahrenheit (32 °Celsius), dissolved oxygen content over 4 milligrams per liter, and pH within the range of 6.0 to 8.5.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, docks, dams, runways, roads, and other paved areas) and the land or waterway on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map unit. Data layers defining the map unit were

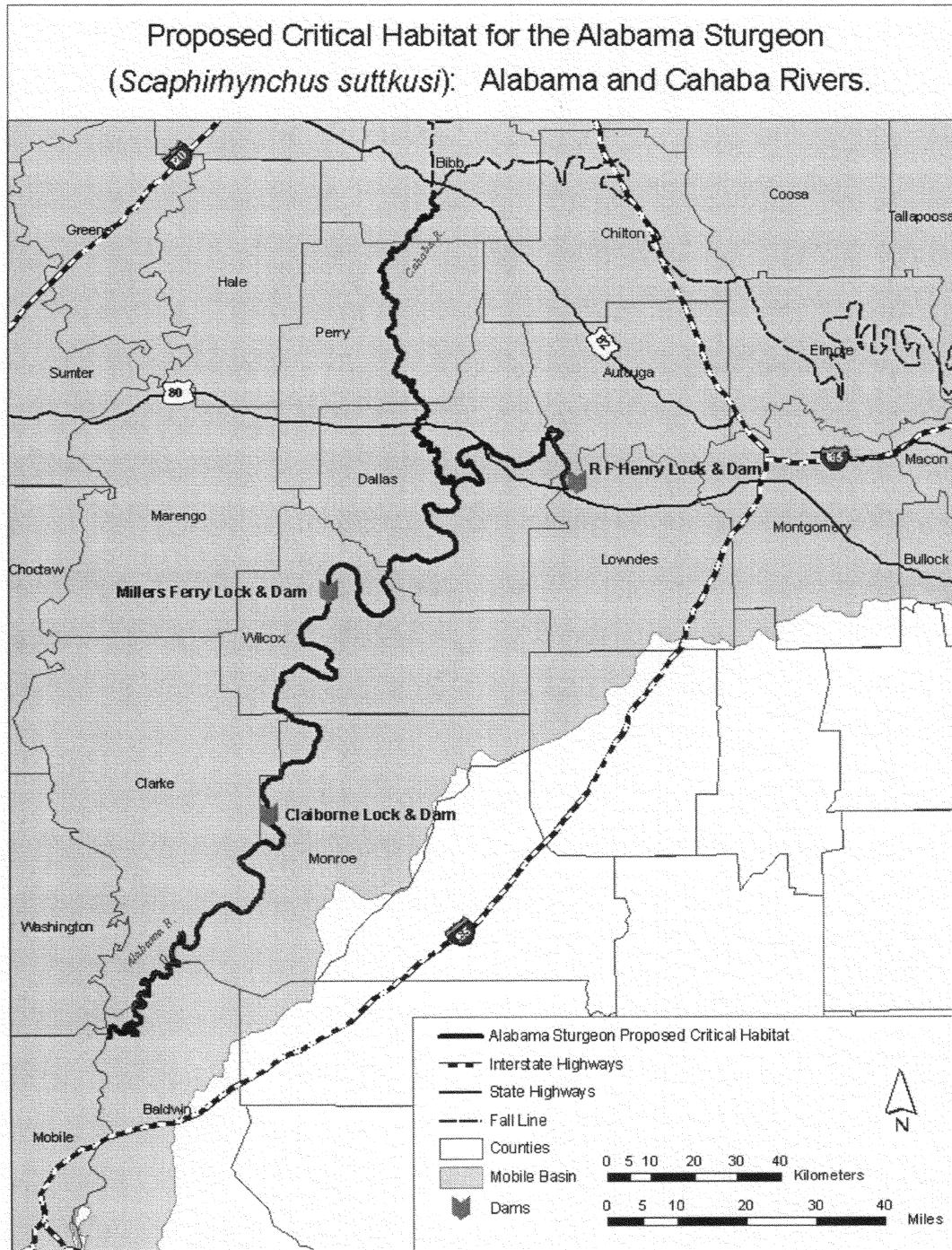
created on a base of USGS 7.5' quadrangles, and the critical habitat unit was then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit: *Alabama and Cahaba Rivers; Baldwin, Monroe, Wilcox, Clarke, Dallas, Lowndes, Autauga, Perry, and Bibb Counties, Alabama*

The unit encompasses 524 km (326 mi) of river channel. The portion of river channel in the Alabama River extends 394 km (245 mi) from its confluence with the Tombigbee River, Baldwin and Clarke Counties, Alabama, upstream to R.F. Henry Lock and Dam, Autauga and Lowndes Counties, Alabama; and the portion of river channel in the Cahaba River extends 130 km (81 mi) from its confluence with the Alabama River, Dallas County, Alabama, upstream to U.S. Highway 82, Bibb County, Alabama.

Note: Map of Unit, *Critical Habitat for Alabama Sturgeon (*Scaphirhynchus suttkusi*): Alabama and Cahaba Rivers*, follows:

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Dated: May 15, 2008.

Lyle Laverty,*Assistant Secretary for Fish and Wildlife and
Parks.*

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