

Center frequency (MHz)	Channel Nos. employed	Lower frequency (MHz)	Upper frequency (MHz)
4975	11 & 12	4970	4980
4980	12 & 13	4975	4985
4985	13 to 18 ¹	4980	4990

¹ These channels should only be used if all other channels are blocked.

(3) 15 MHz bandwidth aggregation:

Center frequency (MHz)	Channel Nos. employed	Lower frequency (MHz)	Upper frequency (MHz)
4947.5	1 to 7 ¹	4940	4955
4952.5	6 to 8	4945	4960
4957.5	7 to 9	4950	4965
4962.5	8 to 10	4955	4970
4967.5	9 to 11	4960	4975
4972.5	10 to 12	4965	4980
4977.5	11 to 13	4970	4985
4982.5	12 to 18 ¹	4975	4990

¹ These channels should only be used if all other channels are blocked.

(4) 20 MHz bandwidth aggregation:

Center frequency (MHz)	Channel Nos. employed	Lower frequency (MHz)	Upper frequency (MHz)
4950	1 to 8 ¹	4940	4960
4955	6 to 9	4945	4965
4960	7 to 10	4950	4970
4965	8 to 11	4955	4975
4970	9 to 12	4960	4980
4975	10 to 13	4965	4985
4980	11 to 18 ¹	4970	4990

¹ These channels should only be used if all other channels are blocked.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 223

[Docket No. 070910507-81216-02]

RIN 0648-AV94

Endangered and Threatened Wildlife and Plants: Proposed Rulemaking to Establish Take Prohibitions for the Threatened Southern Distinct Population Segment of North American Green Sturgeon

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments; notice of availability of a draft environmental assessment.

SUMMARY: Under section 4(d) of the Endangered Species Act (ESA), the Secretary of Commerce (Secretary) is required to adopt such regulations as he deems necessary and advisable for the conservation of species listed as threatened. This proposed ESA 4(d) rule represents the regulations that we, the National Marine Fisheries Service (NMFS), believe necessary and advisable to conserve the threatened Southern Distinct Population Segment of North American green sturgeon (*Acipenser medirostris*; hereafter Southern DPS). We propose to apply the prohibitions listed under ESA sections 9(a)(1)(A) through 9(a)(1)(G) for the Southern DPS, and we highlight specific categories of activities that are likely to result in take of Southern DPS fish. We do not find it necessary and advisable to apply the take prohibitions to certain categories of activities that contribute to conserving the Southern DPS. We also propose a variety of methods by which take of the Southern DPS may be authorized.

We announce the availability of a draft environmental assessment (EA) that analyzes the environmental impacts of promulgating these proposed 4(d) regulations for the Southern DPS. Finally, we solicit comments regarding the draft EA and this proposed rule.

DATES: Comments regarding the proposed rule and supporting documents may be sent to the appropriate address or fax number (see **ADDRESSES**), no later than 5 p.m. Pacific Standard Time on July 20, 2009. A public hearing will be held promptly if any person so requests by July 6, 2009. Notice of the location and time of any such hearing will be published in the **Federal Register** not less than 15 days before the hearing is held.

ADDRESSES: You may submit comments, identified by RIN 0648-AV94, by any one of the following methods:

- Electronic Submissions: Submit all electronic public comments via the Federal eRulemaking Portal <http://www.regulations.gov>.
- Facsimile (fax): 562-980-4027, Attn: Melissa Neuman.

• Mail: Submit written comments to Chief, Protected Resources Division, Attn: Melissa Neuman, Southwest Region, National Marine Fisheries Service, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213.

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

We will accept anonymous comments (enter N/A in the required fields, if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

A list of reference materials regarding this proposed rule can be obtained via the Internet at <http://www.swr.nmfs.noaa.gov> or by submitting a request to the Assistant Regional Administrator, Protected Resources Division, Southwest Region, NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213.

FOR FURTHER INFORMATION CONTACT: Melissa Neuman, NMFS, Southwest Region (562) 980-4115 or Lisa Manning, NMFS, Office of Protected Resources (301) 713-1401.

SUPPLEMENTARY INFORMATION:

Background

We determined that the Southern DPS is at risk of extinction in the foreseeable future throughout all or a significant portion of its range and listed the species as threatened under the ESA on April 7, 2006 (71 FR 17757). At that time we summarized the process for considering the application of ESA section 9 prohibitions to the threatened Southern DPS. In the case of threatened species, ESA section 4(d) states that the Secretary shall decide whether, and to what extent, to extend the section 9(a) prohibitions, including those regarding take, to the species, and authorizes us to issue regulations we consider necessary and advisable for the conservation of the species. Such regulations may include any or all of the prohibitions that automatically apply to endangered species. Those prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take the listed species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such

conduct. (16 U.S.C. 1532(19)). The term “harm” is defined as any act which kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation that results in death or injury of wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. (50 CFR 222.102).

Whether take prohibitions or other protective regulations are necessary or advisable is in large part dependent on the biological status of the species and potential impacts of various activities on the species. Green sturgeon have persisted for millions of years through cycles of naturally occurring perturbations that have likely presented short- and long-term challenges to the species’ survival. We conclude that the threatened Southern DPS of North American green sturgeon is currently at risk of extinction primarily because of human-induced “takes” involving elimination of freshwater spawning habitat, degradation of freshwater and estuarine habitat quality, water diversions, fishing, and other causes. Therefore, we conclude that extending the take prohibitions to the Southern DPS is necessary and advisable.

When the final rule to list the Southern DPS was published on April 7, 2006, we solicited the public for information that would inform the ESA section 4(d) rulemaking. Specifically, we requested information regarding: (1) green sturgeon spawning habitat within the range of the Southern DPS that was present in the past, but may have been lost over time; (2) biological or other relevant data concerning any threats to the Southern DPS; (3) current or planned activities within the range of the Southern DPS and their possible impact on the Southern DPS; (4) efforts being made to protect the Southern DPS; (5) necessary prohibitions on take to promote the conservation of the Southern DPS; (6) quantitative evaluations describing the quality and extent of freshwater and marine habitats (occupied currently or occupied in the past, but no longer occupied) for juvenile and adult Southern DPS fish; (7) activities that could be affected by an ESA section 4(d) rule; and (8) the economic costs and benefits of additional requirements of management measures likely to result from protective regulations. No substantive additional comments, beyond those that had been received during prior solicitations for information, were received.

Public scoping workshops held on May 31 and June 1, 2006, helped advance our understanding of the threats that are likely to result in the

take of Southern DPS fish. In cases where evidence of direct take due to a particular activity was lacking, activities that have caused take in species that use similar habitats (i.e., migratory, spawning, and rearing), consume similar prey types, have similar morphologies and/or physiologies, and/or share other life history requirements (e.g., white sturgeon (*Acipenser transmontanus*) and chinook salmon (*Oncorhynchus tshawytscha*)) were identified and considered for their effects on Southern DPS fish. More detailed justification regarding the use of take information for surrogate species (i.e. one that shares a similar life history or habitat requirement) to infer the take potential of an activity on the Southern DPS fish is provided in previous **Federal Register** notices (70 FR 17386, April 6, 2005; 71 FR 17757, April 7, 2006).

We conclude that the threatened Southern DPS of North American green sturgeon is at risk of extinction primarily because its populations have been reduced by human “take,” through activities that include, but are not limited to: (1) commercial and recreational fisheries activities that directly target or incidentally catch Southern DPS fish; (2) tribal fisheries activities that directly target or incidentally catch Southern DPS fish; (3) poaching; (4) collecting or handling Southern DPS fish for activities such as research, monitoring, and emergency rescues; (5) habitat-altering activities that result in the elimination, obstruction or delay of passage of adult Southern DPS fish to and from spawning areas, or otherwise result in the inability of adult Southern DPS fish to migrate to and from spawning areas; (6) habitat-altering activities that result in the destruction, modification or curtailment of spawning or rearing habitat for egg, larval or juvenile stages; (7) habitat altering activities that result in the elimination, obstruction or delay of downstream passage of larval or juvenile stages of Southern DPS fish; (8) entrainment and impingement of any life stage of Southern DPS fish during the operation of water diversions, dredging or power generating projects; (9) application of pesticides adjacent to or within waterways that contain any life stage of Southern DPS fish at levels that adversely affect the biological requirements of the Southern DPS; (10) discharge or dumping of toxic chemicals or other pollutants into waters or areas that contain Southern DPS fish; and (11) introducing or releasing non-native species likely to alter the Southern DPS’

habitat or to compete with the Southern DPS for space or food.

Spatial Context for Proposed 4(d) Rule Application

As described in a **Federal Register** notice (68 FR 4433) published on January 23, 2003, we determined that based on genetic and behavioral information, North American green sturgeon is comprised of at least two DPSs that qualify as species under the ESA: (1) a northern DPS consisting of populations originating from coastal watersheds northward of and including the Eel River ("Northern DPS"); and (2) a southern DPS consisting of populations originating from coastal watersheds south of the Eel River ("Southern DPS") and the Central Valley of California. These geographic boundaries were largely defined by genetic evidence indicating that, among samples from rivers where green sturgeon are known to spawn (i.e. the Rogue, Klamath, and Sacramento rivers), the Rogue and Klamath River fish were more similar to one another than to the Sacramento River fish (Israel *et al.*, 2004). Although the Southern DPS boundaries are defined by the species' genetic structure and its likely strong homing capabilities and spawning site fidelity, the spatial extent of the ESA listing and proposed take prohibitions for the Southern DPS is not confined to areas south of the Eel River. Southern DPS subadults and adults tagged in San Pablo Bay, a northern extension of San Francisco Bay, have been tracked in estuarine and marine waters far north of the Eel River (Lindley *et al.*, 2008), and preliminary genetic mixed stock analyses indicate that a proportion of green sturgeon in many estuaries north of the Eel River DPS boundary are of Southern DPS origin (J. Israel, UC Davis, 2006, unpublished data).

Tracking data, genetic mixed stock analysis, and direct observation indicate that Southern DPS fish occur in freshwater rivers and coastal estuaries and bays along the west coast of North America, including, but not limited to: San Pablo Bay, CA; Suisun Bay, CA; San Francisco Bay, CA (Radtke, 1966; CDFG, 2002; Kelly *et al.*, 2006; J. McLain, USFWS, 2006, unpublished data; Department of Water Resources Bay Delta and Tributaries data base, 2005, <http://bdat.ca.gov/index.html>); the Sacramento-San Joaquin Delta in the Central Valley California (Radtke, 1966; CDFG, 2002; Wang, 2006); Sacramento River, CA (USFWS, 1992; Adams *et al.*, 2002; Gaines and Martin, 2002; Israel *et al.*, 2004; Heublein *et al.*, in press); lower Feather River, CA (Adams *et al.*, 2006; A. Seeholtz, CDWR, 2008,

unpublished data; FERC, 2008, unpublished data); lower Yuba River, CA (Adams *et al.*, 2002; CDFG, 2002; G. Reedy, South Yuba River Citizens League, 2006, unpublished data); Humboldt Bay, CA (Moyle *et al.*, 1992; B. Pinnix, USFWS, 2008, unpublished data; S. Lindley, NMFS, 2008, unpublished data); Coos Bay, OR (Lindley and Moser, 2006); Winchester Bay, OR (Lindley and Moser, 2006; J. Israel, UC Davis, 2006, unpublished data); Yaquina Bay, OR (Emmett *et al.*, 1991; ODFW, 2002; D. M. Nelson, 2008, Letter to Steve Stone; J. Hightower, USGS, 2006, unpublished data); lower Columbia River and estuary, OR and WA (Israel *et al.*, 2004; Lindley and Moser, 2006; WDFW, 2006, unpublished data; ODFW, 2006, unpublished data); Willapa Bay, WA (Lindley and Moser, 2006; J. Israel and B. May, UC Davis, 2006, unpublished data; WDFW, unpublished data; ODFW, unpublished data); Grays Harbor, WA (Lindley and Moser, 2006; J. Israel and B. May, UC Davis, 2006, unpublished data); and Puget Sound, WA (Lindley and Moser, 2006). Southern DPS fish also occur in coastal waters within 110 meters depth from Monterey Bay, CA, to Yakutat Bay, AK (Lindley and Moser, 2006; Lindley *et al.*, 2008), including the Strait of Juan de Fuca, WA.

Green sturgeon have also been observed or collected in the following coastal rivers, estuaries, and marine waters; however, in many of these cases, individuals were not identified to the DPS level: Elkhorn Slough, CA (Moyle *et al.*, 1992; Yoklavich *et al.*, 2002; S. Lindley, NMFS, 2008, unpublished data; C. Raifsnider and J. Steinbeck, Tenera Environmental, 2006, personal communication); Tomales Bay, CA (Moyle *et al.*, 1992; J. McLain, USFWS, 2006, unpublished data); Noyo Harbor, CA (Moyle *et al.*, 1992; D. Catania, California Academy of Sciences, 2006, personal communication); Eel River, CA (Moyle *et al.*, 1992; Adams *et al.*, 2006); Klamath/Trinity River, CA (Nakamoto *et al.*, 1995; VanEenenaam *et al.*, 2001; Adams *et al.*, 2002; Adams *et al.*, 2006; VanEenenaam *et al.*, 2006; Benson *et al.*, 2007); Rogue River, OR (Rien *et al.*, 2001; Adams *et al.*, 2002; Erickson *et al.*, 2002; Adams *et al.*, 2006; Erickson and Hightower, 2007; Erickson and Webb, 2007; Webb and Erickson, 2007); Siuslaw River, OR (Emmett *et al.*, 1991; S. Lindley and M. Moser, NMFS, 2008, unpublished data); Alsea River, OR (Emmett *et al.*, 1991; D. M. Nelson, 2008, Letter to Steve Stone); Tillamook Bay, OR (Emmett *et al.*, 1991; ODFW, 1997; ODFW, 2002; D. M. Nelson, 2008, Letter to Steve Stone); coastal waters

within 110 m depth from the California/Mexico border to Monterey Bay, CA (Roedel, 1941; Norris, 1957; R. Rasmussen, NMFS, 2006, unpublished data); and coastal waters northwest of Yakutat Bay, AK, including portions of the Gulf of Alaska, and the Bering Sea (J. Ferdinand and D. Stevenson, NMFS, 2006, unpublished data).

Evaluation of Activities

While this proposal applies the take prohibitions to any activity that takes the Southern DPS, we wanted to determine which activities would most likely impede efforts necessary to conserve and recover the Southern DPS. To do this, we considered the following questions: (1) For which activities do we have evidence of take of Southern DPS fish; (2) for those activities where evidence of Southern DPS take does not exist, is there evidence of take of surrogate species that share similar biological requirements with Southern DPS fish; (3) are protective/conservation measures underway to reduce or minimize take imposed by some activities; and (4) are there additional protective/conservation measures that, if taken, would reduce take to low enough levels such that particular activities could proceed without appreciably reducing the likelihood of survival and recovery of the Southern DPS?

Commercial and Recreational Fisheries Activities

Take of Southern DPS fish occurs during commercial and recreational fishing activities throughout the range of North American green sturgeon. However, quantifying fishery-related take reliably and assessing its effects is challenging because: (1) Northern and Southern DPS fish are morphologically indistinguishable from one another and when green sturgeon have been taken, they have rarely been identified to the DPS level; (2) until recently some fisheries did not report green sturgeon take, and (3) in cases where data on take of green sturgeon is available, methods for estimating the total annual take by a fishery are still being developed. The two DPSs co-inhabit some coastal areas and bays in Northern California, Oregon, and Washington, and the proportion of Southern DPS fish contributing to overall populations in these areas may be high (e.g., 80 percent in the Columbia River; J. Israel, UC Davis, 2008, unpublished data). Thus, while we know that fisheries-related take is occurring, we are uncertain how this take is apportioned between the two DPSs, different locales, and different types of fisheries.

Green sturgeon are taken as bycatch in white sturgeon fisheries, salmon gillnet fisheries, coastal groundfish trawl fisheries, and coastal California halibut set net fisheries (Adams *et al.*, 2006; R. Rasmussen, NMFS, 2006, unpublished data; J. Ferdinand *et al.*, NMFS, 2006, unpublished data). These fisheries have taken large numbers of green sturgeon historically and have been cited as factors in the decline of the species (70 FR 17386, April 6, 2005; 71 FR 17757, April 7, 2006). For example, from 1985 to 1993, the harvest of green sturgeon in commercial fisheries in the Columbia River and in Washington ranged from 3,000 to over 7,500 fish per year. Sport fishing harvest during the same period ranged from less than 100 to over 500 fish, with the majority harvested from the Columbia River. Since 1993, commercial and sport harvest of green sturgeon has declined in the Columbia River and Washington fisheries to about 150 fish harvested in 2003 (Adams *et al.* 2006).

State recreational and commercial fishing regulations have been revised in response to evidence of recent sturgeon declines and to the listing of the Southern DPS. In California, the California Fish and Game Commission approved revised regulations, effective March 1, 2007, to prohibit retention of green sturgeon, alter the slot (size) limit (142 cm) and bag limit (one individual daily; 3 individuals annually) for white sturgeon, and require implementation of a sturgeon report card system. The Washington Fish and Wildlife Commission adopted a permanent rule to prohibit retention of green sturgeon in recreational fisheries statewide effective May 1, 2007. In addition, the Washington Department of Fish and Wildlife and Oregon Department of Fish and Wildlife voted to prohibit the retention of green sturgeon in Columbia River recreational fisheries from Bonneville Dam to the mouth of the river, effective January 1, 2007. For commercial fisheries, the retention of green sturgeon has been prohibited in the Columbia River by emergency rule since July 2006 and statewide in Washington by permanent rule since January 26, 2007. The State of California has prohibited commercial fishing for sturgeon since 1917. While these emergency and permanent rules offer Southern DPS fish protection, it is unclear whether the state closures will remain in effect over the long-term and ultimately what overall effect the closures will have on the Southern DPS.

Commercial groundfish trawl fisheries occurring in coastal waters along the West coast of North America take green sturgeon. Fish are primarily caught as

bycatch off the coast of California. Over a 6-year period, from 2001–2007, 450 green sturgeon were reported as bycatch in trawls off the California coast. Almost all green sturgeon caught in this fishery are released alive (J. Majewski, NMFS, 2006, unpublished data), but the long-term fate of these individuals remains unknown. A program for monitoring green sturgeon take was established with the NMFS Observer Program in January 2007. Additional measures that may be implemented to protect green sturgeon and the Southern DPS include zero retention of green sturgeon in all fisheries, minimizing incidental catch, monitoring of incidental catch, increased enforcement, fisheries closures in areas important to the species, and outreach and education on proper catch and release methods and green sturgeon conservation issues.

Tribal Fisheries

Green sturgeon are taken as bycatch in tribal salmon and sturgeon fisheries conducted by the Quinault Tribe in coastal Washington waters. Tribal harvest of green sturgeon occurs in Grays Harbor and at the mouth of tributaries, primarily the Chehalis and Humptulips rivers. The number of green sturgeon taken annually from 1985 to 2003 ranged from less than 10 to almost 200 fish (Adams *et al.*, 2006). In 2006, the Quinault Tribe implemented zero retention of green sturgeon for the Grays Harbor fishery (J. Schumacker, Quinault Indian Tribe, 2006, personal communication). A large proportion of green sturgeon caught in Grays Harbor may be Southern DPS fish, based on hydroacoustic tracking information (Lindley and Moser, 2006) and a genetic study indicating that approximately 50 percent of green sturgeon sampled in Grays Harbor belong to the Southern DPS (J. Israel and B. May, UC Davis, 2006, unpublished data).

Green sturgeon are also taken, though rarely, in tribal commercial and subsistence salmon fisheries occurring in freshwater and coastal marine waters of Washington, including the Strait of Juan de Fuca, Georgia and Rosario straits, and Puget Sound (W. Beattie, NW Indian Fisheries Commission, 2008, personal communication). The Yurok and Hoopa Tribes harvest green sturgeon in the Klamath River in California, but most of the fish are believed to be Northern DPS green sturgeon (J. Israel, UC Davis, 2006, unpublished data). Overall, the take of green sturgeon in tribal fisheries has been low compared to non-tribal fisheries. Measures that may be implemented to conserve the Southern DPS include a commitment by the

Quinault Tribe, and perhaps other Tribes within the occupied range of the Southern DPS, to minimize take and monitor incidental catch of green sturgeon over the long-term.

Poaching

Poaching is a potential threat to the Southern DPS. In recent years, several arrests have been made for illegal harvest of white sturgeon for their meat and roe from the Sacramento River (CDFG, 2003 and 2006), the Sacramento-San Joaquin Delta (CDFG, 2004), and the lower Columbia River (Cohen, 1997). In the lower Columbia River, an estimated 2,000 sturgeon were killed over a 5-year period by poachers to produce caviar (Cohen, 1997). Poaching may be less significant than incidental take associated with white sturgeon sportfishing (Williamson, 2003). However, the tendency for green sturgeon to form aggregations for long periods of time may make them easy targets for poachers (Erickson *et al.*, 2002). Increased public outreach and awareness, increased enforcement, and heavier sentences and fines for poachers may help to protect green sturgeon from the threats of poaching.

Research, Monitoring and Enforcement Activities

Scientific research and monitoring of the Southern DPS contributes valuable information for the management, conservation, and future status reviews of the species. However, collection or handling associated with scientific research and monitoring constitutes take and may result in stress, injuries, or mortality of Southern DPS fish. In recent years, much research and monitoring effort has been placed on: (1) tracking the movements and habitat use of Southern DPS fish by using a variety of non-lethal tagging techniques; and (2) identifying the DPS of origin using non-lethal genetic sampling techniques. These two research and monitoring activities provide information crucial to the development of an effective recovery strategy for the species. The best available information indicates that these procedures, when done according to accepted protocols, result in minimal short-term stress to the fish and do not result in lethal take. Important scientific information (e.g., genetic, pathologic, taxonomic, meristic) is also gathered from already dead individuals, thereby providing valuable data without putting the species at further risk.

Enforcement of the ESA and its implementing regulations is an essential component of protecting and recovering

species once they are listed.

Enforcement of this proposed regulation for the Southern DPS of green sturgeon may involve take. For example, when acting in the course of his or her official duties, a NMFS enforcement agent investigating an alleged ESA take violation may need to collect a Southern DPS fish or samples thereof as evidence of the violation.

Emergency Rescue and Salvage Activities

Emergency fish rescue activities, including aiding sick, injured, or stranded fish, disposing of dead fish, or salvaging dead fish for use in scientific studies, are forms of take. Rescue activities would benefit the Southern DPS in the event of emergency situations that result from natural disasters or national defense or security emergencies (see 50 CFR 402.05). Activities such as the rescue of fish stranded behind a man-made barrier (e.g., weirs, nets, dams) are not considered emergency fish rescue activities and should be subject to NMFS ESA review.

Habitat-altering Activities

Dams and water diversion structures have caused the elimination, obstruction, or delay of passage for green sturgeon and other sturgeon species and may reduce body condition and reproductive success. For example, dams and water diversion structures have been observed to obstruct or disrupt the upstream spawning migrations of shortnose sturgeon in the lower Cape Fear River, NC (Moser and Ross, 1995). White sturgeon have also been found stranded behind the Fremont Weir in the Yolo Bypass, CA (Harrell and Sommer, 2006). Disruptions in migration may cause fish to stop their upstream migration or may delay access to spawning habitats (Moser and Ross, 1995). The inability to reach spawning habitats may cause fish to spawn in habitats of lower quality, resulting in decreased recruitment (Cooke and Leach, 2004). Several dams and water diversion structures exist along the spawning migration route of the Southern DPS and would be expected to have detrimental effects similar to those observed in surrogate species. Fish passage studies at the Red Bluff Diversion Dam (RBDD) in the Sacramento River show that the RBDD blocks the upstream migration of the Southern DPS when the gates are lowered between May 15 and September 15 (Heublein *et al.*, 2006; Brown, 2007). Mitigation measures have been implemented, including the raising of RBDD gates from September 15 to May

15 each year to allow fish passage and the protection and restoration of spawning and rearing habitat along the Sacramento River, bays, and the Sacramento-San Joaquin Delta. However, when the gates are raised, green sturgeon may become disoriented or suffer injuries due to the high velocity of water passing under the gates (M. Tucker, NMFS, 2007, personal communication). Between May 18 and June 10, 2007, carcasses of 10 adult Southern DPS fish (168–226 cm total length) were found at (n=2) or downstream (n=8) of RBDD (E. Campbell, USFWS, 2007, unpublished data). Locations of the retrieved carcasses and necropsy results suggest that the fish suffered mortality due to injuries inflicted by the gates at RBDD. Installation of adequate fish passage facilities, modification of existing passage facilities, or other provisions to specifically aid sturgeon passage at dams and diversions, and application of other mitigation measures, such as salvage operations, would contribute to the protection of the Southern DPS.

The elimination, obstruction, or delay of downstream passage is a concern for larval and juvenile stages of the Southern DPS, as are habitat-altering activities that destroy, modify, or curtail spawning or rearing habitats for egg, larval, or juvenile stages. Specific concerns include, but are not limited to: increased sediment input or runoff into streams; filling in or isolation of stream channels, side channels, and intermittent waters; direct removal or alteration of physical structures; and obstruction of downstream migration.

Increased input or runoff of fine sediments into streams may result from a number of activities including, but not limited to, mining, logging, farming, grazing, and bridge and road construction. Increased erosion and sediment input or runoff into streams caused by land use and other human activities have been found to reduce the survival and successful development of eggs and embryos of salmon and other fish species (Scrivener and Brownlee, 1989; Owen *et al.*, 2005). The effects on green sturgeon eggs and embryos are likely to be similar. Green sturgeon eggs are large and dense and likely sink into rock crevices or attach to hard surfaces (Deng *et al.*, 2002; Kynard *et al.*, 2005). Once hatched, green sturgeon embryos remain near the bottom and use rocks as cover (Kynard *et al.*, 2005). Excess fine sediments can compromise successful development by burying already-deposited eggs, reducing interstitial dissolved oxygen available for eggs (Scrivener and Brownlee, 1989), or filling areas used by embryos for cover.

Thus, Southern DPS eggs or embryos may be taken due to habitat-altering activities that increase input of fine sediments or runoff into spawning or rearing habitat. The effect that increased input of fine sediments or runoff has at the individual, population and species levels will depend on the temporal and spatial extent of habitat change. The only way to determine this is to analyze particular activities on a case-by-case basis.

The filling in or isolation of stream channels, side channels, and intermittent waters may destroy or block access to rearing habitats, or impede or delay downstream migration by trapping larvae and juveniles that have entered these areas. Activities that fill in or isolate waters include, but are not limited to, the installation of tide gates, culverts, and debris- or sediment-trapping road crossing structures. These activities and their effects are a concern for listed salmon and steelhead and may also affect larval and juvenile Southern DPS fish. However, we currently lack the information needed to quantitatively assess these effects. Although relatively large numbers of juveniles have been collected in shallow areas of the Santa Clara shoal in the Sacramento-San Joaquin Delta (Radtke, 1966), the use of stream channels, side channels, and intermittent waters as rearing habitat by green sturgeon larvae and juveniles has not been documented. Information regarding the use of these habitats by early life stages of green sturgeon is needed.

Direct removal or alteration of physical structures essential to the integrity and function of the Southern DPS's spawning or rearing habitat, including rocks, soil, gravel, and vegetation, may adversely affect the growth and survival of larvae and juveniles. Green sturgeon likely use specific substrate types at different life stages, but observations of early life stages of green sturgeon in the field are lacking. Studies suggest that spawning most likely occurs over cobble substrates that provide crevices and cover for eggs (Kynard *et al.*, 2005; Nguyen and Crocker, 2006). However, in a laboratory study of substrate use by post-hatch larval green sturgeon, growth and survival was greatest in flat slate-rock substrates that provided cover and sufficient foraging opportunities (Nguyen and Crocker, 2006). Survival was low in cobble substrates, because larvae became trapped in crevices and died; whereas in sand substrates, the cause of lower survival and growth was attributed to the ingestion of sand particles similar in size to food particles (Nguyen and Crocker, 2006). Juveniles

likely use deep pool habitats with rock structure during the winter (Kynard *et al.*, 2005). Removal or alteration of these physical structures (i.e. cobble for spawning and egg development; flat rock for larval rearing; deep pool habitats with rock structure for juvenile rearing) may reduce spawning or rearing success rates. Information regarding the use of spawning habitats by Southern DPS early life stages and the effects of removing or altering physical components of Southern DPS spawning habitat on recruitment success is needed.

The construction and maintenance of dams and water diversion structures may impede or delay downstream migration and alter habitats important to larval and juvenile stages of the Southern DPS. Dams and water diversions may block downstream migration of larvae and juveniles, unless fish transport or bypass facilities exist. Passage across dams and water diversion structures may also disorient or injure larvae and juveniles and make them more vulnerable to predation, as has been observed for juvenile salmonids at RBDD (Bigelow and Johnson, 1996; Gaines and Martin, 2002). The actual construction of dams and water diversion structures may cause increased erosion and sedimentation and disrupt or alter physical structures in spawning or rearing habitats, with effects as described in the previous paragraphs.

While existing laws require mining, timber harvest, and other resource use plans to address erosion and other adverse impacts on stream habitats, these laws may not be adequate to protect the Southern DPS. Additional measures that would help reduce potential adverse impacts on Southern DPS fish are: (1) protection of riparian habitat by limiting activities that cause erosion, sediment input or runoff into streams, or roadway and other linear development near or across streams; (2) construction of fish protection and passage facilities; and (3) limiting the temporal and/or spatial scopes of habitat alteration activities that occur in and near spawning and rearing locations.

Habitat Restoration

The primary purpose of habitat restoration is to restore natural aquatic or riparian habitat conditions or processes over the long-term. Specifically, we define habitat restoration as the process of reestablishing a self-sustaining habitat that closely resembles natural conditions in terms of structure and function for the Southern DPS. A variety

of habitat-altering activities such as barrier removal or modification to restore natural water flows, river and estuarine bed restoration, natural bank protection, restoration of native vegetation, removal of non-native species, and removal of contaminated sediments have been used to reestablish natural river and estuarine functions over the long-term. Although take of green sturgeon could potentially occur during the course of completing restoration activities, we do not have evidence that these types of activities have taken the Southern DPS or a surrogate species. It is likely that these activities are important to the conservation and recovery of the Southern DPS.

Entrainment and Impingement Risks

The operation of water diversions, power generating projects, and dredging activities pose entrainment and impingement threats to all life stages of the Southern DPS. We define entrainment to mean the incidental trapping of any life stage of fish within waterways or structures that carry water being diverted for anthropogenic use. We define impingement to mean the entrapment of any life stage of fish on the outer part of any structure (e.g., intake structures, screening devices) that separates water traveling a natural course of passage from water that is being diverted for anthropogenic use. Unscreened water diversions number in the hundreds to thousands in the Sacramento River and the Sacramento-San Joaquin Delta (Herren and Kawasaki, 2001). Factors that determine the entrainment risk of fish at diversions include the location and size of fish. A study of fish entrainment at an unscreened diversion in the Sacramento River documented entrainment of fish ranging in size from 9 to 59 mm fork length (FL) in July 2000 and 2001 (Nobriga *et al.*, 2004). Green sturgeon were not among the species documented in the study, but Southern DPS larvae and small juveniles within the size range of 9–59 mm FL occur in the Sacramento River at that time of year and are believed to also be at risk of entrainment at unscreened diversions. Entrainment of juvenile green sturgeon has been documented at the state and Federal fish facilities in the south Sacramento-San Joaquin Delta, where fish are salvaged before they enter the pumps (Adams *et al.*, 2006). Programs to install fish screens at water diversions are being implemented and many major diversions have already been screened. Installation of fish screens, construction of bypass and other fish protection facilities (Bigelow and Johnson, 1996;

Gaines and Martin, 2002), adjustments in the timing of operations, and continuation of fish salvage operations, where applicable, would help minimize and mitigate entrainment of Southern DPS fish at water diversions.

Evidence exists for the impingement of green sturgeon in the operation of coastal power plants using cooling water intake systems. Two juvenile green sturgeon were impinged and died on cooling water intake screens at the now retired Contra Costa Plant Units 1–5 in 1978–1979 and at the Moss Landing Power Plant in 2006 (C. Raifsnider and J. Steinbeck, Tenere Environmental, 2006, personal communication). Current conservation efforts include the installation of screens to reduce entrainment, studies of fish impingement and entrainment at power plants, and laws that require the minimization of fish impingement and entrainment. Other actions that can be taken to reduce impingement and entrainment include altering the time of day when water intake pumps are operated, altering the velocity of water intake, and the use of alternative cooling systems that do not require water intake.

Dredging operations in freshwater rivers, bays, and estuaries where Southern DPS fish occur may pose entrainment risk. Although entrainment of green sturgeon in dredging operations has not been documented, the effects could be significant. Approximately two thousand juvenile white sturgeon were entrained during operation of a large suction dredge in the lower Columbia River (Buell, 1992). Juvenile green sturgeon would be expected to face similar entrainment risks from dredging operations because they are also bottom-oriented and occur in habitats similar to white sturgeon. Long-term management strategies for San Francisco Bay dredging operations have established regional environmental work windows, or periods of time when certain fish species are not likely to be present in a location. Currently, it is believed that Southern DPS juveniles reside in San Francisco, Suisun, and San Pablo bays year-round so environmental work windows will likely not be effective in reducing the risks of dredging operations to the Southern DPS in these locations. However, the use of specific types of dredging equipment with modified designs would reduce the entrainment risk to Southern DPS fish from dredging operations.

Pesticides and Discharge of Pollutants

The application of pesticides adjacent to or within waterways that contain any life stage of the Southern DPS may adversely affect their growth and

reproductive success. Several pesticides have been detected in the Sacramento River Basin at levels that are likely to be harmful to aquatic life (Domagalski *et al.*, 2000). The accumulation of industrial chemicals and pesticides such as polychlorinated biphenyls (PCBs), dichloro-diphenyl-trichloroethanes (DDTs), and chlordanes in white sturgeon gonad, liver, and muscle tissues affects growth and reproductive development and results in lower reproductive success (Fairey *et al.*, 1997; Foster *et al.*, 2001a; Foster *et al.*, 2001b; Kruse and Scarnecchia, 2002; Feist *et al.*, 2005; Greenfield *et al.*, 2005). Green sturgeon are believed to experience similar risks from contaminants, although their exposure may be reduced because a greater proportion of their subadult and adult lives are spent in marine waters (70 FR 17386, April 6, 2005). Pesticides may also indirectly affect green sturgeon through effects on their prey species. For example, green sturgeon are believed to enter Willapa Bay to feed on burrowing ghost shrimp (*Neotrypaea californiensis*), which have declined in abundance due to the deliberate application of carbaryl (Moser and Lindley, 2006).

The discharge or dumping of toxic chemicals or other pollutants into waters and areas where Southern DPS fish occur would be expected to reduce their growth and reproductive success. Pollutants including mercury, selenium, and arsenic have been detected in white sturgeon gonad, liver, and muscle tissues and are believed to affect growth, reproductive development, and reproductive success (Fairey *et al.*, 1997; Davis *et al.*, 2002; Kruse and Scarnecchia, 2002; Greenfield *et al.*, 2005; Webb *et al.*, 2006). Again, the effects on green sturgeon are likely to be similar.

Under the Federal Clean Water Act, acceptable levels for contaminants in waterways have been established by the States and the U.S. Environmental Protection Agency (EPA). Entities must also obtain National Pollutant Discharge Elimination System (NPDES) permits to discharge contaminants. However, NPDES permits are not required for irrigated agriculture and agricultural stormwater runoff. Furthermore, the national standards for use of pesticides and toxic substances may not be conservative enough to adequately protect the Southern DPS as was found for listed salmonids in recent draft and final jeopardy biological opinions issued by NMFS to the EPA (NMFS 1998, NMFS 2000, NMFS 2008). Thus, programs to aid agricultural producers in meeting NMFS-imposed water

quality standards may be required to minimize adverse impacts on the Southern DPS.

Non-native Species Introductions

Non-native species are a continuing problem in freshwater rivers and coastal bays and estuaries and may affect the Southern DPS through trophic interactions. Introduced species, such as striped bass in the Sacramento River and the Sacramento-San Joaquin Delta, may prey on green sturgeon. Non-native species may also replace prey species of green sturgeon and result in greater bioaccumulation of contaminants. For example, *Potamocorbula amurensis*, a non-native bivalve, has become widespread in the San Francisco Bay and the Sacramento-San Joaquin Delta and has replaced other common prey items for white sturgeon. *P. amurensis* is an efficient bioaccumulator of selenium, a reproductive toxin that causes deformities in embryos and reduced hatchability of eggs, and has been linked with increased selenium levels in white sturgeon (Linville *et al.*, 2002). *P. amurensis* has also been identified in the gut contents of at least one green sturgeon (CDFG, 2002). Non-native species may also alter the Southern DPS' habitat or compete with the Southern DPS for space or food. Although existing laws prohibit the release of non-native species into the environment, accidental and intentional introduction of non-native species remains a problem. Eradication programs for non-native species, increased public education and outreach, and increased fines or penalties for the release of non-native species would help to alleviate this problem.

Proposed 4(d) Protective Regulations for the Southern DPS

We propose to apply the prohibitions listed under ESA sections 9(a)(1)(A) through 9(a)(1)(G) for the Southern DPS, including all the ESA section 9(a)(1)(B) and 9(a)(1)(C) prohibitions (the "take prohibitions") except for specific activities described below (see Exceptions, Criteria for Exceptions, and Reporting Requirements). ESA section 9(a)(1)(A) states that it is unlawful to import or export endangered species into or from the United States; ESA section 9(a)(1)(B) states that it is illegal to take endangered species within the United States or the territorial sea of the United States; ESA section 9(a)(1)(C) states that it is illegal to take endangered species upon the high seas; ESA section 9(a)(1)(D) states that it is illegal to possess, sell, deliver, carry, transport, or ship, by any means whatsoever,

endangered species taken in violation of 9(a)(1)(A) and 9(a)(1)(C); ESA section 9(a)(1)(E) states that it is illegal to deliver, receive, carry, transport, or ship in interstate or foreign commerce by any means whatsoever and in the course of a commercial activity, endangered species; ESA section 9(a)(1)(F) states that it is illegal to sell or offer for sale in interstate or foreign commerce, endangered species; and ESA section 9(a)(1)(G) states that it is illegal to violate any regulation pertaining to endangered species or to any threatened species of fish or wildlife listed pursuant to section 4 of the ESA and promulgated by the Secretary pursuant to authority provided by the ESA.

These prohibitions are necessary and advisable for the conservation of the Southern DPS because human "take" via activities including, but not limited to, detrimental habitat alteration, modification, and curtailment; fisheries catch and bycatch; application of pesticides, toxic chemicals, or other pollutants adjacent to or within waterways; entrainment or impingement of eggs or fish during water diversion operations, dredging, or power generation; unnecessary collection or handling; and introduction of non-native species that disrupt trophic pathways, has contributed to the decline of the Southern DPS and is likely to impede its conservation and recovery.

Exceptions, Criteria for Exceptions, and Reporting Requirements

We propose exceptions to the ESA section 9(a)(1)(B) and 9(a)(1)(C) prohibitions (the "take prohibitions") for specific activities. These proposed exceptions encompass specific activities that may be excluded from the take prohibitions for the Southern DPS through the relatively informal coordination process described below. In determining that it is necessary and advisable to not impose take prohibitions on certain activities, we are mindful that new information may require a reevaluation of that conclusion at any time. For any of the exceptions to the take prohibitions described below, we would evaluate on a regular basis the effectiveness of the activities in conserving and protecting the Southern DPS. If the activities are not effective in conserving and protecting the Southern DPS, we would identify ways in which the activities need to be altered or strengthened. For habitat-related exceptions to the take prohibitions, changes may be required if the activities are not achieving desired habitat functionality or the habitat is not supporting population productivity levels needed to conserve the Southern

DPS. If the responsible agency does not make changes to respond adequately to the new information, we would publish notification in the **Federal Register** announcing the intention to impose take prohibitions on those activities. Such an announcement would provide for a comment period of not less than 30 days, after which we would make a final determination whether to extend the ESA section 9(a)(1)(B) and (C) take prohibitions to the activities. We propose that take of the Southern DPS not be prohibited during the course of the following activities:

(1) Federal, state or private-sponsored research or monitoring activities if they adhere to all of the following: (a) the activity must comply with required state reviews or permits; (b) the research or monitoring activity must be directed at the Southern DPS and not be incidental to research or monitoring of another species; (c) take of live mature adults in the lower Feather River from the confluence with the Sacramento River to the Oroville Dam (rkm 116), the lower Yuba River from the confluence with the Feather River to the Daguerre Dam (rkm 19), or Suisun, San Pablo, and San Francisco Bays or the Sacramento-San Joaquin Delta from the Golden Gate Bridge up into the Sacramento River to Keswick Dam (rkm 483) may only occur from July 1 through March 1 so as to substantially increase the likelihood that uninterrupted upstream spawning migrations of adults will occur; (d) take must be non-lethal; (e) take involving the removal of any life stage of the Southern DPS from the wild must not exceed 60 minutes; (f) take must not involve artificial spawning or enhancement activities; (g) a description of the study objectives and justification, a summary of the study design and methodology, estimates of the total non-lethal take of Southern DPS fish anticipated, estimates of incidental take of other ESA listed species anticipated and proof that those takes have been authorized by NMFS or the USFWS, identification of funding sources, and a point of contact must be reported to NMFS at least 60 days prior to the start of the study, or for ongoing studies within 60 days after publication of the final rule; (h) reports that include the total number of Southern DPS and any other ESA listed species taken, information that supports that take was non-lethal, and a summary of the project results must be submitted to NMFS on a schedule to be determined by NMFS staff; (i) research or monitoring that involves action, permitting or funding by a federal agency must still comply with the requirements of ESA section

7(a)(2) in order to ensure that the action will not jeopardize the continued existence of the threatened Southern DPS.

(2) Enforcement activities when an employee of NMFS, acting in the course of his or her official duties, takes the Southern DPS without a permit, if such action is necessary for purposes of enforcing the ESA or its implementing regulations.

(3) Emergency fish rescue and salvage activities that include aiding sick, injured, or stranded fish, disposing of dead fish, or salvaging dead fish for use in scientific studies, if they adhere to all of the following: (a) the activity must comply with required state or other Federal reviews or permits; (b) activities may only be conducted by an employee or designee of NMFS or the U.S. Fish and Wildlife Service (USFWS), any Federal land management agency, or California Department of Fish and Game (CDFG), Oregon Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife (WDFW), or Alaska Department of Fish and Game (ADFG); (c) the emergency rescue may only occur because of situations that result from natural disasters, national defense, or security emergencies (see 50 CFR 402.05); (d) the emergency rescue must benefit the Southern DPS; (e) a report must be submitted to NMFS that includes, at a minimum, the number and status of fish handled and the location of rescue and/or salvage operations within 30 days after conducting the emergency rescue.

(4) Habitat restoration activities, including barrier removal or modification to restore water flows, riverine or estuarine bed restoration, natural bank stabilization, restoration of native vegetation, removal of non-native species, or removal of contaminated sediments, that reestablish self-sustaining habitats for the Southern DPS, if they adhere to all of the following: (a) compliance with required state and Federal reviews and permits; (b) a detailed description of the restoration activity sent to NMFS at least 60 days prior to the start of the restoration project which includes: the geographic area affected; when activities will occur; how they will be conducted; and the severity of direct, indirect, and cumulative impacts of activities on the Southern DPS; identification of funding sources; demonstration that all state and federal regulatory requirements have been met; a description of methods used to ensure that the likelihood of survival or recovery of the listed species is not reduced; a plan for minimizing and mitigating any adverse impacts to Southern DPS spawning or rearing

habitat; an estimate of the amount of incidental take of the listed species that may occur and a description of how that estimate was made; a plan for effective monitoring and adaptive management; a pledge to use best available science and technology when conducting restoration activities; and a point of contact; (c) progress reports that include the total number of Southern DPS taken, information regarding whether the take was lethal or non-lethal, a summary of the status of the project, and any changes in the methods being employed, must be submitted to NMFS on a schedule to be determined by NMFS staff; (d) activities that involve action, permitting or funding by a federal agency must still comply with the requirements of ESA section 7(a)(2) in order to ensure that the action will not jeopardize the continued existence of the threatened Southern DPS.

Exemptions Provided by NMFS-approved ESA 4(d) Programs

We propose exemptions from the take prohibitions for certain activities included within a NMFS-approved 4(d) program. Activities included in a 4(d) program would be excused from the take prohibitions for the Southern DPS through a formal NMFS 4(d) program approval process described below.

ESA 4(d) Program for Commercial and Recreational Fishery Management

Take of green sturgeon in commercial and recreational fisheries activities would be allowed if fisheries activities were conducted under approved Fisheries Management and Evaluation Plans (FMEPs). We expect that, in many cases, fisheries will have acceptably small impacts on the threatened Southern DPS as long as state fishery management programs are specifically tailored to meet certain criteria. NMFS-approved FMEPs must address limiting take of green sturgeon in order to protect the listed entity, the Southern DPS. We consider this necessary because discrimination between the non-listed Northern DPS and listed Southern DPS, via gear specificity, visual indicators, spatial distribution, etc., is not currently possible. In order for NMFS to exempt commercial or recreational fishing activities from the take prohibitions, an FMEP must: (1) prohibit retention of green sturgeon (i.e. zero bag limit); (2) set maximum incidental take levels; (3) include measures to minimize incidental take of green sturgeon (e.g., temporal/spatial restrictions, size, gear); (4) provide a biologically based rationale demonstrating that the incidental take management strategy will not significantly reduce the

likelihood of survival or recovery of the Southern DPS; (5) include effective monitoring and evaluation plans; (6) provide for evaluating monitoring data and making revisions to the FMEP; (7) provide for effective enforcement and education; and (8) report the amount of incidental take and summarize the effectiveness of the FMEP to NMFS on a biannual basis. If we find that an FMEP meets these criteria, we would issue a letter of concurrence to the State that sets forth the terms of the FMEP's implementation and the duties of the parties pursuant to the FMEP.

Section 9(a)(1)(B) and (a)(1)(C) take prohibitions would not apply to ongoing commercial and recreational fisheries activities after publication of the final rule, for up to 120 days, if a letter of intent to develop an FMEP addressing green sturgeon has been received by NMFS within 30 days after the final rule is published in the **Federal Register**. The exemption will be suspended if the letter of intent is rejected without further review of an FMEP. If the letter of intent is received within 30 days of publication of the final 4(d) rule in the **Federal Register**, a final FMEP must be received by NMFS within 120 days from the date of receipt of the letter of intent. Ongoing commercial and recreational fisheries activities may continue until NMFS issues a letter of concurrence (or denial) for final FMEPs.

Once an FMEP has been submitted to NMFS for review, NMFS will: (1) provide a public comment period (≥ 30 days) before approval of new or amended FMEPs; (2) provide a letter of concurrence for approved FMEPs that specifies the implementation and reporting requirements; (3) evaluate FMEPs on a regular basis and identify changes that would improve their effectiveness; and (4) provide a public comment period (≥ 30 days) before withdrawing approval of an FMEP.

ESA 4(d) Program for Tribal Fishery Management

Fishery harvest or other activities conducted by a tribe, tribal member, tribal permittee, tribal employee, or tribal agent in Willapa Bay, WA, Grays Harbor, WA, Coos Bay, OR, Winchester Bay, OR, Humboldt Bay, CA, and any other area where tribal treaty fishing occurs are eligible to obtain take authorization via the same method outlined in the NMFS final rule for authorizing take of threatened salmon and steelhead for actions under tribal resource management plans (July 10, 2000; 65 FR 42481). This method has been modified below for the Southern DPS. We consider current tribal fishing activities to have acceptably small

impacts on the threatened Southern DPS and propose that if the tribes, either singly or jointly, develop tribal resource management plans for the Southern DPS, or incorporate the Southern DPS into existing tribal resource management plans, that current and future tribal activities are not likely to appreciably reduce the likelihood of survival and recovery of the species.

A tribe intending to exercise a tribal right to fish or undertake other resource management actions that may impact the threatened Southern DPS could create a tribal resource management plan (Tribal Plan) that would assure that those actions would not appreciably reduce the likelihood of survival and recovery of the species. The Secretary would stand ready to the maximum extent practicable to provide technical assistance to any tribe that so requests in examining impacts on the listed Southern DPS and in the development of Tribal Plans that meet tribal management responsibilities and needs. In making a determination whether a Tribal Plan will appreciably reduce the likelihood of survival and recovery of the threatened Southern DPS, the Secretary, in consultation with the tribe, would use the best available scientific and commercial data (including careful consideration of any tribal data and analysis) to determine the Tribal Plan's impact on the biological requirements of the species. The Secretary would also assess the effect of the Tribal Plan on survival and recovery in a manner consistent with tribal rights and trust responsibilities. Before making a final determination, the Secretary would seek comment from the public on his pending determination whether or not implementation of a Tribal Plan will appreciably reduce the likelihood of survival and recovery of the listed Southern DPS. The Secretary would publish notification in the **Federal Register** of any determination regarding a Tribal Plan and the basis for that determination.

ESA 4(d) Program for Scientific Research and Monitoring Activities

State-coordinated research activities for scientific research or enhancement purposes that do not fall into the exception category described above (see Exceptions, Criteria for Exceptions, and Reporting Requirements) may receive an exemption from the take prohibitions for the Southern DPS for activities included in a state-sponsored, ESA-compliant, scientific research program between state fishery agencies (i.e., CDFG, ODFW, WDFW, or ADFG) and NMFS, hereafter referred to as a state 4(d) research program. Activities

conducted as part of a state 4(d) research program must meet existing state and federal laws and regulations and would include research and monitoring projects conducted by state employees or by recipients of state fishery agency-issued permits (including Federal and non-Federal entities), that directly or incidentally take Southern DPS green sturgeon. We find that in carrying out their responsibilities to manage state fisheries, state agencies are conducting or sponsoring research vital for improving our understanding of the status and risks facing the Southern DPS and other listed species that occur in overlapping habitat, and provide critical information for assessing the effectiveness of current and future management practices.

State 4(d) research programs have been developed and implemented in California, Oregon, and Washington for listed West coast salmon and steelhead and are consistent with ESA requirements for research-related take of these listed species. The Southern DPS would most likely be incorporated into the existing state 4(d) research programs established for listed salmon and steelhead. Otherwise, the state would be required to prepare a program and submit it to NMFS for approval. NMFS may approve the program or return the program to the state agency for revision.

In general, we conclude that as long as state biologists and cooperating agencies carefully consider the benefits and risks of activities included in a state 4(d) research program, such programs would help streamline the take authorization process for researchers, state agencies, and NMFS by allowing state fishery agencies to maintain primary responsibility for coordination and oversight of research activities. Each year, researchers would be required to submit research applications to the state fishery agency preferably through the NMFS online application website Authorizations and Permits for Protected Species (APPS) at <https://apps.nmfs.noaa.gov>. Research applications must include, at a minimum, the following information: (1) an estimate of the total direct or incidental take of Southern DPS fish that is anticipated; (2) a description of the study design and methodology; (3) a justification for take of Southern DPS fish and the techniques to be employed; and (4) a point of contact. The state agency would have access, via NMFS, to the submitted applications, evaluate and determine which projects are eligible for inclusion under the program, and approve or deny individual project applications. Once the state agency

review is complete, the state agency would be required to provide for NMFS' review and approval a list of project applications approved for possible inclusion in a 4(d) research program for the coming year. After our review of the applications and follow-ups with the researchers to address concerns if necessary, we would analyze effects of the activities on the Southern DPS. Finally, we would complete the ESA section 7 consultation and NEPA documentation and issue an approval letter to the state fishery agency confirming that the research activities covered within the 4(d) research program are exempt from the ESA take prohibitions. A section 10 permit is not issued. Researchers have to comply with the conditions of the 4(d) research program and must submit an annual report, preferably through the NMFS online application website Authorizations and Permits for Protected Species (APPS) at <https://apps.nmfs.noaa.gov>. The annual report must include, for each project: (1) a summary of the number of green sturgeon taken directly or incidentally; and (2) a summary of the results of the project, in order for NMFS to evaluate the effects of the research project on the Southern DPS. We would continue to work with the state fishery agencies to ensure authorized research involving listed Southern DPS fish is both coordinated and conducted in a manner

that does not jeopardize the conservation and recovery of the Southern DPS.

Section 9(a)(1)(B) and 9(a)(1)(C) take prohibitions would not apply to ongoing state-supported scientific research and enhancement activities seeking take authorization of the Southern DPS fish through a state 4(d) program, if the above information is provided to NMFS, preferably through the NMFS online application website Authorizations and Permits for Protected Species (APPS) at <https://apps.nmfs.noaa.gov>, within 120 days after publication of the final 4(d) rule. The take prohibitions would take effect if the state 4(d) program package is rejected as insufficient or is denied. If the state 4(d) research program package is received no later than 120 days after publication of the final 4(d) rule, ongoing state-supported scientific research activities may continue until NMFS issues a written decision of approval or denial.

Take Authorizations Provided By ESA Sections 7 or 10

Federally funded, authorized, or implemented activities that may require take authorization (see Proposed 4(d) Protective Regulations for the Southern DPS), and are not covered under Exceptions, Criteria for Exceptions, and Reporting Requirements or Exemptions Provided by NMFS-approved 4(d) Programs above, will be examined on a

case-by-case basis through interagency consultation as prescribed by ESA section 7. All other activities (i.e., those not federally funded, authorized, or implemented) that may require take authorization, and are not covered under Exceptions, Criteria for Exceptions, and Reporting Requirements or Exemptions Provided by NMFS-approved 4(d) Programs above, will be examined on a case-by-case basis as prescribed by ESA section 10.

Federal, state and private-sponsored research activities for scientific research or enhancement purposes that are not covered under Exceptions, Criteria for Exceptions, and Reporting Requirements or Exemptions Provided by NMFS-approved 4(d) Programs above, may take Southern DPS fish pursuant to the specifications of an ESA section 10 permit. Section 9(a)(1)(B) and (a)(1)(C) take prohibitions would not apply to ongoing research activities if an application for an ESA section 10 (a)(1)(A) permit is received by NMFS no later than 120 days after publication of the final 4(d) rule. The take prohibitions would take effect if the permit application is rejected as insufficient or a permit is denied. If the permit application is received no later than 120 days after publication of the final 4(d) rule, ongoing research activities may continue without take prohibitions until NMFS issues or denies a permit.

TABLE 1. EVALUATION OF ACTIVITIES THAT MAY OCCUR THROUGHOUT THE AREA AFFECTED BY THE PROPOSED PROHIBITIONS FOR SOUTHERN DPS FISH, EGGS OR LARVAE.

Activity	Take	Take of Surrogate Species	Protective/ Conser- vation Meas- ures or Ben- efits	Take Au- thorization Necessary	Methods of Take Au- thorization	
					ESA sec- tion 7 or 10	4(d) Pro- gram
Fishing						
Commercial	Y		Y	Y	Y	Y
Recreational	Y		Y	Y	Y	Y
Tribal	Y		Y	Y	Y	Y
Poaching	N	Y	N	N/A	N	N
Collection or Handling						
Research/monitoring						
Federal, State or Private-sponsored (compliant with Excep- tions)	Y		Y	N		
State-sponsored (outside scope of Exceptions)	Y		Y	Y	Y	Y
Federal or Private-sponsored (outside scope of Exceptions)	Y		Y	Y	Y	N
Emergency Rescue (compliant with Exceptions)	N	Y	Y	N		

TABLE 1. EVALUATION OF ACTIVITIES THAT MAY OCCUR THROUGHOUT THE AREA AFFECTED BY THE PROPOSED PROHIBITIONS FOR SOUTHERN DPS FISH, EGGS OR LARVAE.—Continued

Activity	Take	Take of Surrogate Species	Protective/Conservation Measures or Benefits	Take Authorization Necessary	Methods of Take Authorization	
					ESA section 7 or 10	4(d) Program
Emergency Rescue (outside scope of Exceptions)	N	Y	N	Y	Y	N
Detrimental Habitat-Altering Activities						
Activities that Eliminate, Obstruct, or Delay Passage						
Dam installation, repair, modification, operation	Y		Y	Y	Y	N
Diversion installation, repair, modification, operation	Y		Y	Y	Y	N
Activities that Destroy, Modify, or Curtail Spawning or Rearing Habitat						
Input of fine sediments/runoff	N	Y	Y	Y	Y	N
Dam installation, repair, modification, operation	Y		Y	Y	Y	N
Diversion installation, repair, modification, operation	Y		Y	Y	Y	N
Filling/isolation of channels/intermittent waters	N	N	Y	Y	Y	N
Removal/alteration of physical structure that provides spawning/rearing habitat	N	N	Y	Y	Y	N
Habitat Restoration (compliant with Exceptions)						
Barrier removal/modification to restore flows	N	N	Y	N		
Riverine or estuarine bed restoration	N	N	Y	N		
Natural bank protection	N	N	Y	N		
Restoration of native vegetation	N	N	Y	N		
Removal of non-native species	N	N	Y	N		
Removal of contaminated sediments	N	N	Y	N		
Habitat Restoration (outside scope of Exceptions)	N	N	N	Y	Y	N
Entrainment/Impingement						
Water diversions	Y		Y	Y	Y	N
Power generating projects	Y		Y	Y	Y	N
Dredging	N	Y	Y	Y	Y	N
Pesticide/Pollutant Discharge	N	Y	Y	Y	Y	N
Non-native Species Introductions	N	Y	Y	N/A	N	N

Note: Evidence of take of the Southern DPS during the course of an activity is indicated (yes or no; Y or N); if there is no such evidence, then evidence of take of a surrogate species is indicated (Y or N). Existence of protective/conservation measures to minimize take of Southern DPS fish during the course of the activity or to benefit the Southern DPS is indicated (Y or N). Based on best available information and expert opinion, whether an activity requires take authorization (Y or N) or is illegal according to other laws and therefore cannot be authorized (N/A), and whether methods for allowing take resulting from a particular activity exist through ESA sections 7 or 10 or through a proposed ESA section 4(d) Program (Y or N). This is not an exhaustive list of all activities that occur throughout the area affected by the proposed take prohibitions. Please see *Proposed 4(d) Protective Regulations for the Southern DPS* for the full range of activities for which NMFS is proposing to prohibit take.

Under section 9(b)(1) of the ESA, Southern DPS fish held in captivity or a controlled environment prior to the ESA listing are exempt from the prohibitions of section 9(a)(1)(A) and (a)(1)(G) of the ESA and would therefore also be exempt from the prohibitions of

this proposed regulation, provided that holding and any subsequent holding or use of the fish is not for commercial activity. The burden of proof that Southern DPS fish were taken prior to listing lies with the individual holding the animals. The prohibitions of this

proposed regulation would, however, apply to any progeny of Southern DPS fish taken prior to listing.

Summary

We propose to apply the section 9 take prohibitions to the Southern DPS,

while providing exceptions for some activities (i.e., some types of research/monitoring, enforcement, emergency rescue/salvage, and habitat restoration; see Exceptions, Criteria for Exceptions, and Reporting Requirements) that NMFS finds will not impede, and in most cases will promote, the conservation of the species. However, if the activity is federally funded, authorized or implemented it will still be subject to NMFS review under the ESA jeopardy standard (i.e. ESA section 7(a)(2)). Apart from the subset of activities defined in Exceptions, Criteria for Exceptions, and Reporting Requirements above, if the Southern DPS is anticipated to be taken during the course of an activity, several methods may be pursued to obtain take authorization depending on the specific circumstances of the activity. For federally funded, authorized or implemented activities, the traditional method of seeking take coverage through ESA sections 7 or 10 exists. For activities that are not federally funded, authorized or implemented, take authorization may be obtained through ESA section 10, by establishing a NMFS-approved 4(d) program (i.e., for commercial or recreational fishing activities or state-sponsored research outside the scope of those activities defined in Exceptions, Criteria for Exceptions, and Reporting Requirements) that adequately protects the Southern DPS, or by developing a tribal resource management plan that will not appreciably reduce the likelihood of survival and recovery of the Southern DPS (see Exemptions Provided by NMFS-approved ESA 4(d) Programs). Take of the Southern DPS due to poaching and non-native species introductions is illegal according to existing state and/or federal laws, thus no method of take authorization is being proposed for these activities.

Public Comments Solicited

We invite comments and suggestions from all interested parties regarding the proposed protective regulations for the Southern DPS under section 4(d) of the ESA (see ADDRESSES). Data, information, and comments that are accompanied by supporting documentation such as maps, logbooks, bibliographic references, personal notes, and/or reprints of pertinent publications are helpful and appreciated.

Public Hearing

The ESA provides for a public hearing on this proposal, if requested. Requests must be filed by the date specified in the DATES section above. Such requests must be made in writing and addressed

to the Chief, Protected Resources Division, Attn: Melissa Neuman, Southwest Region, National Marine Fisheries Service, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213.

Peer Review

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review (Peer Review Bulletin) establishing minimum peer review standards, a transparent process for public disclosure, and opportunities for public input. The Peer Review Bulletin, implemented under the Information Quality Act (Public Law 106 554), is intended to provide public oversight on the quality of agency information, analyses, and regulatory activities. The text of the Peer Review Bulletin was published in the **Federal Register** on January 14, 2005 (70 FR 2664). The Peer Review Bulletin requires Federal agencies to subject "influential" scientific information to peer review prior to public dissemination. Influential scientific information is defined as "information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions," and the Peer Review Bulletin provides agencies broad discretion in determining the appropriate process and level of peer review. The Peer Review Bulletin establishes stricter standards for the peer review of "highly influential" scientific assessments, defined as information whose "dissemination could have a potential impact of more than \$500 million in any one year on either the public or private sector or that the dissemination is novel, controversial, or precedent-setting, or has significant interagency interest." We do not consider the scientific information underlying the proposed protective regulations to constitute influential scientific information as defined in the Peer Review Bulletin. The information is not novel; similar information for listed salmonids whose range substantially overlaps with that of the Southern DPS has been used in support of protective regulations that have been in existence for a number of years. Therefore the agency expects the information to be non-controversial and have minimal impacts on important public policies or private sector decisions.

References

A complete list of the references used in this proposed rule is available upon

request (see ADDRESSES) or via the internet at <http://www.swr.noaa.gov>.

Classification

Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601B612) was designed to ensure that agencies carefully assess whether aspects of a proposed regulatory scheme (record keeping, safety requirements, etc.) can be tailored to be less burdensome for small businesses while still achieving the agency's statutory responsibilities. When an agency proposes regulations, the Regulatory Flexibility Act (RFA) (5 U.S.C. 601B612) requires the agency to prepare and make available for public comment an initial regulatory flexibility analysis (IRFA) that describes the impact of the proposed rule on small businesses, nonprofit enterprises, local governments, and other small entities, unless the agency is able to certify that the action will not have a significant impact on a substantial number of small entities. This proposed ESA 4(d) rule has specific requirements for regulatory compliance and sets an enforceable performance standard (do not take listed fish) when conducting specific activities unless that activity is within a carefully circumscribed set of activities on which NMFS proposes not to impose the take prohibitions. Hence, the universe of entities reasonably expected to be directly or indirectly impacted by the prohibition is broad.

Based on the language of the proposed 4(d) rule, as well as a review of existing section 7 consultations for the Southern DPS of green sturgeon and co-existing salmon and steelhead species, the IRFA identified the following activities that may be affected by this proposed rule: commercial, recreational and tribal fisheries; dams and water diversions; power production (electric services and gas distribution); crop agriculture and point source pollutants (NPDES-permitted activities); habitat-altering activities; and in-water construction and dredging activities. A great deal of uncertainty exists with regard to how potentially regulated entities will attempt to avoid take of the Southern DPS. This is caused by two factors: relatively little data exist on green sturgeon abundance and behavior, and NMFS has a short history of managing the Southern DPS. In addition, the spatial distribution of the Southern DPS overlaps nearly entirely with habitat for salmon and steelhead species. Several key variables, such as whether current fish passage facilities and fish screens designed to protect salmon species will be considered adequate to provide

passage for the Southern DPS over the long term, remain undetermined at this time. Thus, while baseline protections are expected to be afforded to the Southern DPS on behalf of salmon and steelhead species, the degree to which incremental measures would be required for the Southern DPS has not been determined. As such, the IRFA does not provide estimates of total costs of conservation measures likely to be undertaken for the Southern DPS. Instead, the analysis characterizes potential impacts on affected industries.

In formulating this proposed rule, we considered five alternative approaches, described in more detail in the IRFA. These are: (1) a No Action Alternative where no ESA section 9(a)(1) prohibitions or any other protective regulations are applied to the Southern DPS; (2) a Full Action Alternative where all ESA section 9(a)(1) prohibitions are applied to the Southern DPS; (3) Alternative A where the prohibitions listed under ESA section 9(a)(1)(A) and 9(a)(1)(D) through 9(a)(1)(G) are applied to the Southern DPS and the take prohibitions (ESA section 9(a)(1)(B) and 9(a)(1)(C)) are applied to specific categories of activities that either cause take of Southern DPS fish; (4) Alternative B (Proposed Action) where ESA section 9(a)(1) prohibitions are applied to the Southern DPS as in the Full Action Alternative, but with exceptions and exemptions for activities that NMFS has determined to be adequately protective of the Southern DPS; and (5) Alternative C where the ESA section 9(a)(1) prohibitions are applied as described in Alternative A, but with exceptions from the take prohibitions (ESA section 9(a)(1)(B) and 9(a)(1)(C)) for activities that NMFS has determined to be adequately protective of the Southern DPS.

The comparative analysis of the alternatives is described in more detail in the IRFA. In summary, the Full Action Alternative and Alternative B (Proposed Action) are anticipated to affect the largest number of industries, but the impacts Alternative B will have on those industries is expected to be less severe because certain activities may be allowed to continue (e.g., some habitat restoration, emergency rescue, and research/monitoring activities) under this alternative. Alternatives A and C are anticipated to affect a smaller number of industries than the Full Action Alternative and Alternative B. For reasons similar to those explained above, Alternative C is expected to have a less severe impact on the affected industries than Alternative A. The No Action Alternative will have no effect on industries. We invite comments on

the alternative contained in this proposed rule and on whether there is a preferable alternative (including alternatives not described here) that would meet the statutory requirements of ESA section 4(d). We also solicit information regarding the impact that alternative would have on your economic activity and why the alternative is preferable.

Executive Order (E.O.) 12866 - Regulatory Planning and Review

The proposed ESA section 4(d) regulations addressed in this rule have been determined to be not significant for the purposes of E.O. 12866. Section 1(b)(12) of E.O. 12866 also requires each agency to write regulations that are easy to understand. We invite your comments (see **ADDRESSES**) on how to make this proposed rule easier to understand, including answers to questions such as the following: (1) Are the requirements in the rule clearly stated? (2) Does the rule contain technical language or jargon that interferes with its clarity? (3) Does the format of the rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Would the rule be easier to understand if it were divided into more (but shorter) sections? (5) Is the description of the rule in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the rule? (6) What else could NMFS do to make the rule easier to understand?

E.O. 12988 - Civil Justice Reform

We have determined that this proposed rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of E.O. 12988. We are proposing protective regulations pursuant to provisions in the ESA using an existing approach that improves the clarity of the regulations and minimizes the regulatory burden of managing ESA listings while retaining the necessary and advisable protections to provide for the conservation of threatened species.

E.O. 13175 - Consultation and Coordination With Indian Tribal Governments

E.O. 13175 requires that if NMFS issues a regulation that significantly or uniquely affects the communities of Indian tribal governments and imposes substantial direct compliance costs on those communities, NMFS must consult with those governments, or the Federal Government must provide the funds necessary to pay the direct compliance costs incurred by the tribal governments. This proposed rule may

impose substantial direct compliance costs on the communities of Indian tribal governments within the range of this DPS. Accordingly, the requirements of section 5(b) and (c) of E.O. 13175 may apply to this proposed rule. Thus, we intend to inform potentially affected tribal governments and to solicit their input on the proposed rule and will continue coordination and discussions with interested tribes as NMFS moves toward a final rule.

E.O. 13132 - Federalism

E.O. 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific consultation directives for situations where a regulation will preempt state law, or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of those circumstances is applicable to this proposed rule. In fact, this notice proposes mechanisms by which NMFS, in the form of 4(d) exceptions to take prohibitions, may defer to state and local governments where they provide necessary protections for the Southern DPS.

Paperwork Reduction Act

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

This proposed rule contains collection-of-information requirements subject to the Paperwork Reduction Act (PRA) and which have been submitted to OMB for review and approval. Public reporting burden per response for this collection of information is estimated to average: (1) 40 hours for development of a Fisheries Management and Evaluation Plan; (2) 20 hours for development of a Tribal Fishery Management Plan; (3) 40 hours for development of a State-sponsored scientific research program; (4) 5 hours to prepare reports on emergency rescue, salvage or disposal of Southern DPS fish; (5) 40 hours to prepare reports on restoration activities; and (6) 40 hours to prepare reports on federal and private-sponsored research and monitoring. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. We invite comments regarding these burden estimates, or any other aspect of this data collection, including suggestions for reducing the burden, to

NMFS (see **ADDRESSES**) and to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC. 20503 (Attention: NOAA Desk Officer).

National Environmental Policy Act (NEPA)

Whenever a species is listed as threatened, the ESA requires that we shall issue such regulations as we deem necessary and advisable to provide for its conservation. Accordingly, the promulgation of ESA section 4(d) protective regulations is subject to the requirements of NEPA, and we have prepared a draft Environmental Assessment (EA) analyzing the proposed 4(d) regulations and alternatives. We are seeking comment on the draft EA, which is available on the Federal eRulemaking Portal web site (<http://www.regulations.gov>) or upon request (see **DATES** and **ADDRESSES**, above).

E.O. 13211 - Energy Supply, Distribution, or Use

E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. According to E.O. 13211, "Significant energy action" means any action by an agency that is expected to lead to the promulgation of a final rule or regulation that is a significant regulatory action under E.O. 12866 and is likely to have a significant adverse effect on the supply, distribution, or use of energy. NMFS has determined that the energy effects are unlikely to exceed the energy impact thresholds identified in E.O. 13211 because this proposed rule is not significant under E.O. 12866, and the spatial scope of this proposed rule overlaps with areas where protections for listed salmon are in effect. It is likely that the modifications required for salmon are similar enough to those that would be required for the Southern DPS such that the proposed action is not a significant energy action, and no Statement of Energy Effects is required.

List of Subjects in 50 CFR Part 223

Endangered and threatened species, Exports, Imports, Transportation.

Dated: May 14, 2009.

James W. Balsiger,

Acting Assistant Administrator for Fisheries, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 223 is proposed to be amended as follows:

PART 223—THREATENED MARINE AND ANADROMOUS SPECIES

1. The authority citation for part 223 continues to read as follows:

Authority: 16 U.S.C. 1531 1543; subpart B, § 223.201 202 also issued under 16 U.S.C. 1361 *et seq.*; 16 U.S.C. 5503(d) for § 223.206(d)(9).

2. In subpart B of part 223, add § 223.210 to read as follows:

§ 223.210 North American green sturgeon.

(a) *Prohibitions.* The prohibitions of section 9(a)(1)(A) through 9(a)(1)(G) of the ESA (16 U.S.C. 1538) relating to endangered species apply to the threatened Southern Distinct Population Segment (DPS) of North American green sturgeon listed in § 223.102(c)(1).

(b) *Exceptions.* Exceptions to the take prohibitions described in section 9(a)(1)(B) and (C) of the ESA (16 U.S.C. 1538(a)(1)(B) and (C)) applied in paragraph (a) of this section to the threatened Southern DPS listed in § 223.102(c) are described in paragraphs (b)(1) through (b)(3) of this section.

(1) *Scientific research and monitoring exceptions.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to ongoing or future Federal, state, or private-sponsored scientific research or monitoring activities if:

(i) The scientific research or monitoring activity complies with required state reviews or permits.

(ii) The research or monitoring activity is directed at the Southern DPS and is not incidental to research or monitoring of another species.

(iii) Take of live mature adults in the lower Feather River from the confluence with the Sacramento River to the Oroville Dam (rkm 116), the lower Yuba River from the confluence with the Feather River to the Daguerre Dam (rkm 19), or Suisun, San Pablo, and San Francisco Bays or the Sacramento-San Joaquin Delta from the Golden Gate Bridge up into the Sacramento River to Keswick Dam (rkm 483) occurs from July 1 through March 1 so as to substantially increase the likelihood that uninterrupted upstream spawning migrations of adults will occur.

(iv) Take is non-lethal.

(v) Take involving the removal of any life stage of the Southern DPS from the wild does not exceed 60 minutes.

(vi) Take does not involve artificial spawning or enhancement activities.

(vii) A description of the study objectives and justification, a summary of the study design and methodology, estimates of the total non-lethal take of Southern DPS fish anticipated,

estimates of incidental take of other ESA listed species anticipated and proof that those takes have been authorized by NMFS or the USFWS, identification of funding sources, and a point of contact is reported to the NMFS Southwest Regional Office in Long Beach at least 60 days prior to the start of the study, or within 60 days after publication of the final rule for ongoing studies.

(viii) Reports that include the total number of Southern DPS and any other ESA listed species taken, information that supports that take was non-lethal, and a summary of the project results is submitted to the NMFS Southwest Regional Office in Long Beach on a schedule to be determined by NMFS.

(ix) Research or monitoring that involves action, permitting or funding by a Federal agency still complies with the requirements of ESA section 7(a)(2) in order to ensure that the action will not jeopardize the continued existence of the threatened Southern DPS.

(2) *Enforcement exception.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to any employee of NMFS, when the employee, acting in the course of his or her official duties, takes the Southern DPS listed in § 223.102(c)(1) without a permit, if such action is necessary for purposes of enforcing the ESA or its implementing regulations.

(3) *Emergency fish rescue and salvage exceptions.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to emergency fish rescue and salvage activities that include aiding sick, injured, or stranded fish, disposing of dead fish, or salvaging dead fish for use in scientific studies, if:

(i) The activity complies with required state or other Federal reviews or permits.

(ii) The activity is conducted by an employee or designee of NMFS or the U.S. Fish and Wildlife Service (USFWS), any Federal land management agency, or California Department of Fish and Game, Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, or Alaska Department of Fish and Game.

(iii) The activity occurs only because of emergency situations that result from natural disasters, national defense, or security emergencies (see § 402.05 of this title).

(iv) The activity benefits the Southern DPS.

(v) Those carrying out the activity submit a report to the NMFS Southwest Regional Office in Long Beach that includes, at a minimum, the number

and status of fish handled and the location of rescue and/or salvage operations within 30 days after conducting the emergency rescue.

(4) *Habitat restoration exceptions.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to habitat restoration activities including barrier removal or modification to restore water flows, riverine or estuarine bed restoration, natural bank stabilization, restoration of native vegetation, removal of non-native species, or removal of contaminated sediments, that reestablish self-sustaining habitats for the Southern DPS, if:

(i) The activity complies with required state and Federal reviews and permits.

(ii) Those carrying out the activity submit a detailed description of the restoration activity to the NMFS Southwest Regional Office in Long Beach at least 60 days prior to the start of the restoration project which includes: the geographic area affected; when activities will occur; how they will be conducted; and the severity of direct, indirect, and cumulative impacts of activities on the Southern DPS; identification of funding sources; demonstration that all state and federal regulatory requirements have been met; a description of methods used to ensure that the likelihood of survival or recovery of the listed species is not reduced; a plan for minimizing and mitigating any adverse impacts to Southern DPS spawning or rearing habitat; an estimate of the amount of incidental take of the listed species that may occur and a description of how that estimate was made; a plan for effective monitoring and adaptive management; a pledge to use best available science and technology when conducting restoration activities; and a point of contact.

(iii) Those carrying out the activity submit progress reports that include the total number of Southern DPS taken, information regarding whether the take was lethal or non-lethal, a summary of the status of the project, and any changes in the methods being employed, to the NMFS Southwest Regional Office in Long Beach on a schedule to be determined by NMFS.

(iv) An activity that involves action, permitting or funding by a federal agency complies with the requirements of ESA section 7(a)(2) in order to ensure that the action will not jeopardize the continued existence of the threatened Southern DPS.

(c) *Exemptions via ESA 4(d) program approval.* Exemptions from the take prohibitions described in section

9(a)(1)(B) and (C) of the ESA (16 U.S.C. 1538(a)(1)(B) and (C)) applied in paragraph (a) of this section to the threatened Southern DPS listed in § 223.102(c) are described in paragraphs (c)(1) through (c)(3) of this section.

(1) *Scientific research and monitoring exemptions.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to ongoing or future state-sponsored scientific research or monitoring activities that are part of a NMFS-approved, ESA-compliant state 4(d) research program conducted by, or in coordination with, state fishery management agencies (California Department of Fish and Game, Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, or Alaska Department of Fish and Game), or as part of a monitoring and research program overseen by, or coordinated by, one of these agencies. State 4(d) research programs must meet the following criteria:

(i) Descriptions of the ongoing and future 4(d) research or monitoring activity, as described in paragraph (c)(1)(ii) of this section, must be received by the NMFS Southwest Regional Office in Long Beach within 120 days after publication of the final 4(d) rule. This exception to the section 9 take prohibitions expires if the proposal is rejected as insufficient or is denied.

(ii) Descriptions of ongoing and future state-supported research activities must include the following information and should be submitted to NMFS by the State: an estimate of total direct or incidental take; a description of the study design and methodology; a justification for take and the techniques employed; and a point of contact.

(iii) NMFS will provide written approval of a state 4(d) research program.

(iv) The State agency will provide an annual report to NMFS that, at a minimum, summarizes the number of Southern DPS green sturgeon taken directly or incidentally, and summarizes the results of the project.

(2) *Fisheries exemptions.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to fisheries activities that are conducted in accordance with a NMFS-approved Fishery Management and Evaluation Plan (FMEP). If NMFS finds that an FMEP meets the criteria listed below, a letter of concurrence which sets forth the terms of the FMEP's implementation and the duties of the

parties pursuant to the FMEP, will be issued to the state.

(i) An FMEP must prohibit retention of green sturgeon (i.e. zero bag limit); set maximum incidental take levels, include restrictions to minimize incidental take of the green sturgeon (e.g., temporal/spatial restrictions, size of fish, gear used); provide a biologically based rationale demonstrating that the incidental take management strategy will not significantly reduce the likelihood of survival or recovery; include effective monitoring and evaluation plans; provide for evaluating monitoring data and making revisions to the FMEP; provide for effective enforcement and education; and report the amount of incidental take and summarize the effectiveness of the FMEP to NMFS on a biannual basis.

(ii) The ESA section 9(a)(1)(B) and (a)(1)(C) take prohibitions will not apply to ongoing commercial and recreational fisheries activities after publication of the final rule, for up to 120 days, if a letter of intent to develop an FMEP that is protective of green sturgeon has been received by NMFS within 30 days after the final rule is published in the **Federal Register**. The exemption will expire if the letter of intent is rejected without further review of a FMEP. If the letter of intent is received within 30 days of publication of the final 4(d) rule in the **Federal Register**, a final FMEP must be received by NMFS within 120 days from the date of receipt of the letter of intent. Ongoing commercial and recreational fisheries activities may continue until NMFS issues a letter of concurrence or denial for final FMEPs.

(iii) NMFS' will provide a public comment period (≥ 30 days) before approval of new or amended FMEPs; provide a letter of concurrence for approved FMEPs that specifies the implementation and reporting requirements; evaluate FMEPs on a regular basis and identify changes that would improve their effectiveness; and provide a public comment period (≥ 30 days) before withdrawing approval of an FMEP.

(3) *Tribal exemptions.* The prohibitions of paragraph (a) of this section relating to the threatened Southern DPS listed in § 223.102(c)(1) do not apply to fishery harvest or other activities, undertaken by a tribe, tribal member, tribal permittee, tribal employee, or tribal agent in Willapa Bay, WA, Grays Harbor, WA, Coos Bay, OR, Winchester Bay, OR, Humboldt Bay, CA, and any other area where tribal treaty fishing occurs, if those activities are compliant with a tribal resource management plan (Tribal Plan), provided that the Secretary determines

that implementation of such Tribal Plan will not appreciably reduce the likelihood of survival and recovery of the Southern DPS. In making that determination the Secretary shall use the best available biological data (including any tribal data and analysis) to determine the Tribal Plan's impact on the biological requirements of the species, and will assess the effect of the Tribal Plan on survival and recovery, consistent with legally enforceable tribal rights and with the Secretary's trust responsibilities to tribes.

(i) A Tribal Plan may include, but is not limited to, plans that address fishery harvest, artificial production, research, or water or land management, and may be developed by one tribe or jointly with other tribes. The Secretary will consult on a government-to-government basis with any tribe that so requests and will provide, to the maximum extent practicable, technical assistance in examining impacts on the Southern DPS

as tribes develop Tribal Plans. A Tribal Plan must specify the procedures by which the tribe will enforce its provisions.

(ii) Where there exists a Federal court proceeding with continuing jurisdiction over the subject matter of a Tribal Plan, the plan may be developed and implemented within the ongoing Federal Court proceeding. In such circumstances, compliance with the Tribal Plan's terms shall be determined within that Federal Court proceeding.

(iii) The Secretary shall seek comment from the public on the Secretary's pending determination whether or not implementation of a Tribal Plan will appreciably reduce the likelihood of survival and recovery of the listed Southern DPS.

(iv) The Secretary shall publish notification in the **Federal Register** of any determination regarding a Tribal Plan and the basis for that determination.

(d) *Affirmative defense.* In connection with any action alleging a violation of the prohibitions of paragraph (a) of this section with respect to the threatened Southern DPS of North American green sturgeon listed in § 223.102(c)(1), any person claiming that their take is authorized via methods listed in paragraph (b) of this section shall have a defense where the person can demonstrate that the take authorization is applicable and was in force, and that the person fully complied with the take authorization requirements at the time of the alleged violation. This defense is an affirmative defense that must be raised, pleaded, and proven by the proponent. If proven, this defense will be an absolute defense to liability under section 9(a)(1)(G) of the ESA with respect to the alleged violation.

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