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Issued: April 4, 2006.

**Jacqueline Glassman,**  
Deputy Administrator.

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 223

[Docket No. 050323081-6079-02; I.D. 031505C]

RIN 0648-AT02

#### Endangered and Threatened Wildlife and Plants: Threatened Status for Southern Distinct Population Segment of North American Green Sturgeon

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

**ACTION:** Final rule.

**SUMMARY:** Following completion of a comprehensive Endangered Species Act (ESA) Status Review and Update for the North American green sturgeon (*Acipenser medirostris*; hereafter, "green sturgeon"), we, NOAA's National Marine Fisheries Service (NMFS), published a Proposed Rule to list the Southern distinct population segment (DPS) of green sturgeon as threatened on April 6, 2005. After considering public comments on the Proposed Rule, we are issuing a Final Rule to list the Southern DPS as a threatened species. NMFS is currently considering issuance of protective regulations that may be necessary and advisable to provide for the conservation of the species. With this document we are also soliciting information that may be relevant to our analysis of protective regulations and to the designation of critical habitat for the Southern DPS of green sturgeon. Details of our analyses, their outcome, and a request for public comment on our proposals will be published in subsequent **Federal Register** notices.

**DATES:** This final rule is effective June 6, 2006. Replies to the request for information regarding a subsequent ESA section 4(d) Rule and critical habitat designation must be received by July 5, 2006.

**ADDRESSES:** You may submit information by any of the following methods:

- E-Mail:

*GreenSturgeon.Information@noaa.gov*.

- Webform at the Federal Rulemaking Portal: *www.regulations.gov*. Follow the instructions at that site for submitting comments.

- Fax: 1-562-980-4027, Attention: Melissa Neuman.

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

Reference materials regarding this determination can be obtained via the Internet at: *http://www.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

On June 12, 2001, we received a petition from the Environmental Protection and Information Center (EPIC), Center for Biological Diversity, and WaterKeepers Northern California requesting that we list the green sturgeon as threatened or endangered under the ESA and that critical habitat be designated for the species concurrently with any listing determination. On December 14, 2001, we provided notice of our 90-day finding that the petition presented substantial scientific information indicating that the petitioned action may be warranted and requested information to assist with a Status Review to determine if green sturgeon warranted listing under the ESA (66 FR 64793). To assist in the Status Review, we formed a Biological Review Team (BRT) comprised of scientists from our Northwest and Southwest Fisheries Science Centers and from the United States Geological Survey (USGS). We also requested technical information and comments from state and tribal co-managers in California, Oregon, and Washington, as well as from scientists and individuals having research or management expertise pertaining to green sturgeon from California and the Pacific Northwest. The BRT considered the best available scientific and commercial information, including information presented in the petition and in response to our request for information concerning the status of and efforts being made to protect the species (66 FR 64793; December 14, 2001). After

completion of the Status Review (Adams *et al.*, 2002), we determined on January 23, 2003 (68 FR 4433), that green sturgeon is comprised of two DPSs that qualify as species under the ESA: (1) a northern DPS consisting of populations in coastal watersheds northward of and including the Eel River ("Northern DPS"); and (2) a southern DPS consisting of coastal and Central Valley populations south of the Eel River, with the only known spawning population in the Sacramento River ("Southern DPS"). After consideration of a variety of information to assess risk factors, including abundance, fishing impacts, and habitat modification, destruction, and loss, we determined that neither DPS warranted listing as threatened or endangered (68 FR 4433). Uncertainties in the structure and status of both DPSs led us to add them to the Species of Concern List (formerly the candidate species list; 69 FR 19975; April 15, 2004).

On April 7, 2003, EPIC (and others) challenged our "not warranted" finding for green sturgeon. The U.S. District Court for the Northern District of California issued an order on March 2, 2004, which set aside our "not warranted" finding and remanded the matter to us for redetermination of whether green sturgeon is in danger of extinction throughout all or a significant portion of its range, or is likely to become so within the foreseeable future, because the Court was not satisfied with our examination of whether purported lost spawning habitat constituted a significant portion of either DPS' range. We reestablished the BRT and asked the BRT to consider recent scientific and commercial information available regarding the biological status of green sturgeon and to assist us in assessing the viability of the species throughout all or a significant portion of its range. We published a notice on June 18, 2004, soliciting new information beyond that considered in the previous Status Review and listing determination (69 FR 34135). Following the close of this public comment period on August 17, 2004, we convened the BRT to draft an updated Status Review and distribute the updated Status Review to co-managers (i.e., States of Washington, Oregon and California, Yurok and Hoopa Tribes, U.S. Fish and Wildlife Service (FWS), and the California Bay-Delta Program) for their review and comment. This updated Status Review was finalized on February 22, 2005.

In a **Federal Register** notice published on April 6, 2005 (70 FR 17386), we reaffirmed our earlier determination that the northern green sturgeon DPS does not warrant an ESA listing, but that this

DPS should remain on the Species of Concern List due to remaining uncertainty in the status of, and threats faced by, the Northern DPS. We, however, revised our previous “not warranted” finding for the Southern DPS and proposed to list it as threatened under the ESA based on: (1) New information showing that the majority of spawning adults are concentrated into one spawning river (i.e., Sacramento River), thus increasing the risk of extirpation due to catastrophic events; (2) information that threats have remained severe since the first Status Review and have not been adequately addressed by conservation measures currently in place; (3) new information showing evidence of lost spawning habitat in the upper Sacramento and Feather Rivers; and (4) fishery-independent data exhibiting a negative trend in juvenile green sturgeon abundance. We also solicited comments and new or additional information regarding the status of, and critical habitat for, the Southern DPS to help develop a final listing determination and possible designation of critical habitat and ESA Section 4(d) regulations in subsequent rule-making.

### **Biology and Life History of Green Sturgeon**

A thorough account of green sturgeon biology and life history may be found in the previous determination (68 FR 4433; January 23, 2003), in the Status Review and Update (Adams *et al.*, 2002, 2005), and in the Proposed Rule to list the Southern DPS of green sturgeon as threatened under the ESA (70 FR 17386; April 6, 2005).

### **Statutory Framework for ESA Listing Determinations**

Section 4 of the ESA (16 U.S.C. 1533) and implementing regulations (50 CFR part 424) set forth the procedures for adding species to the Federal list of threatened and endangered species. Section 4 requires that listing determinations be based solely on the best scientific and commercial data available, without consideration of possible economic or other impacts of such determinations, after having conducted a status review of the species and considering conservation efforts being made to protect the species. After assessing a species's level of extinction risk and identifying factors that have led to its decline, we then assess existing efforts being made to protect the species to determine if those measures ameliorate the risks faced by the species. In judging the efficacy of existing protective efforts, we rely on the joint NMFS-FWS “Policy for

Evaluation of Conservation Efforts When Making Listing Decisions” (“PECE;” 68 FR 15100; March 28, 2003).

### **Summary of Comments Received**

A public hearing was held on July 6, 2005, and the public comment period closed on July 27, 2005. We received 32 comments by fax, standard mail and e-mail. Thirteen of the commenters urged us to withdraw its proposal to list the Southern DPS as threatened. Ten of the commenters urged us to list the Southern DPS as endangered, not threatened, under the ESA, to revise our previous “not warranted” finding for the Northern DPS, and to invoke ESA Section 9 take prohibitions and designate critical habitat for listed entities immediately. One commenter expressed mixed views of our proposal to list the Southern DPS as threatened. Eight commenters provided no opinion on our listing determinations, but requested that we exempt certain captive populations of green sturgeon from threatened status and forthcoming ESA protections.

*Comment 1:* Several commenters felt that we did not have enough information to proceed with a listing and thus our proposal was arbitrary and capricious.

*Response:* The ESA requires that listing decisions be based solely on the best scientific and commercial data available and, therefore, does not specify a minimum level of proof required to proceed. The question as to whether there is sufficient information is an issue addressed as part of the listing decision, and the BRT makes scientific recommendations to NMFS through its Status Review and Updates that inform the listing decision. In our December 14, 2001, 90-day finding (66 FR 64793), we solicited information from the state and tribal co-managers, as well as from scientists and individuals with research or management expertise pertaining to green sturgeon from California and the Pacific Northwest, to assist with the green sturgeon Status Review. We also solicited any new information from the public since the 2001 solicitation (69 FR 34135; June 18, 2004) to assist us in updating our Status Review. On January 27, 2005, we distributed the Status Review Update to our co-managers for review. All of the information obtained during these solicitations was considered and used in developing our proposed and final listing determinations.

The BRT reiterated its recommendation that the Southern green sturgeon DPS is likely to become an endangered species within the foreseeable future throughout all or a

significant portion of its range. This recommendation was made after considering the best available information on the loss of historical habitat, the concentration of the spawning population into a single location, the trend in the salvage data, and the cumulative risk from a number of different threats in the Sacramento River and Delta system.

We concluded that the blockage of green sturgeon by dams from their original spawning grounds substantially increased extinction risk. Green sturgeon historically spawned in higher-elevation, diverse habitats in multiple rivers within the range of the Southern DPS. Construction of dams and associated impoundments, which have altered temperature and hydrologic regimes and simplified instream habitats compared to their natural spawning grounds, are believed to have substantially decreased spawning success.

The concentration of spawning into a single remaining habitat greatly increases the potential for catastrophic extinction of green sturgeon within the Southern DPS, even if green sturgeon populations were sustainable in this habitat in the long-term. The possibility of extirpation due to a catastrophic event was dramatically demonstrated by the 1991 Cantara herbicide spill. Nineteen thousand gallons of the herbicide metam sodium were released from a derailed train compartment into the Sacramento River killing nearly all aquatic life within a 45-mile segment of the river (<http://www.cantaratrustees.org/spill.htm>).

The green sturgeon salvage data imply a substantial decline in population numbers (see response to Comment 3 below). We remain concerned about the cumulative amount of risk to green sturgeon from a number of threats in the Sacramento River and Delta system. These threats were reviewed in the green sturgeon Status Review and Update. We are also concerned about how these different threats interact in their influence on green sturgeon. A number of ecological indicators, such as the recent collapse of the pelagic food web in the Delta, suggest that there are serious problems within the ecosystem upon which green sturgeon depend for an important portion of their life cycle. Recent unpublished reports, public presentations, and press releases by the California Department of Fish and Game (CDFG) indicate that many of the Delta's fish species have declined to the lowest levels ever recorded ([http://science.calwater.ca.gov/pdf/workshops/IEP\\_POD\\_2005WorkSynthesis-draft\\_111405.pdf](http://science.calwater.ca.gov/pdf/workshops/IEP_POD_2005WorkSynthesis-draft_111405.pdf))

Toxins, invasive species, and water project operations, all identified as threats to the Southern DPS of green sturgeon, may be acting in concert or individually to lower pelagic productivity in the Delta. In addition, CDFG estimates that the population of legal-sized (117 to 183cm total length (TL)) white sturgeon has experienced a six-fold decline since 1998 (M. Gingras, CDFG, pers. comm.).

We considered both the BRT's conclusions, information received via the review process and solicitations for information, and conservation efforts currently being made to protect the Southern DPS (see Response to Comment 8 below) in reaching our listing decision. The best available scientific and commercial information was sufficient to conclude that the Southern DPS is likely to become endangered within the foreseeable future.

*Comment 2:* Several commenters felt that the rationale we used for determining whether Southern DPS spawning habitat has been lost over time was flawed because a surrogate species was used to determine habitat suitability and because lost habitat was not quantified.

*Response:* Chinook habitat modeling, the only such habitat assessment currently available to describe loss of riverine habitat in the Central Valley, is appropriate for use in determining habitat availability trends for green sturgeon for several reasons. Both green sturgeon and spring-run Chinook are anadromous species that evolved in the pre-dam Central Valley environment where they had access to higher elevation, cooler water habitats. Both species are affected by the limited amount of cool water spawning and rearing habitat. Cool water habitat can best be approximated by mean annual discharge or the amount of high elevation habitat (Lindley et al., 2004). It is generally accepted that green sturgeon (FWS, 1994) and spring-run Chinook (Moyle, 2002) historically used spawning grounds in the area above Shasta Dam. White sturgeon were observed in the Pitt River to the vicinity of Lake Britton (FWS, 2005) above Shasta Dam, and presumably green sturgeon occurred at these elevations as well. Green sturgeon and Chinook spawning temperature tolerances are similar. Green sturgeon spawn in water temperatures ranging from 8° to 14° C (FERC, 2004a), although eggs have been artificially incubated at temperatures as high as 15.8° C (Deng, 2000). Chinook temperature spawning tolerances are in the range of 5.6° to 12.8° C (FERC, 2004b). The similarities in spawning

temperature ranges suggest that spawning in the pre-dam period may have occurred at similar water temperatures and, therefore, at similar discharges and elevations. The similarity of spawning requirements for these two species allows for the use of a surrogate species for habitat analysis. In summary, Chinook habitat modeling has shown that pre-dam, diverse, natural, higher-elevation spawning and rearing habitats were replaced with a smaller, concentrated, simpler spawning habitat. The BRT concluded that a similar replacement has occurred for green sturgeon as well and considered this habitat replacement to greatly increase extinction risk for green sturgeon. A direct green sturgeon habitat analysis is preferable to using a surrogate, and that analysis is currently underway at the Southwest Fisheries Science Center, but results are currently not available.

The BRT discussed the possibility of quantifying lost spawning habitat in terms of the number of linear miles of river habitat lost due to dam construction in the Sacramento and Feather Rivers. It was decided that this type of quantification should wait until the green sturgeon habitat analysis is complete so that this information can be used to inform decisions made in subsequent rule-making.

*Comment 3:* Several commenters stated that habitat availability should not be compared before and after construction of dams in the Central Valley because their construction occurred too long ago. Instead, it was suggested that the evaluation of habitat loss be based on more recent times.

*Response:* We disagree with the commenters' views that we have inappropriately evaluated habitat loss over time for the Southern DPS. ESA section 7(a)(2) implementing regulations define environmental baseline as including the effects of past and present Federal, state, or private actions and other human activities which have led to the current status of the species and its habitat (50 CFR 402.02). We have adopted this definition here to examine changes in freshwater habitat availability for green sturgeon from a time when very few Federal, state, or private activities curtailed habitat within the boundaries of the Southern DPS to a time when many actions have irreparably altered habitat. This definition includes no temporal limit when considering changes in habitat availability to inform ESA decisions. In addition, in previous listing decisions for salmon and steelhead, we have used pre- and post-dam construction

information in considering habitat loss and declines in abundance.

*Comment 4:* Several commenters questioned whether we used new data to inform the revision of our previous "not warranted" finding to a threatened listing for the Southern DPS.

*Response:* We did use new information, collected since the publication of the first Status Review in 2002, to revise the previous "not warranted" finding for the Southern DPS. Several recent sources of data (Hancock, 2002; CDFG, 2003) have suggested that riparian habitat in the Central Valley continues to decline in quantity and quality and that the threats causing these declines are steadily getting worse over time rather than better. The Chinook Habitat Assessment (Lindley et al., 2004) used as a surrogate to infer loss of green sturgeon habitat was not available at the time of the 2002 Status Review. Tagging studies conducted throughout the range of green sturgeon have provided new information on movement patterns and use of freshwater, estuarine, and marine habitats by juveniles and adults (S. Lindley, SWFSC and M. Moser, NWFSC, pers. comm.). These studies suggest that green sturgeon return to spawning rivers on a more frequent basis (2–3 years) than previously thought (S. Lindley, SWFSC, pers. comm.). Thus, the proportion of a given individual's time spent in freshwater spawning habitat may be larger than previously thought, highlighting the importance of freshwater habitat quality and quantity to overall population viability.

Additional sightings and observation of behaviors of green and white sturgeon have been reported in the Sacramento, Feather, and San Joaquin rivers, including sturgeon remains being identified in middens in the San Joaquin River (southernmost documented location to date; Gobalet et al., 2004). Much of these data are from personal communications (Beamesderfer et al., 2004) and as such are not comprehensive, but they are useful for establishing presence and for informing our conclusions regarding habitat use. This new information has led us to conclude that: (1) the Sacramento River is the only spawning population remaining in the Southern DPS; (2) the Feather River likely supported a spawning population in the past, but does not currently; and (3) the San Joaquin River may have supported a spawning population in the past based on recent (2003) white sturgeon spawning and past presence in the system.

*Comment 5:* A few commenters felt that the importance of the Feather River as historical green sturgeon habitat was overstated, as was the possibility that the Thermalito Afterbay has caused a thermal barrier to fish passage and successful spawning and subsequent recruitments.

*Response:* We reiterate our conclusion that the Feather River once supported a green sturgeon spawning population, and the loss of this population resulted in a substantial increase in extinction risk for the Southern DPS, regardless of the size of the population. The conclusion that there had been a Feather River population was based on sightings of individual green sturgeon, statements by experts, and use of the habitat by surrogate species. A number of experts have expressed the opinion that the Feather River once supported a viable green sturgeon population. CDFG (2002) stated "the most likely loss of spawning habitat is in the Feather River, as Oroville Dam blocks access to potential spawning habitat", and CDFG shows the Feather River as green sturgeon habitat on its online distribution map (<http://www.calfish.org>). Moyle (2002) stated, "In the Sacramento drainage capture of larval green sturgeon in salmon outmigrant traps indicates that the lower Feather River may be a principal spawning area." Finally, the conclusion that the Feather River contained a green sturgeon population is also supported by habitat use patterns of surrogate species: (1) the historic presence of white sturgeon in the Feather River (Painter, 1977); and (2) the Chinook habitat analysis, which suggests that Chinook used the North, Middle, and South forks of the Feather River as well as the Yuba River (Lindley *et al.*, 2004) as spawning habitat.

Although adult green sturgeon occurrence in the Feather River and its tributary, Bear River, has been documented from the past (USFWS, 1995; Moyle, 2002) to the present (Beamesderfer *et al.*, 2004; CDWR, 2005), larval and juvenile green sturgeon have not been collected during recent efforts (2000–2001 and 2003). These efforts included attempts to collect larval and juvenile sturgeon during early spring through summer using rotary screw traps, artificial substrates, and larval nets deployed at multiple locations (Schaffter and Kohlhorst, 2001; A. Seesholtz, 2003, 2005). These results support our conclusion that an effective population of spawning green sturgeon does not exist in the Feather River at the present time.

The BRT's concern about the Thermalito Afterbay creating a thermal

barrier was based on a comment that warm water releases from the Afterbay may increase temperatures to levels that are undesirable for green sturgeon spawning and incubation especially during low flow years (CDFG, 2002). Given that other data suggest that high water temperatures have posed a threat to successful green sturgeon spawning and recruitment in the Feather River (FWS, 1995) and historically in the Sacramento River (prior to installation of the Shasta Dam temperature control device in 1997), we do not believe we have overstated its importance.

*Comment 6:* One commenter stated that a large portion of the green sturgeon population is at sea at any given time and that the marine-inhabiting portion of the green sturgeon population would serve as a buffer against extinction.

*Response:* We do not believe that green sturgeon are significantly buffered against extinction by the marine portion of their populations. Green sturgeon have the most extensive marine distribution of all sturgeon. The buffering argument is that only a small fraction of the total population is in freshwater at any given time, and the marine portion provides a sanctuary against extinction risk. While this is true of a one-time catastrophic event, other persistent risk factors will continue to have impacts on green sturgeon spawning and recruitment success, the most important factors for determining population viability. While there may be a relatively large number of green sturgeon in the ocean compared to freshwater at any given point in time, it is the freshwater component of an individual's life history that determines whether that individual will spawn successfully and produce offspring that survive to maturity. In addition, green sturgeon, as with most other fish species, are most vulnerable and likely experience their highest natural mortality rates during the portion of their lives spent in freshwater as larvae and juveniles (Houde, 1987). Thus, additional risks faced during the freshwater portion of green sturgeon's life history are likely most critical in determining long-term viability of the Southern DPS. In addition, it appears that green sturgeon may return to spawn on a shorter cycle than previously thought. Green sturgeon have been found to return to spawn on a 2- or 3-year cycle (S. Lindley, NMFS, per. comm.). Also, subadult green sturgeon have been observed in spawning areas (S. Lindley, NMFS, per. comm.). The cumulative risk experienced by the Southern DPS while in freshwater habitat is likely higher than previously thought because the proportion of time

that any individual spends in the marine environment may be much smaller than previously thought.

*Comment 7:* Many commenters believed that we overstated the importance and utility of salvage data to ascertain trends in green sturgeon numbers.

*Response:* Our proposed determination that the Southern DPS of green sturgeon face extinction in the foreseeable future was based on multiple lines of data and was not solely dependent on the salvage data. The BRT reconsidered the salvage data in greater depth and concluded that the numbers of green sturgeon were higher in the salvage facilities data prior to 1986 compared to after. However, it appears that expansions were larger in this period as many commentators suggested. The State facility numbers provided the longest time series, thus the BRT focused on these data for the analysis. The BRT concluded that not only were the estimated numbers of green sturgeon 14 times higher in the pre-1986 period than after, but the number of actual green sturgeon observed was 3 1/2 times higher in the pre-1986 period. There is further support for high juvenile sturgeon abundance during the 1974–75 period from the white sturgeon trammel net sampling. The green sturgeon to white sturgeon ratio of fish less than 102 cm was 1.661 in 1974. This is more than twice the next highest year and six times higher than the average. Independent evidence from two different sampling sources is strong justification for assuming that the 1974–75 period was one of high juvenile green sturgeon abundance, and this type of recruitment success has not been observed since.

The BRT also found support for the many comments suggesting that salvage estimate expansions were higher in the pre-1986 period. A General Linear Model analysis of the green sturgeon estimates compared to observed fish in the pre-1986 period showed that one observed fish was converted to 48 estimated fish (coefficient = 47.9,  $F = 303$  with 16 df,  $p = 0.001$ ). The same analysis for the period from 1986 to 2001 showed that one observed fish was converted into 9.7 estimated fish (coefficient = 9.7,  $F = 12.4$  with df = 14,  $p = 0.003$ ). Therefore, we acknowledge that expansion rates were higher prior to 1986. However, even after accounting for the higher expansion rates, there were more green sturgeon present in salvage operations prior to 1986. Other caveats about the use of the salvage data are reviewed in the Status Review and Update.

*Comment 8:* Several commenters stated that we did not consider or that we inappropriately discounted other data sources that would have been valuable for determining trends in abundance.

*Response:* The BRT reviewed other data sources suggested by the commenters and determined that they had been considered previously and in some cases were deemed not useful, usually due to the lack of green sturgeon occurring in the data series. The CDFG San Pablo Bay sturgeon trammel net sampling, the Klamath Tribal Catch time series, and the Glenn-Colusa Irrigation District (GCID) screw trap data were all analyzed in the original Status Review, and detailed discussions of these data sets may be found there (Adams *et al.*, 2002). Briefly, the CDFG San Pablo Bay trammel net sampling provided the only non-harvest based population estimates of abundance over time from 1954–2001. The data exhibited no significant trend over time, and it suffers from a number of biases: (1) The data depend on tag recoveries from the sport fishery and, therefore, reflect varying levels of effort; (2) sampling prior to 1990 was irregular; and (3) the estimates for green sturgeon are calculated incidentally based on tag returns from white sturgeon and assume that the temporal, spatial and gear vulnerabilities of both species are equal. The GCID sampling began in 1987, underwent a gear change in 1991, and has occurred each year since that time except for 1998. The total number of juvenile green sturgeon has fluctuated by over an order of magnitude between some years, but no clear temporal trends could be discerned despite a steady decline in numbers since 1997. We hope these data will be a useful indicator of green sturgeon juvenile abundance trends in the future as the temporal coverage of the sampling increases. The Klamath Tribal Catch time series refers to the Northern DPS and therefore will not be addressed here.

Examination of other data sets was conducted in preparation for the original Status Review, but the BRT concluded that: (1) the spatial/temporal scale of sampling or the gear type was not appropriate for ascertaining trends in the Southern DPS abundance; and/or (2) too few green sturgeon were captured during the time series to make conclusions about trends over time. For example, after 21 years (1980–2001) of conducting the San Francisco Bay otter trawl survey (CDFG, 2002), only 61 green sturgeon were collected from four locations between 1980 and 2001. However, in earlier sampling during an 11-month period between September

1963 and August 1964, 28 green sturgeon were captured with similar gear while 138 were captured with gill nets (CDFG, 2002), again indicating higher previous abundances. The UC Davis Suisun Marsh otter trawl sampling data set was also considered in preparation for the original Status Review, but was not found useful since fewer than 12 individuals were taken in 25 years of sampling (P. Moyle, UC Davis, per. comm.). The gear is suitable for taking small sturgeon, but few were found in the sampling area during the entire course of the sampling, and, thus, an analysis of trends could not be conducted. Indian midden data were not found useful for establishing historical range during preparation of the original Status Review (Gobalet *et al.*, 2004) since midden data did not record sturgeon presence throughout the area of known historical occurrence. Further investigation (K. Gobalet, CSU Bakersfield, per. comm.) reveals that sturgeon bones were found at Lake Tulare, in the San Joaquin Valley system, the southernmost location recorded for sturgeon presence. Unfortunately, investigators are not able to distinguish between green and white sturgeon bones.

Two data sets had not been considered previously. The Chippis Island midwater trawl program only captured 15 green sturgeon in over 33,000 trawls conducted from 1976 to 2004 (P. Cadrett, USFWS, per. comm.). The BRT's conclusion was that this information was not useful in determining green sturgeon status or trends. The striped bass summer townet survey, designed to collect 38 mm larvae, only collected a "handful of sturgeon" during the time series beginning in 1959 (P. Coulston, CDFG, per. comm.). The BRT did not find this ancillary catch information to be reliable for determining green sturgeon status or trends.

*Comment 9:* Several commenters felt that recent state, local and Federal conservation efforts will help ensure the long-term viability of the Southern DPS to the point that a listing is not necessary.

*Response:* To consider that a formalized conservation effort contributes to forming a basis for not listing a species, we must find that the conservation effort is sufficiently certain to be implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species identified through the ESA section 4(a)(1) analysis (pursuant to PECE, 68 FR 15100). In the proposed listing determination, we noted promising efforts to improve the

quality of habitat and reduce threats to species that exhibit some degree of spatial and/or temporal overlap in spawning requirements with the Southern DPS in the Central Valley. However, NMFS does not believe that these efforts will reduce the risks to the Southern DPS enough to negate a threatened listing for the Southern DPS. When considering protective efforts, we need to weigh the certainty of their implementation and effectiveness against the threats causing risk to the Southern DPS. The actions proposed or being carried out by the California Bay-Delta Program (CALFED), the Central Valley Project Improvement Act (CVPIA), and CDFG include: (1) improving flow conditions in the Central Valley; (2) installing additional fish screens and improving fish passage; and (3) implementing stricter fishing regulations. These actions represent important contributions to addressing limiting factors for the Southern DPS; however, at this time these efforts alone do not substantially ameliorate risks to the Southern DPS such that protections afforded under the ESA are no longer necessary. As noted in the proposed listing determination (70 FR 17386; April 6, 2005) and summarized above, we feel that continued and additional conservation efforts are necessary beyond those addressed by commenters.

*Comment 10:* Several commenters opposed our proposal to list the Southern DPS as threatened and believed that an endangered listing was warranted. They disagreed that the habitat restoration efforts associated with CALFED, the CVPIA, and newly proposed CDFG fishing regulations provide sufficient certainty of implementation and effectiveness (pursuant to PECE) to conclude that the Southern DPS should be listed as threatened rather than endangered.

*Response:* We believe that the Southern DPS is likely to become endangered in the foreseeable future throughout all or a significant portion of its range, but is not currently in danger of extinction for the following reasons. There is evidence that the Southern DPS continues to spawn in the Sacramento River and that spawning habitat of suitable quality still exists there. The best available data suggest that Southern DPS adults and juveniles have been present consistently within the Sacramento River system over a relatively long time period, despite the suggestion of decreasing abundance over the last decade. Thus, the continued presence of a viable green sturgeon population in the Sacramento River supports our conclusion that the Southern DPS is not at imminent risk of

extinction, but that risk of extinction in the foreseeable future is possible over the longer-term if the threats to the species are not ameliorated.

While we are encouraged by the recent proposals by: (1) CALFED and the CVPIA to specifically include green sturgeon monitoring and research activities in their habitat improvement and planning efforts in the Central Valley; and by (2) CDFG's proposal to implement more protective sturgeon fishing regulations and a directed monitoring program for green sturgeon, we agree that these measures do not provide sufficient certainty of implementation and effectiveness to negate a threatened listing (pursuant to the PECE Policy), as explained above. We do believe, however, that the proposals to implement additional conservation measures over the short- and long-term offer additional assurance that extinction of the Southern DPS is unlikely to occur imminently.

*Comment 11:* Several commenters supported the exclusion of captive-bred green sturgeon from the Southern DPS and thought that take, transport, delivery, shipment and sale of captive-bred green sturgeon and the progeny thereof for domestic and international commerce should be allowed. The commenters thought that maintenance of a non-listed, captive-bred population of green sturgeon, originating from broodstock taken from the Klamath and Sacramento Rivers would: (1) further research goals and inform future management decisions; (2) take pressure off over-exploited wild stocks of beluga sturgeon through production of alternative sources of caviar; and (3) serve as a safeguard population for the Sacramento River in the event that the wild population experiences additional declines and requires supplementation through enhancement.

*Response:* While the ESA authorizes the listing, delisting, or reclassification of a species, subspecies, or DPS of a vertebrate species, it does not authorize the exclusion of a subset or portion of a listed species, subspecies, or DPS from a listing decision. In 2001, the U.S. District Court in Eugene, Oregon (*Alesea Valley Alliance v. Evans*, 161 F. Supp. 2d 1154 (D. Or. 2001)) (*Alesea*), ruled that once we had delineated a DPS (for Oregon Coast coho), the ESA did not allow listing only a subset (that which excluded 10 hatchery stocks) of that DPS. We have reviewed no data to suggest that captive-bred green sturgeon are more than moderately diverged from local, native populations in the Klamath and Sacramento River.

We believe that many of the benefits derived from captive-bred populations

of green sturgeon, outlined by the commenters above, are valid and important to the overall conservation and recovery of the Southern DPS. In an effort to ensure that the native populations are not adversely affected, we will consider carefully the exemptions requested as we develop an ESA section 4(d) Rule in subsequent rule-making.

#### **Status of the Southern DPS of Green Sturgeon**

We have reviewed the petition, the reports of the BRT (NMFS, 2002, 2004), co-manager comments, public comments, and other available published and unpublished information, and we have consulted with species experts and other individuals familiar with green sturgeon. We conclude that the Southern DPS is likely to become endangered in the foreseeable future throughout all of its range because: (1) the Sacramento River contains the only known green sturgeon spawning population in this DPS, and the concentration of spawning adults in one river places this DPS at risk; (2) there was a substantial loss of spawning habitat in the upper Sacramento and Feather Rivers (FWS, 1995b, historical habitat data summarized in Lindley et al., 2004 for salmonids) for reasons cited in the first Status Review, Update, and the Proposed Rule (see those documents for a full discussion) and the loss of this spawning habitat contributed to the overall decline of the Southern DPS; (3) recent studies (since 2002) have indicated that the Sacramento River and Delta System face mounting threats with regard to maintenance of habitat quality and quantity and the Southern DPS is directly dependent upon this ecosystem for its long-term viability; and (4) fishery-independent data collected at the State and Federal salvage facilities indicate a decrease in observed numbers of juvenile green sturgeon collected from 1968 to 2001.

We conclude that the Southern DPS of green sturgeon is not presently in danger of extinction throughout all or a significant portion of its range. The continued persistence of green sturgeon adults and juveniles in the Sacramento River indicates that this population is viable and is not at imminent risk of extinction. We believe that spawning habitat has been lost in the Sacramento and Feather Rivers, and possibly in the San Joaquin River, but due to a paucity of data, we are unable to determine the geographic extent and demographic consequences of this loss.

#### **Summary of Factors Affecting the Southern DPS of Green Sturgeon**

Section 4(a)(1) of the ESA and NMFS's implementing regulations (50 CFR part 424) state that we must determine whether a species is endangered or threatened because of any one or a combination of the following factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or man-made factors affecting its continued existence. We have previously detailed the impacts of various factors contributing to the decline of the Southern DPS in our Proposed Rule (70 FR 17386, April 6, 2005), as well as in the Status Review and Update (e.g., Adams et al., 2002, 2005). The primary factors responsible for the decline of the Southern DPS are the destruction, modification or curtailment of habitat and inadequacy of existing regulatory mechanisms. The following discussion briefly summarizes findings regarding threats to the Southern DPS.

#### *The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range*

The principal factor for decline of the Southern DPS is the reduction of the spawning area to a limited area of the Sacramento River. Keswick Dam provides an impassible barrier blocking green sturgeon access to what were likely historic spawning grounds upstream (FWS, 1995). A substantial amount of habitat in the Feather River above Oroville Dam also was lost, and threats to green sturgeon in the Feather River are similar to those faced by green sturgeon in the Sacramento River (NMFS, 2004). The BRT concluded that an effective population of spawning green sturgeon (i.e., a population that is contributing offspring to the next generation) no longer exists in the Feather River and was likely lost due to habitat blockage caused by the construction of Oroville Dam and from thermal barriers associated with the Thermalito Afterbay Facility.

Potential adult migration barriers to green sturgeon include the Red Bluff Diversion Dam (RBDD), Sacramento Deep Water Ship Channel locks, Fremont Weir, Sutter Bypass, and the Delta Cross Channel Gates on the Sacramento River, and Shanghai Bench and Sunset Pumps on the Feather River. The threat of screened and unscreened

agricultural, municipal, and industrial water diversions in the Sacramento River and Delta to green sturgeon is largely unknown as juvenile sturgeon are often not identified and current CDFG and NMFS screen criteria do not address sturgeon. Based on the temporal occurrence of juvenile green sturgeon and the high density of water diversion structures along rearing and migration routes, we find the potential threat of these diversions to be serious and in need of study (NMFS, 2005).

CDFG (1992) and FWS (1995) found a strong correlation between mean daily freshwater outflow (April to July) and white sturgeon year class strength in the Sacramento-San Joaquin Estuary (these studies primarily involve the more abundant white sturgeon; however, the threats to green sturgeon are thought to be similar), indicating that insufficient flow rates are likely to pose a significant threat to green sturgeon.

High water temperatures may pose a problem on the Feather River downstream of the Thermalito Afterbay outlet (FWS, 1995), and it is not expected that water temperatures in the system will become more favorable in the near future (CDFG, 2002). Elevated water temperature is likely no longer a problem in the Sacramento River with the installation of the Shasta Dam temperature control device in 1997. However, the possible long-term adverse effects on the overall population size and age-structure from elevated water temperature and the limited storage capacity and cold water reserves of the Shasta Dam in the past are still cause for concern.

Contamination of the Sacramento River increased substantially in the mid-1970s when application of rice pesticides increased (FWS, 1995). Estimated toxic concentrations for the Sacramento River during 1970-1988 may have deleteriously affected the larvae of another anadromous species (e.g., striped bass) that occupies similar habitat as green sturgeon larvae (Bailey, 1994), and a recent report indicates that toxins may be at least partially responsible for the pelagic organism decline in the Delta. ([http://science.calwater.ca.gov/pdf/workshops/IEP\\_POD\\_2005WorkSynthesis-draft\\_111405.pdf](http://science.calwater.ca.gov/pdf/workshops/IEP_POD_2005WorkSynthesis-draft_111405.pdf)) White sturgeon may also accumulate PCBs and selenium (White et al., 1989). While green sturgeon spend more time in the marine environment than white sturgeon and, therefore, may have less exposure, we conclude that some degree of risk from contaminants probably occurs for green sturgeon.

#### *Overutilization for Commercial, Recreational, Scientific or Educational Purposes*

While this factor was not considered the primary factor causing the decline of the Southern DPS, it is believed that past and present commercial and recreational fishing is likely to pose a threat to the Southern DPS. Ocean and estuarine bycatch of green sturgeon in the Oregon and Washington white sturgeon and salmonid fisheries (which may take some Southern DPS fish) has been reduced to 6 percent of its 1986 high value of 9,065 fish. The recent reduction is due to newly imposed fishing regulations in Oregon and Washington. Commercial fisheries targeting sturgeon have not been allowed in the Columbia River or Willapa Bay since 2001, and recreational fishing remains negligible (WDFW, 2004). CDFG (2002) estimated an average fishing mortality of 2.2 percent for green sturgeon based on tag return data in the Sacramento-San Joaquin Estuary. The impact of this fishing mortality rate is unknown. Potential new regulatory measures being considered by the State of California (M. Gingras, CDFG, pers. comm.) may confer reduced risk to the Southern green sturgeon DPS because regulatory measures recently implemented within the Northern DPS (see Proposed Rule, 70 FR 17386, April 6, 2005) seem to have had a positive effect on that DPS. However, we remain concerned about the risks associated with fishing pressure and poaching within the Southern DPS.

CDFG has stated that sturgeon are highly vulnerable to fisheries, and the trophy status of large white sturgeon makes sturgeon a high priority for enforcement to protect against poaching (CDFG, 2002). In fact, a number of sturgeon poaching operations have been discovered in recent years (e.g., <http://www.dfg.ca.gov/news/news04/04040.html>), and we expect poaching pressure to remain high because of the increasing demand for caviar, coupled with the decline of other sturgeon species around the world, primarily the beluga sturgeon. So while we are uncertain how poaching may affect the Southern DPS, we believe that it does pose a real risk and that future efforts by the agencies should be made to estimate annual mortality rates due to poaching.

#### *Disease or Predation*

Although a number of viral and bacterial infections have been reported in hatcheries ([http://aquanic.org/publicat/usda\\_rac/efs/srac/7200fs.pdf](http://aquanic.org/publicat/usda_rac/efs/srac/7200fs.pdf)), and habitat conditions such as low

water flows and high temperatures can exacerbate susceptibility to infectious diseases, we do not believe there is sufficient information to suggest that disease has played an important role in the decline of the Southern DPS. Non-native species are an ongoing problem in the Sacramento-San Joaquin River and Delta systems through introductions and modification of habitat (CDFG, 2002). However, at present we are not able to estimate mortality rates imposed by non-native predators (i.e. striped bass) on green sturgeon. We do know that striped bass may affect the population viability of Chinook salmon (Lindley and Mohr, 2003) and may impose significant predation rates on other anadromous species (Blackwell and Juanes, 1998). Therefore, we maintain that, while predation risk imposed by striped bass on the Southern DPS is uncertain, it likely exists, and additional studies are needed to determine the importance of this threat to the long-term survival of the Southern DPS.

#### *The Inadequacy of Existing Regulatory Mechanisms*

We reviewed existing regulatory mechanisms in the Proposed Rule as part of our evaluation of efforts being made to protect green sturgeon (70 FR 17386; April 6, 2005). We noted several Federal, State, and local regulatory programs that have been implemented to help reduce historical risks to green sturgeon. In particular, changes in regulations governing fisheries in Washington and Oregon have potentially reduced the risks for the Southern DPS, though regulations in California have not changed since the previous Status Review and Update. In addition, although there have been efforts to improve habitat conditions across the range of the Southern DPS, less has been accomplished through regulatory mechanisms to reduce threats posed by blocked passage to spawning habitat and water diversions. Thus, we conclude that inadequacy of existing regulatory mechanisms has contributed significantly to the decline of the Southern DPS and to the severity of threats that the Southern DPS currently faces.

#### *Other Natural or Manmade Factors Affecting Its Continued Existence*

This factor was not considered a primary factor in the decline of the Southern DPS. Non-native species are an ongoing problem in the Sacramento-San Joaquin River and Delta systems (CDFG, 2002). One risk for green sturgeon associated with the introduction of non-native species

involves the replacement of relatively uncontaminated food items with those that may be contaminated (70 FR 17386; April 6, 2005).

The previous Status Review (Adams et al., 2002) summarized juvenile entrainment data and change in annual mean number over time. Juvenile entrainment is considered a type of threat imposed by water diversions, but the degree to which it is affecting the continued existence of the Southern DPS remains uncertain.

#### **Efforts Being Made to Protect the Southern DPS of Green Sturgeon**

The PECE policy (68 FR 15100; March 28, 2003) provides direction for the consideration of protective efforts identified in conservation agreements, conservation plans, management plans, or similar documents (developed by Federal agencies, State and local governments, Tribal governments, businesses, organizations, and individuals) that have not yet been implemented, or have been implemented but have not yet demonstrated effectiveness. The evaluation of the certainty of an effort's effectiveness is made on the basis of whether the effort or plan: establishes specific conservation objectives; identifies the necessary steps to reduce threats or factors for decline; includes quantifiable performance measures for the monitoring of compliance and effectiveness; incorporates the principles of adaptive management; and is likely to improve the species' viability at the time of the listing determination.

Conservation measures that may apply to listed species include those implemented by tribes, states, foreign nations, local governments, and private organizations. Also, Federal, tribal, state, and foreign nations' recovery actions (16 U.S.C. 1533(f)), Federal consultation requirements (16 U.S.C. 1536), and prohibitions on taking (16 U.S.C. 1538) constitute conservation measures. In addition, recognition through Federal government or state listing promotes public awareness and conservation actions by Federal, state, tribal governments, foreign nations, private organizations, and individuals.

#### *Fishing Regulations*

Recent management strategies affecting the Northern and Southern DPS are outlined in the Proposed Rule (70 FR 17386; April 6, 2005). Here we summarize fishery management efforts that affect only the Southern DPS. Recent implementation of sturgeon fishing restrictions in Oregon and Washington and protective efforts put in place on the Klamath, Trinity, and Eel

Rivers in the 1970s, 1980s, and 1990s may offer protection to the Southern DPS.

General CDFG angling regulations apply to sturgeon angling from Mendocino County south (one fish per day between 117 and 183 cm TL). Both white and green sturgeon are protected by the same fishing regulations in the Sacramento-San Joaquin system and a closure in central San Francisco Bay occurs between January 1 and March 15, coinciding with the herring spawning season to protect sturgeon feeding on herring eggs (CDFG, 2002). No commercial take is permitted. Active sturgeon enforcement is often employed in areas where sturgeon are concentrated and particularly vulnerable to the fishery.

Recently, CDFG recognized that "extant California fishing regulations permit a greater degree of risk to green sturgeon than is necessary to allow the popular sturgeon fishery" (CDFG, 2005). Through outreach efforts, it has found strong support for more protective sturgeon fishing regulations among the sturgeon fishing community. The Fish and Game Commission (Commission) passed an Emergency Regulation proposed by CDFG on March 3, 2006, that outlines the following new regulations for the recreational sturgeon fishery in California: (1) a zero bag limit for green sturgeon throughout California; and (2) a 117–142 cm fork length (FL) slot limit for white sturgeon throughout California. This Emergency Regulation was prompted by the most recent (2005) abundance estimate for white sturgeon (117–183 cm FL) in San Pablo Bay exhibiting approximately an order of magnitude decline from the estimate made in 1998. In addition, the Commission was concerned because: (1) other sources of data suggested a large decline in abundance of white sturgeon (117–183 cm FL); (2) substantial gaps in the existing data regarding abundance of white sturgeon outside the 117–183 cm FL range; (3) there is substantial and effective fishing pressure; and (4) there is interest by the public to implement more protective regulations for sturgeon in California. Currently, the CDFG and the Commission are working together towards implementing a long-term set of regulations for the recreational sturgeon fishery that would be put in place by 2007.

#### *Habitat Protection Efforts*

A summary of protective habitat efforts is provided in our response to Comment 10 above. For a more detailed description, see the Proposed Rule (70 FR 17386; April 6, 2005). We review our consideration of how these efforts will

affect the Southern DPS in our response to Comment 9 above, and a more detailed examination is provided in the Proposed Rule (70 FR 17386; April 6, 2005). Our main conclusions are that: (1) green sturgeon focused research will be used to enhance our understanding of the risk factors affecting recovery, thereby improving our ability to develop effective management measures; however, at present they do not directly help to alleviate threats that this species faces in the wild; and (2) all ongoing fish screen and passage studies are designed primarily to meet the minimum qualifications outlined by the NMFS and CDFG fish screen criteria, and though these improvements will likely benefit salmonids, there is no evidence showing that these measures will decrease the likelihood of green sturgeon mortality.

As evaluated pursuant to PECE, the above described protective efforts do not as yet, individually or collectively, provide sufficient certainty of implementation and effectiveness to counter the conclusion that the Southern DPS is likely to become an endangered species in the foreseeable future throughout its range.

#### **Final Listing Determination**

Based on our evaluation of the best available scientific information and the ongoing state and Federal conservation efforts, the Southern DPS is likely to become endangered in the foreseeable future throughout all of its range and should be listed as threatened. This threatened determination is based on the reduction of potential spawning habitat, the severe threats to the single remaining spawning population, the inability to alleviate these threats with the conservation measures currently in place, and the decrease in observed numbers of juvenile green sturgeon collected in the past two decades compared to those collected historically.

#### *Take Prohibitions and Protective Regulations*

Section 9 of the ESA prohibits the take of endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. 1532(19)). In the case of threatened species, ESA section 4(d) leaves it to the Secretary's discretion whether to, and to what extent to, extend the section 9(a) "take" prohibitions to the species, and authorizes the NMFS to issue regulations it considers necessary and advisable for the conservation of the species. Thus, we have flexibility under section 4(d) to tailor protective



regulations, taking into account the effectiveness of available conservation measures. The 4(d) protective regulations may prohibit, with respect to threatened species, some or all of the acts which section 9(a) of the ESA prohibits with respect to endangered species. These 9(a) prohibitions and 4(d) regulations apply to all individuals, organizations, and agencies subject to U.S. jurisdiction. We will evaluate protective regulations pursuant to section 4(d) for the Southern green sturgeon DPS and issue proposed regulations in forthcoming rules that will be published in the **Federal Register**.

#### *Other Protective Measures*

Section 7(a)(2) of the ESA requires Federal agencies to confer with us on actions likely to jeopardize the continued existence of species proposed for listing or result in the destruction or adverse modification of proposed critical habitat. If a Federal action is likely to adversely affect a listed species or destroy or adversely modify its critical habitat, the responsible Federal agency must initiate formal consultation. Examples of Federal actions that may affect the Southern green sturgeon DPS include: water diversion for human use; point and non-point source discharge of persistent contaminants; contaminated waste disposal; water quality standards; and fishery management practices.

Sections 10(a)(1)(A) and (B) of the ESA provide us with authority to grant exceptions to the ESA's Section 9 "take" prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) for scientific purposes or to enhance the propagation or survival of a listed species. The type of activities potentially requiring a section 10(a)(1)(A) research/enhancement permit include scientific research that targets green sturgeon.

Section 10(a)(1)(B) incidental take permits may be issued to non-Federal entities performing activities that may incidentally take listed species, as long as the taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

#### **Service Policies on Endangered and Threatened Fish and Wildlife**

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation. The OMB Bulletin,

implemented under the Information Quality Act (Public Law 106-554), is intended to enhance the quality and credibility of the Federal government's scientific information, and applies to influential scientific information disseminated on or after June 16, 2005.

Pursuant to our 1994 policy on peer review (59 FR 34270; July 1, 1994), we have solicited the expert opinions of at least three appropriate and independent specialists regarding pertinent scientific or commercial data and assumptions relating to the taxonomy, population models, and supportive biological and ecological information for species under consideration for listing. We conclude that these expert reviews satisfy the requirements for "adequate [prior] peer review" contained in the Bulletin (sec. II.2.).

#### **Critical Habitat**

Critical habitat is defined in section 3 of the ESA as: (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed upon a determination that such areas are essential for the conservation of the species (16 U.S.C. 1532(5)(A)). Section 4(b) of the ESA states that designation of critical habitat should occur at the same time as the final ruling, unless the Secretary deems that critical habitat is not then determinable, in which case the time to critical habitat designation may be extended by 1 year. In a previous **Federal Register** notice (66 FR 64793; December 14, 2001) we requested specific information on critical habitat; however, because no substantial information was received, we are again seeking public input and information to assist in gathering and analyzing the best available scientific data to support a critical habitat designation.

The Secretary has determined that critical habitat designation for the Southern DPS is not yet determinable. We will continue to meet with co-managers and other stakeholders to review information that will be used in the overall designation process. We will then initiate rulemaking with the publication in the **Federal Register** of a proposed designation of critical habitat, followed by a period for public comment and the opportunity for public hearings. In the coming year we will evaluate the physical and biological

features of specific areas (e.g., spawning or feeding site quality or quantity, water quality or quantity, geological formation, vegetation type) that are essential to the conservation of the Southern DPS. Features that may be considered essential could include, but are not limited to: (1) space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally; (5) habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

#### **Information Solicited**

To ensure that subsequent rule-making resulting from this Final Rule will be as accurate and effective as possible, we are soliciting information from the public, other governmental agencies, the Government of Canada, the scientific community, industry, and any other interested parties. Specifically, we are interested in information that will inform the ESA section 4(d) rule making and the designation of critical habitat for the Southern DPS, including: (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 green sturgeon 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 green sturgeon 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 green sturgeon as well as information on areas that may qualify as critical habitat in California for the proposed Southern DPS; (7) activities that could be affected by an ESA section 4(d) rule and/or critical habitat designation; and (8) the economic costs and benefits of additional requirements of management measures likely to result from protective regulations and designation of critical habitat (see **DATES** and **ADDRESSES**).

#### **References**

A complete list of all references cited herein is available upon request (see **ADDRESSES** section).

**Classification**

*National Environmental Policy Act (NEPA)*

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation v. Andrus*, 675 F. 2d 825 (6th Cir. 1981), we have concluded that ESA listing actions are not subject to the environmental assessment requirements of the NEPA. (See NOAA Administrative Order 216 6.)

*Executive Order (E.O.) 12866, Regulatory Flexibility Act and Paperwork Reduction Act*

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the listing process. In addition, this rule is exempt from review under E.O. 12866. This Final Rule does not contain a collection-of-information requirement

for the purposes of the Paperwork Reduction Act.

*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 final listing determination.

In keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual state and Federal interest, the Proposed Rule was given to the relevant state agencies in each state in which the species is believed to occur. We have conferred with the States of Washington, Oregon, and California in the course of assessing the status of the Southern DPS, and considered, among other things, Federal, state and local conservation measures. We intend to continue engaging in informal and formal contacts with the states and other affected local or regional entities, giving

careful consideration to any information received.

**List of Subjects in 50 CFR Part 223**

Enumeration of threatened marine and anadromous species.

Dated: April 3, 2004.

**James W. Balsiger,**

*Acting Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.*

■ For the reasons set out in the preamble, 50 CFR part 223 is 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, § 223.12 also issued under 16 U.S.C. 1361 *et seq.*

■ 2. In § 223.102, revise paragraph (a) by adding paragraph (23) to the end of the List of Threatened Marine and Anadromous Species:

**§ 223.102 Enumeration of threatened marine and anadromous species.**

\* \* \* \* \*

(a) Marine and anadromous fish.

Species <sup>1</sup>		Where Listed	Citation (s) for Listing Determinations	Citations (s) for Critical Habitat Designations
Common name	Scientific name			
(23) North American Green Sturgeon-Southern DPS	* <i>Acipenser medirostris</i> *	* * * * * USA, CA. The southern DPS includes all spawning populations of green sturgeon south of the Eel River (exclusive), principally including the Sacramento River green sturgeon spawning population. * * * * *		N/A

[FR Doc. 06-3326 Filed 4-6-06; 8:45 am]