Other Areas

Approximately 17,200 acres of Cecil Field have been evaluated for potential property transfer under the BRAC program. As was stated above, using the BRAC environmental condition of property classifications 16,496.14 acres have been determined to either be uncontaminated or BRAC category 1, areas where only a release or disposal of petroleum products have occurred or BRAC category 2; or areas where a release, disposal and/or migration of hazardous substances have occurred, but at concentrations that do not require a removal or remedial action or BRAC category 3; or areas where release, disposal, and/or migration of hazardous substances have occurred, and all remedial actions necessary to protect human health and the environment have taken place or BRAC category 4. No further action under CERCLA is required in these areas. Documentation for BRAC activities are available for public viewing at Building 907, 13357 Lake Newman Street, Cecil Commerce Center, Jacksonville, Florida 32252, Phone: 904–573–0336., which also houses the NPL Site Administrative Record.

V. Deletion Action

EPA, with the State of Florida concurrence, has determined that no responses are necessary at the 16,527 acres which comprised a major portion of the Cecil Field Naval Air Station, and no further CERCLA response is appropriate or necessary in order to provide protection of human health and the environment other than the ongoing inspection, maintenance and monitoring activities. Therefore, EPA is deleting these portions of the Site.

List of Subjects in 40 CFR Part 300

Environmental protection, Air pollution control, Chemicals, Hazardous substances, Hazardous waste, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Superfund, Water pollution control, Water supply.

Dated: January 10, 2003.

James I. Palmer, Jr.,

Regional Administrator, Region 4.

Title 40, Chapter 1 of the Code of Federal Regulations is proposed to be amended as follows:

PART 300—[AMENDED]

1. The authority citation for part 300 continues to read as follows:

Authority: 42 U.S.C. 9601–9657; 33 U.S.C. 1321(c)(2); E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp.; p.351; E.O. 12580, 52 FR 2923, 3 CFR, 1987 Comp.; p.193.

Appendix B—[AMENDED]

2. Table 2 of appendix B to part 300 is amended by revising the entry for Cecil Field Naval Air Station to read as follows:

Appendix B to Part 300—National Priorities List

* * * * *

TABLE 2.—FEDERAL FACILITIES SECTION

St	Site name	City/County	Notes [a]
*	*	*	*
FL	Cecil Field Naval Air Station	Jacksonville	P
*	*	*	*

(a) * * *

* * * * *

P = Sites within partial deletion(s).

[FR Doc. 03–1776 Filed 1–28–03; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 224

[I.D. 122302B]

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List North American Green Sturgeon as a Threatened or Endangered Species

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

ACTION: Notice of petition finding and availability of a status review document.

SUMMARY: NMFS has completed an Endangered Species Act (ESA) status review for the North American green sturgeon (*Acipenser medirostris*). After reviewing the available scientific and commercial information, NMFS has determined that the petitioned species is comprised of two distinct population segments (DPSs) that qualify as species under the ESA, but that neither DPS warrants listing as a threatened or endangered species at this time. Because of remaining uncertainties about their population structure and status, NMFS is adding both DPSs to the agency's list of candidate species and will re-evaluate their status in 5 years provided sufficient new information becomes available indicating that a status review update is warranted.

DATES: The finding announced on this document was made on January 23, 2003.

ADDRESSES: The North American green sturgeon status review and list of references are available 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, or the Assistant Regional Administrator, Protected Resources Division, Northwest Region, NMFS, 525 NE Oregon Street, Suite 500, Portland, OR 97232. The status review and other reference materials regarding this determination can also be obtained via the Internet at: *http://www.nmfs.noaa.gov*.

FOR FURTHER INFORMATION CONTACT: Craig Wingert, NMFS, Southwest Region (562) 980–4021, Scott Rumsey, NMFS, Northwest Region (503) 872–2791, or David O'Brien, NMFS, Office of Protected Resources (301) 713–1401.

SUPPLEMENTARY INFORMATION:

Petition Background

On June 12, 2001, NMFS received a petition from the Environmental Protection Information Center, Center for Biological Diversity, and WaterKeepers Northern California requesting that NMFS list the North American green sturgeon (*Acipenser medirostris*) as either an endangered or threatened species under the ESA, and that critical habitat be designated for the species concurrently with any listing determination.

The petition noted that the green sturgeon is a recognized species, but also indicated that until recently, geographic variation in the species had received little attention. Although Russian and Asian forms of the green sturgeon are morphologically similar to the North American form, the petitioners cited genetic evidence that demonstrates differences between the Asian and North American forms and suggesting they are two distinct species. In this petition, therefore, the use of A. medirostris referred to the North American population of the green sturgeon. The petitioners also noted that the stock structure of this species is poorly known as well, and that there may prove to be DPSs within this biological species as new data are gathered and analyzed.

The petitioners indicated that the only remaining spawning populations of the North American green sturgeon are in the Sacramento and Klamath River basins in California and possibly the Rogue River, Oregon. The petitioners also suggest that the spawning population in the Klamath River basin is larger than the population in the Sacramento River basin. Running-ripe adults and young of the year have been observed in the Rogue River, but exact spawning locations have not been confirmed. The petitioners also stated that green sturgeon apparently no longer spawn in the Eel River, the South Fork Trinity River, and the San Joaquin River in California. The petitioners also cited recent declines in green sturgeon in the Umpqua River in Oregon and the Fraser River in Canada. The petitioners cite Musick et al. (2000) as indicating that each of the known or suspected spawning populations of green sturgeon presently contain a few hundred mature females at most.

The petitioners concluded that the North American green sturgeon is at a high risk of extinction because of the reduced number and size of spawning populations, ongoing threats to the species from the loss and/or degradation of habitat particularly in those river systems where they are known or thought to spawn, and continuing impacts to the species from harvest in sport fisheries or as bycatch in other fisheries (e.g. commercial white sturgeon fishery). Specific concerns regarding habitat loss and degradation cited by the petitioners include the construction of dams and operation of large scale water projects in the Sacramento, Klamath River and other coastal systems, and logging, agriculture, mining, road construction and urban development in coastal watersheds. With respect to fisheries impacts on green sturgeon, the petitioners cited fisheries that occur in coastal Washington and the Columbia River which focus on white sturgeon or salmon but take green sturgeon as a bycatch. Of particular concern is the potential bycatch of pre-reproductive individuals in these fisheries, particularly if this harvest is supported by the spawning populations that exist in the Klamath and Sacramento River basins.

NMFS evaluated the information provided or cited in the petition and also reviewed other information readily available to agency scientists on issues related to the distribution, abundance, and threats to the petitioned species. On December 14, 2001, NMFS published a 90-day finding (66 FR 64793) that the petition presented substantial information that listing North American green sturgeon under the ESA may be warranted, and announced the initiation of a review of the biological status of the species.

To ensure that the status review was complete and based on the best available scientific and commercial data, the 90–day finding also requested information and comments from the public concerning the status of North American green sturgeon (66 FR 64793). In addition, NMFS specifically requested information and comments on green sturgeon from State and Tribal co-managers in California, Oregon, and Washington. NMFS requested information on: (1) biological or other relevant data that may help identify DPSs of this species (e.g., age structure, genetics, migratory patterns, morphology, etc.); (2) the range, distribution, and abundance of this species, including information on the spawning populations of the species; (3) current or planned activities and their possible impact on this species (e.g., harvest impacts, habitat changes or alterations, etc.); and (4) efforts being made to protect this species in California, Oregon, Washington and Canada. NMFS also requested quantitative evaluations describing the quality and extent of freshwater, estuarine and marine habitats for this species, as well as information on areas that may qualify as critical habitat in California, Oregon, and Washington. For areas potentially qualifying as critical habitat, NMFS requested information describing (1) the activities that affect the area or could be affected by the designation, and (2) the economic costs and benefits of additional requirements of management measures likely to result from the designation.

NMFS assembled a Biological Review Team (BRT) comprised of staff from the agency's Southwest Fisheries Science Center, Northwest Fisheries Science Center, and the U.S. Geological Survey. The BRT has reviewed the best available scientific and commercial information pertaining to green sturgeon from California through the Pacific Northwest and prepared a status review for the species (NMFS, 2002). This document summarizes the principal results of the green sturgeon status review. Copies of the BRT status review report and other documents relevant to this review are available online. Paper copies are available upon request (see **ADDRESSES**).

Biology and Life History of Green Sturgeon

The green sturgeon (*A. medirostris*) is the most widely distributed member of the sturgeon family Acipenseridae. Like all sturgeon species it is anadromous, but it is also the most marine oriented of the sturgeon species. The only recently-documented green sturgeon spawning locations are in the Klamath, Sacramento, and Rogue rivers along the west coast of North America. However, green sturgeon are known to range in nearshore marine waters from Mexico to the Bering Sea and are commonly observed in bays and estuaries along the coast with particularly large concentrations entering the Columbia River estuary, Willapa Bay, and Grays Harbor during the late summer (Moyle *et al.*, 1992). The reasons for these concentrations are unclear, but do not appear to be related to spawning or feeding.

Sturgeons in general have a life history that is susceptible to overharvesting and a number of species have some kind of protection or special status. The green sturgeon has a status designation of Special Concern in Canada (Houston 1988) because it has characteristics that make it particularly sensitive to human activities or natural events. Sakhalin sturgeon (*A. mikadoi*), a species that was at one time synonymized with green sturgeon, is extirpated throughout Japan, Korea, and China. In Russia the species is reduced in range to the Tumnin River where there is a hatchery. In the United States, there are five sturgeon species listed as threatened or endangered under the ESA: Shortnose sturgeon (*A. brevirostrum*); pallid sturgeon (*Scaphirhynchus albus*); Gulf sturgeon (*A. oxyrinchus*); white sturgeon, Kootenai River population (*A. transmontanus*); and Alabama sturgeon (*S. suttkusi*). More detailed information on the geographic distribution, spawning, early life history, ocean residence, age and growth, and feeding

habits of green sturgeon are presented below.

Distribution. San Francisco Bay and its associated river systems contain the southern-most spawning population of green sturgeon. White sturgeon supports a large fishery in this area, particularly in San Pablo Bay, which has been extensively studied by California Department of Fish and Game (CDFG) since the 1940's. While green sturgeon are not common, they are collected incidentally in a white sturgeon trammel net monitoring program during most years in numbers ranging from 5 to 110 fish. Green sturgeon juveniles are found throughout the Delta and San Francisco Bay.

Green sturgeon adults and juveniles occur throughout the upper Sacramento River. Green sturgeon are reported to spawn in the Feather River, but this has not been substantiated. Green sturgeon spawning occurs predominately in the upper Sacramento River. Juvenile sturgeon have been taken annually in trapping operations at the RBDD (1995–2001) and at the Glenn-Colusa Irrigation District pumping facility as part of a monitoring program (1986–2001). All larval and juvenile sturgeon caught at these locations are assumed to be green sturgeon because juveniles collected at these sites and grown to identifiable size were green sturgeon. There is no documentation of green sturgeon spawning in the San Joaquin River at present, but there may have been spawning there before construction of large-scale hydropower and irrigation development. Young green sturgeon have been taken occasionally in the Santa Clara Shoal area in the San Joaquin delta but these fish likely originated from elsewhere, most likely the Sacramento River (CDFG 2002).

Green sturgeon also occur in the coastal waters of the Pacific Ocean off California and in coastal rivers. Small numbers have been taken in both Tomales Bay and Bodega Bay and a single fish has been taken from the Noyo River. They are regularly taken in small numbers in Humboldt Bay, and have been caught in coastal waters and in estuaries from Arcata Bay to the Oregon border. Small numbers of both adult and juvenile green sturgeon have been observed in the Eel River.

The largest spawning population of green sturgeon is thought to occur in the Klamath River on the north coast of California, but there are no direct estimates of green sturgeon abundance. Adults are captured in the salmon gill net fisheries conducted by the Yurok and Hoopa Indian tribes and adults occur upstream in the Klamath to a natural migration barrier at Ishi Pishi Falls (rkm 107). Juvenile green sturgeon are captured each year on the Klamath River and have also been found in the lower portion of the Salmon River which is a tributary to the Klamath River. Adults occur in the Trinity River, a major tributary to the Klamath River, to Gray's Falls (rkm 69), but spawning can only be confirmed up to the Willow Creek trap (rkm 40). Moyle et al. (1992) reported no evidence of spawning in the South Fork of the Trinity River.

The Rogue River in Oregon was recently confirmed as a third spawning area for green sturgeon (Erickson *et al.*, 2001, Rien *et al.*, 2001). Based on tracking of radio-tagged adults captured in the estuary, extended holding sites were identified that have been associated with spawning in other species of sturgeon. Juvenile fish are taken in beach seining efforts in the estuary (Rien *et al.*, 2001). Green sturgeon adults are taken in almost all of the Oregon coastal estuaries from the Chetco River to Nehalem Bay (EPIC *et al.*, 2001). During white sturgeon tagging projects in Coos Bay (Coos River), Winchester Bay (Umpqua River), Yaquina Bay (Yaquina River), and Tillamook Bay (Tillamook River) green sturgeon have been captured and tagged; however, no recoveries have been reported (ODFW 2002).

The Columbia River has supported a large white sturgeon fishery for many years in which green sturgeon are taken as bycatch. In the mid 1930's before Bonneville dam, green sturgeon were found up to the Cascade Rapids. Green sturgeon are presently found up river to the Bonneville Dam (rkm 235), but are predominately found in the lower 60 rkm. Tagging studies indicate a substantial exchange of fish between the Columbia River and Willapa Bay (WDFW 2002a). Willapa Bay, along with the Columbia River and Grays Harbor, is one of the estuaries where green sturgeon concentrate in summer. Generally, green sturgeon are more abundant than white sturgeon in Willapa Bay (Emmett *et al.*, 1991).

Grays Harbor in Washington is the northernmost estuary with green sturgeon summer concentrations and there are both tribal and commercial fisheries that take green sturgeon. There are no records of juveniles from Grays Harbor. Green sturgeon occur sporadically in small numbers throughout coastal Washington (WDFW 2002a) and are routinely encountered in the coastal Washington trawl fishery as minor incidental catch (WDFW 2002b). Occasionally, green sturgeon are caught in small coastal bays and estuaries during tribal salmon fisheries. A few green sturgeon are recovered in Puget Sound as incidental harvest (mostly trawl fisheries).

Green sturgeon occur in small numbers along the western coast of Vancouver Island (Houston 1988) and the Skeena River. Historically, green sturgeon were not uncommon in the Fraser River (EPIC et al., 2001). Since the collapse of the Fraser River white sturgeon fishery, however, green sturgeon are only taken there occasionally.

Spawning. Green sturgeon are thought to spawn every 3 to 5 years (Tracy 1990). Their spawning period is March to July, with a peak in mid-April to mid-June (Moyle *et al.*, 1992). Mature males range from 139–199 cm in fork length (FL) and 15 to 30 years of age (VanEenennaam 2002). Mature females range from 157–223 cm FL and 17 to 40 years of age. Most of the spawning males are 160–170 cm FL and 17–18 years old, while most of the spawning females are 182–192 cm FL and 27–28 years old.

Green sturgeon spawning occurs in deep pools or ''holes'' in large, turbulent river mainstems (Moyle *et al.*, 1992). Specific spawning habitat preferences are likely large cobble substrates, but may range from clean sand to bedrock substrates as well. Eggs are likely broadcast over the large cobble substrates where they settle into the space between the cobble. Green sturgeon females produce 60,000–140,000 eggs (Moyle *et al.*, 1992) and they are the largest eggs (diameter 4.34 mm) of any sturgeon species (Cech *et al.*, 2000). Temperatures above 20 C are lethal to green sturgeon embryos (Cech *et al.*, 2000).

Green sturgeon spawning has only been documented in the Klamath, Sacramento (Moyle *et al.*, 1992, CDFG 2002) and Rogue (Erickson *et al.*, 2001, Rien *et al.*, 2001) rivers in recent times. The Klamath Basin is thought to support the largest green sturgeon spawning population (Moyle *et al.*, 1992). In the Klamath River, breaching and other suspected sturgeon courtship behaviors have been observed in ''The Sturgeon Hole'' upstream of Orleans (rkm 96). Larvae and juveniles are caught in the Big Bar trap (rkm 80) on the Klamath and in the Willow Creek trap (rkm 40) on the Trinity. Numbers at both traps have a peak in July (Healey 1973).

In the Sacramento River, green sturgeon spawn in late spring and early summer above Hamilton City and perhaps as far upstream as Keswick Dam (CDFG 2002). The opening of the Red Bluff Diversion Dam (RBDD) gates to improve winter-run chinook upstream and downstream passage is believed to have provided a substantial

increase in spawning habitat for green sturgeon in the upper Sacramento River. The gates were first opened in 1986 and the current pattern of operation began in 1992–93. Juvenile green sturgeon are taken in traps at the RBDD and the Glenn Colusa Irrigation District's (GCID) facility in Hamilton City, primarily in the months of May through August. Peak counts occur in the months of June and July.

Green sturgeon spawning has been recently documented in the Rogue River (Erickson *et al.*, 2001, Rien *et al.,* 2001). Adult fish were radio-tagged in the estuary during May–June 2000. After release, tagged ripe fish moved up the Rogue River to spawn, while non-reproductive fish remained close to the tagging site. Spawning fish spent more than 6 months in freshwater and traveled as far as rkm 39. All tagged individuals emigrated from freshwater during fall and winter when water temperatures fell below 10 C. Juvenile green sturgeon have been taken in beach seines in the Rogue River estuary from April until the end of November (Rien *et al.*, 2001).

Apparently, green sturgeon no longer spawn in some river systems where they once did (CDFG 2002). Juvenile green sturgeon were captured in the Eel River in traps at Rio Dell (rkm 20) and Dos Rios (rkm 191) during the period from 1967 to 1970 (Puckett 1976). Single or small numbers of adult green sturgeon are also observed periodically in the Eel River. Similarly, green sturgeon are reported to have spawned in the South Fork Trinity River, but apparently no longer do so due to extensive sedimentation from the 1964 flood (Moyle *et al.*, 1992). The validity of reports of green sturgeon spawning in the Umpqua River is unclear (Lauman *et al.*, 1972) and the possibility of current spawning activity is being investigated (ODFW 2002).

Early Life History. Green sturgeon larvae first feed at 10 days post hatch, and metamorphosis to the juvenile stage is complete at 45 days. Larvae grow fast, reaching a length of 66 mm and a weight of 1.8 g in 3 weeks of exogenous feeding. Juveniles averaged 29 mm at the peak of occurrence in June-July at the RBDD fish trap and 36 mm at their peak abundance in July at the GCID trap. These growth rates are consistent with rapid juvenile growth to 300 mm in 1 year and to over 600 mm within 2–3 years for the Klamath River (Nakamoto *et al.*, 1995). Juveniles appear to spend 1 to 3 years in freshwater before they enter the ocean (Nakamoto *et al.*, 1995).

Ocean Residence. Green sturgeon disperse widely in the ocean after their out-migration from freshwater (Moyle *et al.,* 1992). Tagged green sturgeon from the Sacramento and Columbia Rivers are primarily captured to the north in coastal and estuarine waters, with some fish tagged in the Columbia being recaptured as far north as British Columbia (WDFW 2002a). While there is some bias associated with recovery of tagged fish through commercial fishing, the pattern of a northern migration is supported by the large concentration of green sturgeon in the Columbia River estuary, Willapa Bay, and Grays Harbor which peaks in August. These fish tend to be immature; however, mature fish and at least one ripe fish have been found in the lower Columbia River (WDFW 2002a). Genetic evidence suggests that Columbia River green sturgeon are a mixture of fish from at least the Sacramento, Klamath, and Rogue Rivers (Israel *et al.*, 2002). The reasons for the concentration of green sturgeon in Oregon and Washington estuaries during the summer are unknown as there is no known spawning in these rivers and all stomachs examined to date have been empty (Beamesderfer 2000).

Age and Growth. Green sturgeon is a long-lived, slow-growing species as are all sturgeon species (Nakamoto *et al.*, 1995, Farr *et al.*, 2002). Size-at-age is consistently smaller for fish from the Klamath River (Nakamoto *et al.*, 1995) in comparison to fish from Oregon until around age 25, but thereafter the pattern is reversed. This could be the result of actual differences in growth or in ageing techniques. The asymptotic length for Klamath fish of 218 cm is close to the maximum observed size of 230 cm reported by Moyle *et al.* (1992), but substantially larger than for fish in Oregon (females 182 cm, males 168 cm).

Feeding. Little is known about green sturgeon feeding. Adults in the Sacramento-San Joaquin delta feed on benthic invertebrates including shrimp, mollusks, amphipods, and even small fish (Moyle *et al.*, 1992). Juveniles in the Sacramento-San Joaquin Delta feed on opossum shrimp and amphipods (Radtke 1966). One hundred and twenty-one green sturgeon stomach samples from the Columbia River gill-net fishery were empty with the exception of one fish, while all white sturgeon stomachs contained digested material (ODFW 2002).

Consideration as a ''Species'' Under the ESA

To qualify for listing as a threatened or endangered species the petitioned North American green sturgeon must be considered a species under the ESA. Section 3(16) of the ESA (16 U.S.C. 1532(16)) expands the definition of a ''species'' under the ESA to include any subspecies or any ''distinct population segment (DPS) of any species of vertebrate fish or wildlife which interbreeds when mature.'' On February 7, 1996, the U.S. Fish and Wildlife Service and NMFS adopted a policy to clarify their interpretation of the phrase ''distinct population segment of any species of vertebrate fish or wildlife'' for purposes of listing, delisting, and reclassifying species under the ESA (61 FR 4722). This joint policy identifies two elements that must be considered when making DPS determinations: (1) The discreteness of the population segment in relation to the remainder of the species (or subspecies) to which it belongs; and (2) the significance of the population segment to the species or subspecies to which it belongs.

According to the joint policy, a population segment may be considered discrete if it satisfies either one of the following conditions: (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors; or (2) it is delimited by international governmental boundaries across which there is a significant difference in exploitation control, habitat management, or conservation status. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation.

The joint policy states that the following are some of the considerations that may be used when determining the significance of a population segment to the taxon to which it belongs: (1) persistence of the discrete population in an unusual or unique ecological setting for the taxon; (2) evidence that the loss of the discrete population segment would cause a significant gap in the taxon's range; (3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere; or (4) evidence that the discrete population segment has marked genetic differences from other populations of the species.

Species Status and DPS Structure

Species Status. Green sturgeon that occur within U.S. and Canadian waters are a geographically isolated and genetically distinct species. The North American form was initially considered conspecific with the previously described Asian species, Sakhalin sturgeon (*A. mikadoi*), and the two forms were synonymized (Berg, 1948). More recent molecular data on three mitochondrial genes, however, show great differences between the North

American and Asian forms of green sturgeon (Birstein and DeSalle, 1998), and consequently, these two forms are now considered separate species.

The petitioned action requested that North American green sturgeon be listed as a threatened or endangered species, but the petitioners also recognized that this species could be comprised of multiple DPSs. For this reason and because other sturgeon species have been divided into multiple DPSs, NMFS' BRT assessed the best available scientific information concerning the population structure of green sturgeon in North America in an effort to determine whether or not the biological species was comprised of one or more DPSs. Based on a review of the best available scientific information, NMFS has determined that North American green sturgeon are comprised of two populations that are both discrete and significant as defined in the DPS policy and are therefore DPSs. One is a northern DPS consisting of coastal populations ranging from the Eel River northward. The second is a southern DPS that includes any coastal or central valley populations south of the Eel River, with the only known population being in the Sacramento River. These DPSs and the information used to characterize them are summarized below, and discussed in greater detail in the green sturgeon status review (NMFS 2002).

Discreteness: Genetic data were analyzed from 66 green sturgeon sampled from the Klamath River in 1998, 46 fish sampled from San Pablo Bay in 2001, 15 sampled from the Rogue River in 2000, and 29 sampled from the Columbia River estuary in 1995. The analysis on this genetic data, while preliminary, suggest that green sturgeon from the Klamath River are genetically distinct from fish in San Pablo Bay, and that green sturgeon from the Klamath and Rogue River are similar to each other (Israel *et al.*, 2002). Green sturgeon from the Columbia River appear to be a mixture of fish from the San Pablo Bay, Klamath, and Rogue populations. Israel *et al.* (2002) suggest that the genetic data indicate that spawning could be occurring in some other unknown locations; however, this preliminary conclusion could change if larger samples were analyzed or if samples were collected from multiple years. While preliminary, the best available genetic data indicates that there are substantial genetic differences at least between the geographically separated Klamath River and San Pablo Bay populations of green sturgeon.

Sturgeon species exhibit fidelity to their spawning sites so they have a general pattern of multiple DPSs. Sturgeon are known to have strong homing capabilities which leads to high spawning site fidelity (Bemis and Kynard, 1997). Because preliminary genetic data indicate that the Sacramento River population is different from the Klamath and Rogue River populations, and because sturgeon tend to exhibit high spawning site fidelity, NMFS has determined that the two green sturgeon populations are ''discrete'' as defined in the DPS policy.

Significance: The genetic information described above indicates that the northen and southern populations are ''significant'' as defined in the DPS policy. In addition to the genetic information, there is other information indicating that these DPSs are significant. First, each DPS occupies unusual or unique ecological settings for the species as a whole. This is evidenced by the fact that spawning populations of each DPS are found in separate and distinct Environmental Protection Agency ecoregions that have been identified based on soil content, topography, climate, potential vegetation, and land use (Omernik 1987). The geographic range of the northern DPS occurs largely within the Coastal Range ecoregion which extends from the Olympic Peninsula southward through the Coast Range and Klamath Mountains to the San Francisco Bay area. In contrast, the southern DPS occurs largely within the Central California Valley ecoregion which includes the Sacramento and San Joaquin Rivers. Second, the loss of either of these DPSs would result in a significant gap in the range of the species given the known distribution of spawning populations.

The identification of two DPSs and the geographic separation of the two DPSs at the Eel River should be considered provisional and subject to revision as more genetic and life history information is gathered on green sturgeon. Although NMFS believes that the green sturgeon is comprised of at least these two DPSs, additional DPSs may be delineated when more genetic and life history information is collected and analyzed. Similarly, the Eel River boundary between these two DPSs is based largely on geography and may be modified based on new information.

Status of Green Sturgeon DPSs

In assessing the status of the northern and southern DPSs, NMFS evaluated the available literature, information obtained in response to the 90-day finding request for information, and both qualitative and quantitative information provided by state and Tribal co-managers from California, Oregon, and Washington. The quantitative information was primarily time series of harvest (catch and catch-per-unit-effort (CPUE)) data from fishery agencies in Oregon and Washington, and from Tribal fishery managers in the Klamath River basin.

Northern Green Sturgeon DPS

Information relevant to assessing the abundance and/or population trends of green sturgeon in this DPS is limited. The status review for green sturgeon examined fisheries harvest data from the Yurok tribal fishery in the Klamath River and the commercial sturgeon fishery in the Columbia River in an effort to assess trends in abundance over time and population status (NMFS 2002). The time series of catch and CPUE data for the Yurok tribal fishery was considered the most representative available population measure for green sturgeon in general and this DPS in particular because the data are based on a spawning population in the DPS rather than a summer concentration of non-spawning fish from a mixture of spawning populations such as is the case in the Columbia River. Both data series are fishery-dependent and suffer from problems associated with changing regulations and effort levels.

Catch and CPUE data are available for the Yurok tribal fishery for the period 1984–2001, and it is the data set least impacted by regulatory changes. A qualitative examination of the data suggests that catch has increased slightly over time and that CPUE is stable or has slightly decreased over time. However, these trends are not statistically significant. The length-frequency data of harvested green sturgeon was also examined to determine if there was any evidence that harvest was affecting the size structure of the population. Although the sample sizes were small, there was no evidence of any trend in the available data suggesting that larger fish were being removed from the population or that the size structure of the population has been altered by this or other fisheries.

The Columbia River commercial harvest data represents the longest available green sturgeon time series, but it is difficult to interpret since the harvest occurs on a summer concentration of non-spawning fish that are thought to originate from multiple spawning populations. Regulations were significantly modified in 1993, so the analysis of trends was only conducted on catch data from 1960–1992. Catch over this time period may have been affected not only by changes in regulations and effort but also by

unknown factors controlling the summer concentration of green sturgeon in the Columbia River. The catch data were analyzed to determine if there were any trends in data and if they were significant. Length frequency of the catch data was also examined over the period of 1985–2001 to see if the fishery was affecting the size structure of fish that concentrate in the Columbia River. Analysis of the data suggests that catch in the Columbia River has increased slightly over time; however, the trend was not statistically significant. In contrast, Rein (2002b) analyzed CPUE data for green sturgeon in the lower Columbia River commercial fishery over the same period of time (1981–1993) and found there was a statistically significant increasing trend. There was little evidence of a trend in the length-frequency distributions of catch over time. However, there does appear to have been an increase in the average length of green sturgeon taken in the fishery over the past few years, possibly suggesting that a strong year class is moving through the fishery.

The status review identified potential risk factors for the northern green sturgeon DPS including harvest bycatch in several fisheries, the concentration of spawning in the Klamath River, the loss of historical spawning habitat, and the lack of adequate abundance and population trend data (NMFS, 2002). While there is some information relevant to harvest bycatch, limited information is available about the distribution of historical and current spawning activity, and the loss of spawning habitat. The lack of adequate abundance and population trend data is of concern because it is difficult to assess the status of the population without such data. As a result, there is considerable uncertainty regarding the extent to which these factors affect the overall level of risk faced by this DPS.

The Klamath River is thought to support most of the total spawning population in this DPS and there is concern that this could increase the vulnerability of the DPS to catastrophic events. However, the extent to which spawning is concentrated in the Klamath River is not well documented and there is limited information on the extent and magnitude of spawning elsewhere in the DPS. Recent information, for example, has documented spawning in the Rogue River (Rein *et al.*, 2001) and the possibility of spawning in the Umpqua River is also being investigated (ODFW 2002). Further research and monitoring in these and other coastal watersheds may provide new information about the magnitude and geographical extent of current spawning within this DPS and the importance of the spawning population in the Klamath River. Historical accounts, and what little data are available, suggest there has been a loss of spawning habitat in the Eel River and South Fork Trinity Rivers due to anthropogenic changes and natural events that increased sedimentation (CDFG, 2002). At the same time, it is uncertain to what extent the loss or reduction of spawning in the Eel and South Fork Trinity Rivers has affected this DPS or the extent to which it places the DPS at greater risk since there is virtually no information documenting the magnitude and extent of spawning that historically occurred in either system. Although spawning apparently no longer occurs in the South Fork Trinity, there is recent evidence of limited green sturgeon spawning in the Eel River based on the collection of both adult and juvenile fish in the mid 1990s (CDFG, 2002).

The status review examined the available harvest bycatch data in an effort to assess the effects of harvest on green sturgeon in this DPS and in general, but concluded it was not possible to directly assess harvest impacts because of two factors. First, most of the harvest occurs on summer concentrations of fish in the Columbia River and coastal Washington estuaries that are comprised of fish from a mixture of spawning populations and both DPSs. Second, there is no estimate of the size for any of the known spawning populations that occur in either DPS. Although direct assessment of harvest impacts on this DPS may not be possible with the available data, a qualitative assessment of green sturgeon bycatch data for various fisheries since the mid 1980s suggests that the impacts to green sturgeon from harvest bycatch have been greatly reduced in recent years.

Harvest of green sturgeon occurs almost entirely as bycatch in commercial fisheries for white sturgeon in Oregon and Washington, as well as a variety of smaller tribal fisheries (*e.g.* Klamath River tribal fisheries). Green sturgeon harvest data for these fisheries were summarized in the status review for the years 1985–2001, and over this period the vast majority of the total harvest was taken in the Columbia River sport and commercial fisheries (51 percent) and the various Washington coastal fisheries (28 percent). The remainder of the total harvest occurred in the coastal Oregon fisheries and the Klamath River tribal fisheries. Since the mid 1980s, the total annual harvest of green sturgeon in all of these fisheries has declined nearly six fold from approximately 6,870 fish/year in 1985–1989 to approximately 1,190 fish/year in 1991–2001 (Table 1 in NMFS 2002). In 2001, the total harvest in all fisheries declined to less than 800 fish, with approximately equal numbers of fish taken in the Columbia River, coastal Washington, and Klamath River fisheries. This overall decline in green sturgeon harvest has been driven principally by a major reduction in the harvest from the Columbia River and Washington coastal fisheries since the mid 1990s.

The average length of green sturgeon caught in the Columbia River commercial fishery has been increasing since 1990, with the largest average size of fish occurring in the last five years. This trend may indicate a larger average size of fish due to reduced exploitation, a strong year-class moving through the fishery, or a reduction of small fish due to reduced or failed recruitment.

Much of the harvest reduction in recent years is due to increasingly restrictive regulations in the Columbia River fisheries (Appendix 1, Tables 1 and 2 in NMFS 2002). The Columbia River fishery is currently managed through a joint Washington and Oregon accord to manage white sturgeon. Probably the most important regulation for protecting sturgeon was the introduction of slot limits starting in 1950 for both the sport and commercial fisheries. Beginning in 1950 and continuing through 1997–98 when the slot limits were last changed, they have become increasingly restrictive and protective of both green and white sturgeon. The Columbia River sturgeon fishery is currently operating under a March 2000 agreement covering a three-year period through 2002. The green sturgeon regulations under this agreement include: a recreational size limit of 42–60 inches (107–152 cm) with one fish per day and 10 fish per year bag limits, with barbless hooks required; a commercial size limit of 48–66 inches (122–168 cm); and no green sturgeon-only commercial seasons (green sturgeon are only taken as bycatch during white sturgeon seasons, provided the green sturgeon catch does not exceed recent harvest levels). Commercial bycatch of green sturgeon occurs predominantly during the early fall (August) salmon and white sturgeon fisheries, when the green sturgeon have migrated into the estuary and lower mainstem of the Columbia River.

In 2001, sturgeon retention was prohibited during the early-fall target chinook commercial season after the preseason catch expectation for white sturgeon was exceeded in early August. Sturgeon retention was prohibited in

mainstem commercial fisheries through the remainder of the fall fishing period. White sturgeon population estimates for 2002 did not increase as expected, and in December of 2001 the Compact adopted reduced catch guidelines for 2002 as a management buffer and to compensate for catch overages that occurred in 2001. In 2002, the Compact prohibited retention of green sturgeon during August fisheries and allowed retention during September and October fisheries. This management action provided flexibility for shaping September and October salmon fisheries and allowed the commercial fishery access to their allocation of white sturgeon without any target sturgeon seasons, further minimizing green sturgeon bycatch. The Compact will meet in January 2003 to review its sturgeon fishery management agreement and it is expected that continued efforts will be taken to minimize green sturgeon bycatch.

Ocean and coastal estuarine fisheries in Washington and Oregon accounted for approximately 28 percent and 8 percent, respectively, of the total green sturgeon harvest bycatch in the period between 1985–2001. Since the mid to late 1990's, however, the overall catch of green sturgeon in these fisheries has also declined substantially, most likely due to changes in fishing regulations. White and green sturgeon fisheries in Oregon coastal areas are managed under size and bag limit regulations consistent with the lower Columbia River regulations.

Non-tribal harvest impacts on green sturgeon in coastal rivers of California are considered to be minimal (CDFG, 2002). Commercial fishing for green sturgeon (and white sturgeon) has been prohibited throughout the state since the early 1900s. Recreational fishing for green sturgeon has been prohibited since the early 1990s in virtually all coastal watersheds where green sturgeon are known to occur from the Eel River northward to the Oregon border, including the Klamath-Trinity basin. The Klamath River tribal (Yurok and Hoopa Tribes) fisheries accounted for about 8 percent of the total green sturgeon harvest that occurred between 1985–2001, with an average catch of approximately 260 fish per year. These Tribal fisheries do impact a spawning population in the Klamath River, but the available data for the Yurok Tribal fishery show that both catch and CPUE have been very stable since 1985, with no evidence of a decline. There is no evidence from the available length-frequency data for harvested green sturgeon that larger fish have been removed from the population or that the size structure of the population has been altered by this or other fisheries.

Conclusion: The available population information for green sturgeon in the northern DPS does not provide any evidence that the abundance of green sturgeon in this DPS is declining. In particular, the fishery-dependent harvest data from the Yurok tribal fishery show no evidence that catch or CPUE are declining, or that large fish are being removed from that spawning population. Despite this information, NMFS' BRT was uncertain about the status of green sturgeon in this DPS because no direct fisheries-independent population estimates were available. For this reason, the BRT believes it is essential that immediate efforts be undertaken to implement direct monitoring of green sturgeon in this DPS. There are some risk factors of potential concern for this DPS, most notably bycatch harvest in various fisheries; however, there is uncertainty about the overall level of risk facing this DPS. In the case of harvest bycatch for which there is the most information, it is not possible to directly assess the impact of harvest on green sturgeon in this DPS. Nevertheless, the available data shows that overall green sturgeon harvest has declined substantially since the mid 1980s due to increasingly restrictive harvest management measures, suggesting that risk from harvest has been also reduced. Although the risk to green sturgeon from harvest bycatch may be declining, NMFS believes it may be prudent for fisheries managers to continue recent conservative management measures as well as consider additional harvest protections until population monitoring information can be obtained to assess the status of this DPS with greater certainty. Based on a review of the best available information, NMFS concludes that the northern green sturgeon DPS is not presently in danger of extinction nor is it likely to become so in the foreseeable future.

Southern Green Sturgeon DPS

The only data relevant to assessing the abundance and/or population trends of green sturgeon in this DPS are estimates of green sturgeon abundance made by the California Department of Fish and Game in San Pablo Bay incidental to monitoring of white sturgeon (CDFG, 2002). Tagging experiments have been conducted irregularly since 1954, but since 1990 tagging has been conducted for two years consecutively and then the next two are skipped. Over this period, a total of 536 green sturgeon were captured and 233 fish were tagged. The green sturgeon estimate is obtained by multiplying the ratio of legal-size (earlier minimum slot limits of 102 cm) green sturgeon to legal-size white sturgeon caught in the tagging program by the legal-size white sturgeon population estimate. Although this is a fishery-independent estimate of green sturgeon abundance, there are a number of problems associated with these estimates; the most important being the assumption that both species are equally vulnerable to the sampling gear. Since green sturgeon concentrate in estuaries only during the summer and white sturgeon remain in estuaries year round, the temporal and spatial vulnerabilities of the two species are likely different. In addition, the estimate is based on a summer concentration of fish rather than a spawning population, and varying levels of tag recovery effort.

The status review examined the available time series of these population estimates qualitatively and also looked for statistically significant trends in the data. A qualitative examination of the time series suggests abundance has been stable, except for a substantial increase in the 2001 abundance estimate. The 2001 abundance estimate was 8,421 fish which is approximately four times higher than any previous estimate. Estimates for the years prior to 2001 range from several hundred to approximately 2,000 fish (*see* Figure 11 and Table 2 in NMFS 2002). The data suggest an increasing trend in green sturgeon abundance, but the increase was not statistically significant even with the large increase in the 2001 estimate. Although the sample sizes are small, the average size of green sturgeon tagged as part of this population estimation program in San Pablo was generally stable and showed no apparent trend over time.

NMFS' BRT identified several potential threats or risk factors for the southern green sturgeon DPS (NMFS, 2002). These include: harvest bycatch concerns; the concentration of spawning in the Sacramento River and the apparent small population size; loss of spawning habitat, lack of adequate population abundance data; potentially lethal water temperatures for larval green sturgeon; entrainment by water projects in the central valley; and the adverse effects of toxic materials and exotic species. Although the BRT expressed concerns about these potential risk factors, there is considerable uncertainty regarding their significance or effects on the southern green sturgeon DPS.

Spawning in this DPS does appear to be concentrated in the upper Sacramento River at present. Since the

early 1990s it appears that green sturgeon have expanded into additional spawning habitat in the upper Sacramento above Hamilton City due to the re-operation of the RBDD (CDFG, 2002). There is uncertainty about the abundance of green sturgeon and the size of the spawning population in the Sacramento River. The CDFG population estimates for San Pablo Bay, which presumably include Sacramento River spawners, are in the range of hundreds to thousands of fish, but there are several problems with the estimates that make them difficult to interpret or rely upon. Similarly, there are no historical estimates of spawning population abundance available to make an assessment of the extent to which spawning populations have declined. The lack of population monitoring data is clearly problematic, but it is not a risk factor directly affecting the status of the DPS.

According to the CDFG, there is no evidence that green sturgeon historically spawned in the San Joaquin River and juveniles that have been found in the lower San Joaquin River are most likely from the spawning population in the Sacramento River (CDFG, 2002). It is uncertain whether green sturgeon ever spawned in the upper Sacramento River above Shasta Dam, but CDFG has speculated that they may have based on the apparent expansion of spawning above Hamilton City in the early 1990s when RBDD was re-operated (CDFG, 2002). The most likely loss of historical spawning habitat for green sturgeon in the central valley may be in the Feather River as a result dam construction and warm water releases (CDFG, 2002), but anecdotal evidence suggests that adult green sturgeon still occur there in high flow years, presumably for spawning. Based on this information, it is uncertain how much green sturgeon spawning habitat historically occurred in the central valley or how much has been lost, and whether or not lost spawning habitat is a significant risk factor for this DPS.

The state and Federal pumping facilities in the Sacramento-San Joaquin Delta export water from the Delta and in the process entrain many fish species including juvenile green sturgeon which are salvaged and returned to the Delta. Expanded estimates of salvage are made annually by CDFG and these data have been collected and compiled since 1968 at the state facility and since 1981 at the Federal facility. The status review qualitatively reviewed the expanded salvage data for the available time series to determine whether there were any trends. The data series indicates that salvage (an indicator of entrainment) has varied substantially over time, but was much higher prior to the mid-1980s. From the mid-1980s to present, salvage declined substantially at both facilities and has remained very low thereafter. Limited length-frequency data indicates that only juvenile green sturgeon were salvaged at the two facilities. Interpretation of these data is difficult since there have been problems with species identification (distinguishing white and green sturgeon) and the expanded salvage estimates are based on actual counts from brief sampling periods (CDFG 2002). Given the low level of entrainment and salvage that has occurred since the mid-1980s and the problems with interpreting the available data, it is uncertain to what extent water exports and the associated entrainment of green sturgeon is a risk factor for this DPS. In the case of white sturgeon, however, year class strength is related to freshwater flows in late winter and spring rather than Delta exports (CDFG 2002). If this is the case for green sturgeon, which is more marine oriented than white sturgeon, then Delta exports are not likely to be an important risk factor.

The introduction of exotic species in the San Francisco Bay estuary is an ongoing problem, but the most likely effect on green sturgeon is through changes in trophic interactions (CDFG, 2002). For example, the overbite clam, which first was observed in the Bay in 1988, is now the most common food item of white sturgeon and has been found in the diet of green sturgeon (CDFG, 2002). This species may be replacing other clam species in the diet of white and possibly green sturgeon, but it is not possible to assess the impacts of such changes at present. Assessing the impacts of such trophic changes and the extent to which they increase risks to green sturgeon in this DPS will require additional information on the comparative trophic benefits of these new prey and information on the extent to which they bioaccumulate contaminants.

There is no specific information available regarding contaminant loads or impacts on green sturgeon, although there is information on contaminant loads for white sturgeon (CDFG 2002). For example, there is evidence that white sturgeon may have contained high Polychlorinated Biphenyl (PCB) levels in the past (Kohlhorst, 1980), though more recent data show lower levels of contamination suggesting that earlier data may have been incorrect (CDFG, 2002). There is also evidence that white sturgeon in the estuary accumulate selenium, but tissue concentrations have varied over time without a trend and do not seem to be size related (White et al., 1989). Given the available information, it is uncertain to what extent green sturgeon are impacted by contaminants in this DPS. Based on the fact that white sturgeon spend more time in the estuary and green sturgeon are more marine oriented, CDFG suggests that green sturgeon are probably less vulnerable than white sturgeon to the effects of contaminant bioaccumulation in the San Francisco Bay estuary (CDFG, 2002).

Concerns were raised in the status review that summer temperatures in the Sacramento River were near the lethal limits for larval green sturgeon; however, there is no direct evidence that elevated temperatures are adversely affecting spawning and larval development. In the Sacramento River, green sturgeon are thought to spawn in the spring and summer primarily from Hamilton City to as far upstream as perhaps Keswick Dam (NMFS, 2002; CDFG, 2002). Re-operation of RBDD in the early 1990s to improve upstream passage for winter-run chinook is also thought to have provided a substantial increase in green sturgeon spawning habitat above the facility (CDFG, 2002). Spawning of green sturgeon in the upper Sacramento River above the RBDD is supported by the annual collection of juvenile green sturgeon in fish trapping operations at the RBDD (1995–2001) and the Glenn-Colusa Irrigation District (1986–2001) between the months of May and August (see Figures 13 and 14 in NMFS 2002). Since the early 1990s, significant efforts and measures have been implemented by the Bureau of Reclamation and NMFS to control water temperatures in the upper Sacramento River between the RBDD and Keswick dam in the late spring and early summer so that winter-run chinook salmon can successfully reproduce there. Under the current protocols, water temperatures upstream from RBDD are generally controlled by releases from Shasta and Keswick Dams so that they do not exceed 56 degrees Farenheit (or 13.3 degrees Centigrade) from mid April through the end of September. This period of temperature control appears to coincide with green sturgeon spawning, egg incubation, and larval development in the upper river, and therefore, the temperature control efforts for winter-run chinook are likely to benefit and protect green sturgeon as well. Temperatures cannot be controlled downstream of RBDD or in the Sacramento-San Joaquin Delta, so elevated temperatures could potentially

affect green sturgeon larval development in those areas.

Harvest impacts on green sturgeon in this DPS, at least from fisheries in California, are thought to be minimal. Commercial fishing for green sturgeon (and white sturgeon) has been prohibited in California since the early 1900s. Direct recreational harvest does occur, primarily in San Pablo Bay, but the total harvest is thought to be very small (CDFG 2002). In addition, green sturgeon are protected by slot limits, very restrictive take limits, and a seasonal closure in central San Francisco Bay during the herring spawning season (January through March). Based on tagging studies conducted by CDFG, green sturgeon tagged in San Pablo Bay undertake extensive ocean migrations and are recaptured in commercial and recreational fisheries in both Oregon and Washington (CDFG, 2002; NMFS, 2002). Although there are harvest bycatch data for green sturgeon in these fisheries, it is not possible with the available information to directly assess the impact on green sturgeon in the southern DPS. In order to assess direct harvest impacts on this DPS, information is needed on the actual number of fish taken in these fisheries that originate from the Sacramento River spawning population as well as good estimates of the size of the Sacramento River population. These data are not currently available. Although direct harvest impacts on this DPS from the fisheries in Oregon and Washington cannot be determined at this time, the available harvest information for these fisheries suggests that overall harvest and, therefore, harvest impacts to green sturgeon have declined steadily since the mid 1980s.

Conclusion: There is no evidence from the available San Pablo Bay population information that green sturgeon abundance in the southern DPS is declining. Nevertheless, NMFS' BRT was uncertain about the status of green sturgeon in this DPS because the method of deriving population estimates involves numerous assumptions and there are no direct measures of population abundance. For these reasons, the BRT believes it is essential that immediate efforts be undertaken to implement population monitoring for this DPS using methods that directly assess population status. There is a great deal of uncertainty regarding the effects of potential risk factors on green sturgeon in this DPS. While there is some information on harvest bycatch impacts, it appears most of the identified risk factors are not well documented or are only suspected to be risk factors. Examples of the latter include entrainment at the Delta water export facilities, impacts from exotic species introductions, impacts from contaminants, and lethal water temperatures. In the case of harvest bycatch for which there is the most information and perhaps the greatest concern, it is not possible to directly assess the impact of harvest on green sturgeon in this DPS. Nevertheless, direct harvest appears to be limited in California and harvest from fisheries in Oregon and Washington has declined substantially since the mid 1980s and even more so since the mid 1990s due to increasingly restrictive harvest management measures. These harvest reductions and associated restrictive management measures suggest that risk to green sturgeon from harvest bycatch has been reduced. Although the risk to green sturgeon from bycatch harvest may be declining, NMFS believes it may be prudent to consider additional harvest protections until population monitoring information can be obtained to assess the status of this DPS with greater certainty. Based on a review of the best available information, NMFS concludes that the southern green sturgeon DPS is not presently in danger of extinction nor is it likely to become so in the foreseeable future.

Determination

The ESA defines an endangered species as any species in danger of extinction throughout all or a significant portion of its range, and a threatened species as any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Section 4(b)(1) of the ESA requires that the listing determination be based solely on the best scientific and commercial data available, after conducting a review of the status of the species and after taking into account those efforts, if any, that are being made to protect such species.

After reviewing the best available scientific and commercial information for green sturgeon, NMFS concludes that the species is comprised of two DPSs that qualify as species under the ESA: (1) a northern coastal DPS consisting of populations in coastal watersheds northward of, and including, the Eel River, and (2) a southern DPS consisting of coastal or central valley populations south of the Eel River, with the only known population in the Sacramento River. Additional green sturgeon DPSs may be identified with further genetic analysis and the boundaries of these two DPS may also be modified. After assessing the risk of extinction faced by each DPS, NMFS further determines that neither the northern or southern green sturgeon DPSs warrant listing as threatened or endangered species at this time.

Because of uncertainties in the structure and status of the DPSs, NMFS will add both DPSs to the agency's list of candidate species. Additional information is expected to be collected over the next several years and NMFS intends to reevaluate the status of green sturgeon in five years provided sufficient new information becomes available indicating that a status review update is warranted.

References

A list of references is available upon request (see **ADDRESSES**).

Authority

The authority for this section is the ESA, as amended (16 U.S.C. *et seq.*).

Dated: January 23, 2003.

Rebecca Lent,

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

[FR Doc. 03–2034 Filed 1–28–03; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 660

[I.D. 011303A]

Western Pacific Fishery Management Council; Public Meetings

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

ACTION: Notice of public meetings/ public hearings.

SUMMARY: The Western Pacific Fishery Management Council will meet in February (see **SUPPLEMENTARY INFORMATION** for specific times, dates, and agenda items).

ADDRESSES: The Council meeting will be held at the Governor Pedro P. Tenorio Multipurpose Center, Office of the Governor, Susupe, P.O. Box 10007, Saipan, MP 96950; telephone: 670–664–1014.

FOR FURTHER INFORMATION CONTACT: Kitty M. Simonds, Executive Director; telephone: 808–522–8220.

SUPPLEMENTARY INFORMATION: