

Correction of Publication

Accordingly, the publication on July 25, 2002 (67 FR 48599) is corrected as follows:

On page 48599, in the heading, the docket number is corrected to NHTSA–2002–12391.

On page 48600, in the second sentence in the second paragraph of the **ADDRESS** section, the docket number is corrected to NHTSA–2002–12391.

On page 48600, in the second sentence of the first paragraph of the How Do I Prepare and Submit Comments? section, the docket number is corrected to NHTSA–2002–12391.

On page 48601, in item number 3. in the How Can I Read the Comments Submitted By Other People? section, the docket number is corrected to NHTSA–2002–12391.

Authority: 49 U.S.C. 30111, 30117, 30168; delegation of authority at 49 CFR 1.50 and 501.8.

Issued on: July 25, 2002.

Roger A. Saul,

Acting Associate Administrator for Safety Performance Standards.

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DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****RIN 1018–AI 11****Endangered and Threatened Wildlife and Plants; Listing the Beluga Sturgeon (*Huso huso*) as Endangered**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: In this proposed rule, we, the U.S. Fish and Wildlife Service (Service), propose to list the beluga sturgeon (*Huso huso*) as endangered pursuant to the Endangered Species Act of 1973, as amended (Act). The beluga sturgeon inhabits the Caspian and Black Seas, and spawns in the rivers that constitute the drainage basins of these seas. Loss of habitat throughout historic spawning areas due to dam construction and river-modification projects, over-harvest, widespread poaching and illegal trade, and pollution imperil the continued existence of this species. Due to the threat of over-harvest, this species was listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1998, when all previously unlisted Acipenseriformes were listed,

to conserve all sturgeon and paddlefish species in international trade. Despite the CITES listing, beluga sturgeon populations have continued to decline, and the population structure is increasingly skewed towards sub-adult fish, with a critical lack of spawning-age adult female fish. This proposal, if made final, would extend the Act's protection to this species. The Service seeks data and comments from the public on this proposal.

DATES: We must receive comments and information from all interested parties by October 29, 2002. Public hearing requests must be received by September 16, 2002.

ADDRESSES: Submit any comments, information, and questions by mail to the Chief, Division of Scientific Authority, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 750, Arlington, Virginia 22203, or by fax, 703–358–2276, or by e-mail, Scientificauthority@fws.gov. Comments and supporting information will be available for public inspection, by appointment, from 8 a.m. to 4 p.m. at the above address.

FOR FURTHER INFORMATION CONTACT: Marie Maltese at the above address, or by phone, 703–358–1708; fax, 703–358–2276; or e-mail, Scientificauthority@fws.gov.

SUPPLEMENTARY INFORMATION:**Background**

The beluga sturgeon (*Huso huso*, Linnaeus, 1758), is a member of the genus *Huso*, family Acipenseridae, order Acipenseriformes, class Osteichthyes, phylum Chordata, and kingdom Animalia (Pirogovskii *et al.*, 1989). The family Acipenseriformes encompasses all species of sturgeon and paddlefish, the caviar-producing fishes considered the most economically valuable fish in the world. Sturgeon have been prized for their roe and flesh since ancient times (Bacalbasa-Dobrovici, 1997). The historic range of the beluga sturgeon included the Caspian Sea, Black Sea, Adriatic Sea, Sea of Azov, and all rivers within their watersheds (Khodorevskaya *et al.*, 2000). Range countries include Azerbaijan, Bulgaria, Croatia, the Czech Republic, Georgia, Hungary, the Islamic Republic of Iran, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, Turkey, Turkmenistan, Ukraine, and Yugoslavia. The Adriatic Sea population is considered extirpated, and the last record of a wild-caught specimen in the Sea of Azov occurred during the mid-1980s (TRAFFIC/Europe, 1999).

Birstein (1997) notes that any remnant beluga sturgeon population found within the Sea of Azov is maintained solely through stocking with hatchery-reared fish. The current range of the beluga sturgeon is limited to the Caspian and Black Seas, where until the 1990s, an estimated 80–90 percent of the world's sturgeon harvest were harvested from the Caspian Sea and lower reaches of the Volga River (Khodorevskaya *et al.*, 2000). Records compiled during the 19th Century indicated that the Black Sea *H. huso* population over-wintered and spawned as far north as the Austrian and Bavarian portions of the Danube River.

Beluga sturgeon are extremely vulnerable to depletion due to their unique life-history characteristics. The species is remarkably long-lived and slow to mature. The oldest recorded harvested sturgeon was found to be 118 years of age (DeMeulenaer and Raymakers, 1996), and 100-year-old beluga sturgeon were commonly taken in the northern Caspian Sea during the early 20th Century (Khodorevskaya *et al.*, 2000). However, current estimates indicate that the oldest fish harvested are 50–55 years of age, with the average age less than 35 years old (Khodorevskaya *et al.*, 2000).

Reproductive maturity is reached between 11 and 17 years (Khodorevskaya *et al.*, 1997). Male beluga sturgeon generally spawn once every 4–7 years, whereas females reproduce once every 4–8 years (Raspopov, 1993). Fecundity in adult females increases with age; an individual fish generally produces a greater number of eggs during each subsequent spawning run. Adult females are capable of producing up to 12 percent of their body weight in roe (DeMeulenaer and Raymakers, 1996). Reproductively mature females are targeted in the fishery. Therefore, continuous removal of the older segment of the population has skewed the current population structure towards younger sub-adults, and removed egg-bearing individuals from the population during the life stage that ensures the survival of the species (Khodorevskaya *et al.*, 1997). Many female beluga sturgeon will never reach a size or age that yields peak egg production, and may have only spawned once prior to harvest. Moreover, increased poaching and by-catch indiscriminately harvest juvenile sturgeon, which represent a significant loss to future breeding populations.

The Caspian Sea Population

Khodorevskaya *et al.* (2000) noted that the number of beluga sturgeon in

the Caspian Sea was “considerably lower than those of other acipenserids.” In 1978, the total population was estimated at 12.1 million individuals, with a decrease to 8.9 million individuals by 1994. Data from a CITES-sponsored status survey conducted in 2001 yielded an estimate of 9.3 million individuals in the northern and central Caspian Sea (Moiseev, 2002). This figure was submitted to the CITES Secretariat by the Management Authority for Sturgeon of the Russian Federation. However, several U.S. fisheries scientists believe the current calculation of the northern and central Caspian Sea beluga sturgeon population may be an over-estimate, because of questions raised about the methodology and data interpretation employed in the survey report. Based on Soviet and Russian Federation fisheries reports, the absolute number of *H. huso* in the wild has decreased dramatically over the past 30 years and continues to decline at an alarming rate.

The population structure of beluga sturgeon in the Caspian Sea has also shifted over the past 30 years, adding to concerns regarding declines in abundance. The efficiency of natural spawning has decreased due to a smaller mean juvenile sturgeon size in the Volga River system (Khodorevskaya *et al.*, 1997), younger mean adult age (Khodorevskaya *et al.*, 2000), a shift in the predominant age of spawning fish from greater than 26 years to 11–17 years, and most notably, the overall lack of available spawning-age fish (Khodorevskaya *et al.*, 2000). During the early 1970s, an estimated 25,000 Caspian Sea beluga sturgeon migrated up the Volga River to spawn. However, by the early 1990s, this estimate had dropped to 7,000 spawning fish (Khodorevskaya *et al.*, 2000). Additionally, the relative percentage of older fish dropped from 16.9 percent during the period 1966–1970, to 3.7 percent during 1991–1995 (Khodorevskaya *et al.*, 2000).

Replacement and augmentation of beluga sturgeon populations with hatchery-produced fish has resulted in an *H. huso* population in the Volga River complex that is believed to consist of 96.3 percent hatchery-reared fish (Khodorevskaya *et al.*, 1997). At the present time, it is believed that the Caspian Sea population is no longer naturally reproducing (Birstein, 1997; Khodorevskaya *et al.*, 1997; Khodorevskaya *et al.*, 2000). Intensive hatchery production has been used as a method of supplementing and maintaining wild stocks since the mid-1950s (Birstein, 1997; Secor *et al.*, 2000). However, stocking programs for

Caspian Sea sturgeon decreased during the late 1980s, continued to decline during the upheaval resulting from the dissolution of the Soviet Union in 1991, and persists to the present time. The deterioration of sturgeon stocking programs is attributed to (a) differing priorities of former Soviet nations that are struggling to develop independent economies; (b) an aging hatchery infrastructure throughout the region, and (c) the inability to procure sufficient wild broodstock for beluga sturgeon culture and stocking programs. In 1995, the number of female beluga sturgeon taken in the Volga River delta was considered to be insufficient to support hatchery production efforts (Birstein *et al.*, 1997). This trend continues, as Russian fisheries officials recently observed that there were few, if any, large spawning-age females available to provide hatchery broodstock (TRAFFIC/Europe, 1999).

The World Conservation Union (IUCN) classifies the Caspian Sea *Huso huso* population as endangered (IUCN, 2000). Furthermore, this species is designated as one whose natural reproduction is limited and requires stocking of artificially bred juveniles to maintain the population. Although hatchery releases have helped to augment wild populations during the past 50 years, there is concern throughout the scientific community that stocking programs are only a short-term solution (Birstein, 1997). Artificial hatchery production is only one of many strategies required to protect and increase levels of natural reproduction of sturgeon stocks worldwide. The primary goal is to implement a comprehensive long-term inter-jurisdictional fisheries management plan that includes hatchery production and allocates a shared resource in a sustainable manner.

The Black Sea Population

Beluga sturgeon have been commercially harvested in the Black Sea for more than 2,000 years (Bacalbasa-Dobrovici, 1997b). By the mid-19th Century, harvest of beluga sturgeon declined rapidly, particularly in the Danube River watershed, the traditional spawning grounds for the Black Sea population. Only 16 individuals were taken from 1857 to 1957, in the middle and upper reaches of the Danube River (Hensel and Holcik, 1997). The Iron Gates I (Djerdap I) and Iron Gates II (Djerdap II) dams, constructed late in the 20th Century, blocked spawning migrations, which further reduced the remnant populations of the middle and upper Danube River (Hensel and Holcik, 1997).

By 1835, the beluga sturgeon population in the lower Danube River was also in decline. Commercial landings at the beginning of the 20th Century continued to decrease at a rapid rate. Harvest in the lower Danube River ebbed to 220 tons per year by the 1960s, and by 1994, the fishery was reduced to an average annual harvest of 12.7 tons (Bacalbasa-Dobrovici, 1997b). Beluga sturgeon are listed by IUCN as “extirpated” from the upper reaches of the Danube River, “critically endangered” in the middle reaches, and “vulnerable” in the lower Danube River (Hensel and Holcik, 1997; IUCN, 2000).

Summary of Factors Affecting the Beluga Sturgeon

Section 4(a)(1) of the Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (50 CFR part 424) set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to beluga sturgeon (*Huso huso*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailed of Beluga Sturgeon Habitat or Range

Current data suggest that beluga sturgeon populations are highly depleted and natural reproduction is limited to a small, highly compromised portion of the species' historic spawning habitat. Approximately 85 percent (Secor *et al.*, 2000) to 90 percent (Barannikova *et al.*, 1995) of all spawning grounds previously utilized by the Caspian Sea beluga sturgeon population have been destroyed or are no longer accessible for spawning runs because of dam construction and other river modifications. Messier (1998) noted that the surface area of the Caspian Sea is some 169,000 square miles, yet all sturgeon species that spawn in the Volga River utilize an area no larger than 1,000 acres (405 hectares) near the mouth of the river. Secor *et al.* (2000) observed that greater than 90 percent of the current Caspian Sea beluga sturgeon population is believed to be hatchery-reared progeny. Beluga sturgeon no longer spawn in Azerbaijan, and spawning is limited in the Russian Federation, Turkey, the Ukraine, and several rivers in Iran (DeMeulenaer and Raymakers, 1996).

Dams, river channelization, and other man-made changes to flow regimes significantly reduced the amount of available spawning habitat throughout

sturgeon range countries. The Volga, Ural, Kura, Terek, and Sulak Rivers are all segments of the species' former historic spawning range. Today, the Ural River is the only river system within the Caspian Sea region that is not dammed and continues to allow adequate passage to historic spawning areas (Khodorevskaya *et al.*, 1997). Recent information suggests that poaching may have destroyed the Ural River beluga sturgeon spawning stock (DeMeulenaer and Raymakers, 1996).

During the 1950s, all remaining northern and western Caspian Sea tributaries were dammed for hydroelectric power generation (DeMeulenaer and Raymakers, 1996). It is believed that the Volga River may sustain 6,000–8,000 beluga sturgeon of spawning age. Of this figure, approximately 2,000 are believed to be mature females (Khodorevskaya *et al.*, 1997). However, construction of the Volgograd Dam from 1958 to 1960 reduced traditional spawning grounds by 88 percent (Levin, 1995). An estimated 208,000 hectares in additional river systems throughout the Russian Federation have been lost as potential spawning grounds for beluga sturgeon due to river modifications. The spawning grounds of the Don and Kuban Rivers in the Russian Federation are no longer accessible to spawning sturgeon. The Terek and Sulak Rivers, and the Sea of Azov are likewise compromised by pollution and damming. These areas can no longer sustain spawning runs of beluga sturgeon (Khodorevskaya *et al.*, 1997).

In Iran, the Mangil Dam on the Sefidrud River is another barrier to traditional spawning runs. Additionally, Hensel and Holcik (1997) suggested that the Sefidrud River sturgeon spawning migration is also unproductive because traditional spawning areas have been destroyed by heavy industrial pollution and water extraction.

Approximately 85 percent of the Black Sea's Danube River delta has been diked, producing over 300 reservoirs throughout the river basin. Substantial losses of sturgeon spawning habitat in the area have been attributed to dam and reservoir construction, other man-made river modifications, and increased sand and gravel dredging (Bacalbasa-Dobrovici, 1997b). Beluga sturgeon were once abundant in the Danube River. Harvest rates during the mid-1970s averaged 23 metric tons annually. However, after the construction of the Djerdap Dams I and II during the mid-1980s, harvest rates continued to drop (Hensel and Holcik, 1997). By 1994, annual estimates of beluga sturgeon harvest declined to 12.7 tons, indicative

of the dams' effect on spawning sturgeon populations (Bacalbasa-Dobrovici, 1997b). The *H. huso* population in the lower reaches of the Danube River is considered non-self-sustaining by international fisheries scientists. In the late 1980s, Turkish authorities located only five or six mature females in the Coruh River, and an additional 20 mature females in the Kizikirnak River during a quest to collect broodfish for hatchery programs (Edwards and Doroshov, 1989).

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Overutilization is the most significant factor in the rapid decline of the beluga sturgeon. The expansion of legal sturgeon fisheries in former Soviet range nations after the dissolution of the Soviet Union, and consequent disregard of the former Soviet moratorium on harvest of open sea sturgeons (Secor *et al.*, 2000) have resulted in intensified fishing effort and over-exploitation that have further reduced populations already in decline for decades. The effects of legal harvest are further compounded by the ever-increasing illegal harvest of the species. DeMeulenaer and Raymakers (1996) estimated the illegal harvest at 6–10 times larger than the legal market, although more recent assessments put that estimate at 11 times greater than the legal market (Volkov, 2001). Illegal harvest and trade rapidly escalated during the 1990s, and continue as the price of beluga sturgeon caviar rapidly spirals upward.

The international demand for caviar is the primary factor driving over-exploitation of the beluga sturgeon. In 1995, the retail price for one pound of beluga caviar in the United States was \$1,000.00 (DeMeulenaer and Raymakers, 1996); today beluga caviar sells for \$1,500.00 per pound on the U.S. retail market (Petrossian, 2002).

Sturgeon are killed to collect their roe, thereby removing spawning-age adults from the population prior to spawning. In this fishery, male fish are also killed because the sexes are morphometrically similar and it is nearly impossible to visually distinguish a male from a female sturgeon. Furthermore, harvesting the younger segment of a population removes fish that may have spawned only once, if at all. Therefore, these fish never reach the age of maximum egg production, when an individual's contribution to the survival of the species is greatest.

The caviar market is highly lucrative and involves a product that is readily poached, in great demand, generates

maximum prices, and is packaged in small containers that are relatively easy to smuggle. Although the caviar trade has been a highly profitable economic staple in the region for centuries, it was formerly conducted under a strictly controlled monopoly in Tsarist Russia and the Soviet Union. The sturgeon fishery was closely monitored, substantially restricted, and highly regulated. Program highlights included specific harvest regulations, a moratorium on open-sea harvest, and a stocking program that has been in effect continually from the late 1950s, albeit in much-reduced circumstances since the late 1980s (Secor *et al.*, 2000).

The northern Caspian Sea sturgeon fishery declined rapidly after the dissolution of the Soviet Union in 1991. The loss of centralized control resulted in resumption of open-sea sturgeon fisheries, rapidly escalating illegal harvest, a lack of effective enforcement measures, and reduced availability of wild broodstock, which sharply curtails hatchery production and re-stocking programs.

During the 1950s, sturgeon harvest effort was reduced due to technological advancements ascribed to the use of plastic nets in the fishery. However, this improvement for fishers proved disastrous for sturgeon because the new nets profoundly increased the number of juvenile sturgeon taken incidentally to targeted harvest of other Caspian Sea species. In 1957, 1.8 million juvenile sturgeon, of a total 2.6 million sturgeon harvested in the Caspian Sea, were taken as by-catch. By-catch of pre-spawning-age sturgeon increased to an estimated 2–3 million fish by 1959–1961 (Khodorevskaya *et al.*, 1997). In 1967, the Soviet Union instituted a ban in the Caspian Sea on open-sea harvest of all anadromous fish species, to eliminate by-catch mortality of juvenile sturgeon (Secor *et al.*, 2000). However, with the loss of the Soviet state sturgeon monopoly, by-catch of juvenile and adult beluga sturgeon is once again common in open-sea Caspian Sea fisheries, particularly the anchovy fishery (TRAFFIC/Europe, 1999). The effect of by-catch on beluga sturgeon populations has not been recently quantified. However, the resumption of open-sea fisheries harvest in the Caspian Sea increases the risk of injury and mortality to all juvenile and adult sturgeon, adding to the decline in populations, potential changes to already skewed population structures, and a significant impact on future stock recruitment.

In 1970, the Caspian Sea beluga sturgeon harvest was estimated at 2,800 tons, but by 1994, less than 300 tons

were legally taken (Khodorevskaya *et al.*, 1997). The most recent estimates of yield, based on 1970s fishery data, indicate that 7 kg of caviar are retrieved for every 100 kg of total harvest (males and females; Doroshov and Binkowski, 1985, cited in Williot and Bourguignon, 1991). Excepting Iran, the countries that participate in the Caspian Sea sturgeon fishery are still developing an effective regional sturgeon management program.

C. Disease or Predation

Disease and reproductive abnormalities associated with pollution have been observed in beluga sturgeon throughout their range. The World Bank estimates that one million cubic meters of untreated industrial wastewater are discharged annually into the Caspian Sea (U.S. Dept. of Energy, 2000). Contamination byproducts from fossil fuel exploration, production, and refining, untreated sewage, agricultural runoff, and other industrial effluents exacerbate the problem. These toxins have been associated with reproductive abnormalities, tumors, and large fish kills in the Caspian Sea (U.S. Dept. of Energy, 2000).

Large-scale muscle degeneration has also been observed in all sturgeon species inhabiting the Caspian Sea. It has been suggested that muscular atrophy is caused by toxicosis resulting from increasing pollution levels throughout the region. Bio-accumulation of heavy metals and toxins associated with pesticides in the muscle and organ tissue of this long-lived species is of grave concern. Likewise, bio-accumulation of hazardous wastes may be having an effect on the reproductive health of the species. Sampling conducted during 1990 yielded abnormalities in 100% of the sturgeon eggs collected in the Volga River (all species were sampled), and even more alarming, 100% of the embryos studied were non-viable (Khodorevskaya *et al.*, 1997). Hatchery-reared sturgeon are not immune to disease problems. Anecdotal information indicates that many of the stocked hatchery-reared fish are blind, due to an eye parasite (R. St. Pierre, personal communication).

The ctenophore, American comb jellyfish (*Mnemiopsis leidyi*), was introduced into the Black Sea in 1982, from dumping of ship ballast water. Given that there are no known Black Sea predators of the comb jellyfish, its growth has been explosive. Within 7 years, the biomass of *M. leidyi* in the Black Sea had grown to 800 million metric tons (Bacalbasa-Dobrovici, N., 1997a). Comb jellyfish feed on prey that are utilized by small marine fishes,

such as anchovies, and include zooplankton, pelagic fish eggs, embryos, and larvae. These fish are in turn preyed upon by the piscivorous beluga sturgeon. To characterize this concern, the feeding habits of the comb jellyfish resulted in the complete collapse of the Sea of Azov anchovy fishery in 1989. The changes in invertebrate distribution and faunal structure caused by *M. leidyi* has had a profound influence on Black Sea sturgeon populations by altering their prey base (Kovalev *et al.*, 1994, as cited in Bacalbasa-Dobrovici, 1997a).

D. The Inadequacy of Existing Regulatory Mechanisms

Currently, harvest of beluga sturgeon is prohibited in Moldova and the Ukraine. It remains a commercially harvested species in all other range countries. *Huso huso* was listed in the Red Data Book of the Ukraine in 1992, so there has been no commercial harvest in the Ukraine since that time. Most range states require a commercial fishing license, although Azerbaijan did not establish this requirement until 2000. Annual catch quotas are set by Azerbaijan, Bulgaria, the Czech Republic, Iran, Kazakhstan, Romania, the Russian Federation, and Yugoslavia. Iran and Turkmenistan prohibit all private sturgeon fisheries; the fishery is a state-controlled monopoly in these countries. In 1996, the Caspian Sea range countries signed an agreement that would prohibit open-sea fishing, thereby protecting immature sturgeon stocks. However, the agreement has been difficult to enforce and large-scale organized poaching continues.

Despite the quotas, the agreement banning open-sea fishing, and other conservation measures taken by range countries, the sturgeon fishery continues to be exploited by each range country without adequate fishery management programs that would utilize the fishery as a shared resource. We hope that the regional management program that is currently being prepared for submission to the CITES Secretariat in June 2002 will address the importance of inter-jurisdictional management of all sturgeon species, including beluga sturgeon. Khodorevskaya (2000) and TRAFFIC Europe-Russia (1999) noted that many scientists and regulators believe that the failure of regulatory oversight in the Caspian Sea region is an important factor contributing to the rapid decline of beluga sturgeon populations.

Although Iran continues to implement a successful annual stocking program, as well as strict management and enforcement measures to conserve beluga sturgeon, the remaining

harvesting nations of the Caspian Sea have yet to implement effective inter-jurisdictional sturgeon management programs. Many stocking programs initiated during the 1950s to replenish sturgeon stocks have been seriously curtailed due to the lack of state support, plant closures, an aging hatchery infrastructure with inadequate funding for maintenance, and severely reduced production (Birstein *et al.*, 1997; Secor *et al.*, 2000). Compounding the deterioration of formerly successful hatchery and re-introduction programs in the northern and central Caspian Sea area, there is an absence of available wild mature broodstock to augment wild populations and improve the genetic variability of those fish currently held in hatcheries for culture purposes (Birstein *et al.*, 1997; Secor *et al.*, 2000).

Beluga sturgeon was first listed as endangered by the IUCN in 1996 (IUCN, 2000). In an assessment by TRAFFIC (1999), the state of all Russian sturgeon populations was considered "catastrophic." International conservation measures were taken in 1998 to address escalating concerns regarding the status of Caspian Sea sturgeon. At that time, all previously unlisted Acipenseriformes species were included in Appendix II of CITES. An Appendix-II listing requires that all specimens of listed species, including parts and products, must be accompanied by an export permit issued by a designated Management Authority in the country of origin. An export permit may only be issued after two findings are made: the Management Authority must find that the specimen(s) were legally acquired, and the designated Scientific Authority must determine that allowing the export will not be detrimental to the survival of the species.

In 2001, the results of the CITES "Review of Significant Trade" (Resolution Conf. 8.9 (Rev.)) prompted the CITES Standing Committee to recommend, with the full agreement of the Caspian Sea nations, a plan of action to ensure control over the trade in sturgeon products, improve law enforcement efforts, and facilitate the development of regional cooperative management plans for all Caspian Sea sturgeon species. These recommendations also included a 90 percent reduction of the 2001 sturgeon harvest quotas, and closure of the fall 2001 harvest season. In June 2001, the CITES "Paris Agreement," developed at the 45th meeting of the CITES Standing Committee, required the Russian Federation, Azerbaijan, and Kazakhstan to develop a regional management and monitoring plan for beluga and other

sturgeon species at risk. Turkmenistan, although not a signatory to CITES at that time, planned to assist in the development of this inter-jurisdictional management program. The Paris Agreement requires submission of the draft management plan to CITES authorities no later than June 30, 2002. The details of the plan's provisions to reduce or halt stock declines, decrease poaching levels, curb illegal trade, and rebuild spawning populations are unknown at this time. Finally, the Caspian Sea nations were directed to conduct a comprehensive survey of Caspian Sea sturgeon populations before December 31, 2001. Preliminary reports indicate that only 28 beluga sturgeon were located during the survey, and over 75 percent of those specimens were immature fish. The final report, including an analysis of data from the completed survey, contains sturgeon population abundance estimates and has been posted on the web site of the CITES Secretariat.

Earlier this year, the Management Authority for Sturgeon of the Russian Federation, representing the four former Soviet range states (Azerbaijan, Kazakhstan, Russian Federation, and Turkmenistan), submitted a document to the CITES Secretariat entitled: "Total allowable catch (TAC) estimation for sturgeon species in the Caspian Sea." This document discussed the methodology used to derive total allowable catch (TAC) limits for the Caspian Sea sturgeon fishing stock, and supports the nations' declaration of Caspian Sea sturgeon harvest quotas established for the 2002 fishing season. The TAC report was based on the results of sampling conducted in the northern and central Caspian Sea from August 9 through September 25, 2001. Sampling was undertaken as the result of a three-stage, 12-month plan of action that was produced during the 45th meeting of the CITES Standing Committee. This plan was developed to assist the Caspian Sea nations in the creation of a science-based management system for the long-term conservation and sustainable use of sturgeon (CITES Secretariat, 2001). The goal of the survey was to estimate the abundance of each sturgeon species, the number of reproductively mature individuals of each species, and the potential size of the entire sturgeon spawning stock by species (Moiseev, 2002). However, after review of the TAC report, several U.S. fisheries experts (P. Bettoli Ph.D., Professor of Biology, Certified Fisheries Scientist, and Assistant Unit Leader, Tennessee Cooperative Fishery Research Unit of the U.S. Geological Survey-Biological

Resources Division; M. Parsley, Research Fishery Biologist, Columbia River Research Laboratory, U.S. Geological Survey Western Fisheries Research Center; R. St. Pierre, Fishery Management Biologist, U.S. Fish and Wildlife Service, who serves on the Sturgeon Specialists Group (SSG) of The World Conservation Union (IUCN); D. Secor, Ph.D., Associate Professor, Chesapeake Biological Laboratory; personal communications) found the document to be lacking important data necessary in the formation of fishery stock estimations.

These data include sampling effort, spatial and temporal distribution of sampling effort, number of fish taken per trawl in each specified area, and size and age distribution of sturgeon taken. Several reviewers questioned the derivation of the value of the fishing efficiency co-efficient of 0.04 that was used for beluga sturgeon. This information is an important construct used to estimate stock abundance and total allowable catch. Calculations based on an incorrect fishing efficiency coefficient have a large impact on the total stock estimate (Bettoli, personal communication). Each reviewer noted that, although we are given the total size of the area sampled, and the approximate area sampled by the trawls, the TAC report does not list the total number of sampling trawls made, an important variable used to calculate fishing effort, and consequently, to determine population size. Furthermore, although the number of sturgeon captured was tabulated in the report, it is impossible to interpret these data without information about the size or age of the individuals. The total number of trawl samples that failed to capture beluga sturgeon was unavailable, as well as any indication that might explain the way in which data were utilized when calculating N , the population size.

A basic assumption used in calculating abundance is that fish are not evenly distributed across all habitats in large water bodies. It is highly likely that, of the numerous sample trawls made during the survey, many did not contain beluga sturgeon. Catch variation was probably great, because some hauls may have comprised several or even many fish, whereas others were empty. One reviewer noted that the N statistic should have been calculated considering the range in variance; he observed that the actual population estimate for Caspian Sea beluga sturgeon is very likely much lower than the 9.3 million fish presented (R. St. Pierre, personal communication). Another reviewer independently confirmed the problem of determining N

without accounting for trawls that failed to capture fish. He noted that a considerable number of tows must have failed to capture sturgeons. Excluding these tows from the data analysis would result in a "gross over-estimation of N ." Consequently, an erroneous calculation of N renders all other calculations incorrect if they are based on N (M. Parsley, personal communication). Furthermore, another variable, the distribution area (S), was not clearly defined. Although the report listed several different estimates of area, it was unclear which was used as S . It is impossible to confirm the estimate of N without a clear definition of S , which ultimately leads to the estimate of TAC.

The methodology used to determine a TAC of 9–17 percent of the stock was also of concern, since the TAC report disclosed the quotas for the 2002 harvest season, but did not adequately explain how TAC was derived. The natural mortality rate of the stock was used as a biological reference point (BRP) for determining abundance; however, this estimate likely may be inflated. The TAC report assumed a natural mortality rate of 13–14 percent for beluga sturgeon, but Bettoli noted that a species with a maximum lifespan of 50–70 years would normally be expected to have a natural mortality rate closer to 6–8 percent. Using an incorrect natural mortality rate could also lead to additional faulty conclusions. Bettoli also noted that natural mortality should not be used as a BRP, because it cannot be manipulated.

The TAC report included no discussion of the methodology used to calculate gear efficiency, an important consideration when estimating abundance. A lower gear efficiency for the 9-meter trawl for beluga, compared to that for other species, suggests that the trawl was selective for sturgeon size. Beluga sturgeon are much larger in size and weight than the other species sampled; a 9-meter trawl would probably sample only smaller, non-reproductive-age sturgeon. Gear efficiency is a meaningful variable, considering that an average gear efficiency for beluga sturgeon would probably, as noted above, over-estimate abundance for small juveniles, as this size range would be captured most frequently. An average gear efficiency would also capture few, if any, reproductive-age beluga sturgeon, thereby under-estimating abundance for this segment of the population. Secor noted that the trawl survey should be used only as a method to determine abundance of juvenile and sub-adult beluga sturgeon. If this sampling method were used for adult beluga

sturgeon, the results would likely be distorted.

Beluga sturgeon are known for skewed and variable size and age distributions. Population structure analyses indicate that the juvenile proportion of the species is the largest proportion of the stock, and it is commonly held that hatchery stocking maintains this segment of the population. Therefore, many scientists believe that, without continued stocking with hatchery-reared progeny, the species might conceivably be extirpated throughout its range. However, the assumption that Caspian Sea beluga sturgeon populations are maintained solely through hatchery contributions has not been satisfactorily verified. A wealth of fisheries data has been collected over the decades for the Volga, Danube, and Ural River systems. However, there is a need to assess the potential contributions to the stock from populations living within the smaller tributaries of the Caspian and Black Seas. At the present time, this data is limited, and it is crucial that studies of these populations are developed and funded. This data is vital for management purposes, as well as plans for future stock enhancement. These population studies must be conducted to prevent the possibility of losing entire, and at this time relatively unknown, population segments that may have a larger impact on overall stocks than previously suspected.

Harvest of beluga sturgeon in the currently permitted open-sea fishery of the northern and central Caspian Sea, rather than abiding by the former laws limiting harvest to the tributaries, raises the concern of impacts to mixed-stock populations that occupy these open waters. If this fishery is allowed to continue, it could lead to extirpation of local stocks, as it is impossible to determine from which specific population individual fish are harvested. Additionally, harvest could disproportionately affect a population that is already vulnerable to over-exploitation (D. Secor, personal communication).

One of the most serious concerns, noted by all of the reviewers, was the absence of uncertainty, or estimate variance, that should have been built into the data analysis presented in the TAC report. The reviewers also noted that the quotas allocated for 2002, particularly the quota for beluga sturgeon, are probably too liberal.

The current minimum-size limits for all Russian sturgeons does not effectively protect the most vulnerable life-stage, mature females, and it is unclear how these limits were derived.

The minimum-size limit for beluga sturgeon is less than the average size of a mature adult fish. This permits take of sub-adult fish that have not previously spawned, and renders the species particularly vulnerable to recruitment over-fishing. Beluga sturgeon are the most sensitive of all the Caspian Sea sturgeon species to over-exploitation, due to late maturation and infrequent spawning.

The reviewers commended the Russian Federation for their hatchery and stocking programs for beluga sturgeon. However, they were concerned about the efficacy of stocking due to the lack of assessment and monitoring of the program. The number of fish stocked per unit area is modest, and values such as the yield-to-fishery coefficient (percent survival), which might yield a greater understanding of the results of the program, were not included in the TAC report. Hatchery fish are not tagged, and there is no evidence of mark-recapture studies to validate the effort.

Finally, the reviewers were unable to re-create the estimates of TAC based on the limited information and methodology provided (M. Parsley and P. Bettoli, personal communication). Moreover, there was concern that the TAC report failed to factor in estimates of illegal harvest and its impacts on population abundance and structure. The approach used in preparing the TAC report appeared to be lacking in requisite data, and many assumptions were made without providing supporting data that would allow others to independently verify the methods used to construct these assumptions. The omission of variance statistics was of special concern to the reviewers; the lack of these statistics is one of the many indications that the monitoring program should currently be characterized as experimental and in need of further verification and modification before it can be considered a fully effective assessment tool. Continuing to utilize the approach used to estimate TAC, as detailed in this report, would not provide for sustainable future harvest unless factors that influence catch per unit effort (CPUE), such as increasing fishing efficiency, are considered. This approach could conceivably result in collapse of the fishery (M. Parsley, personal communication).

The illegal trade in beluga sturgeon is conducted outside the confines of CITES regulations. As noted previously, it is believed to be 6–10 times that of the legal trade (DeMeulenaer and Raymakers, 1996). The use of falsified documents, caviar mislabeling, mixing

of species in processed and packaged caviar, and export from countries that are not beluga sturgeon range countries is widespread. Smuggling is relatively easy, because caviar is packaged in small, lightweight containers, and large amounts can be easily transported.

Poaching and smuggling have been intensively reported in the media of range nations and importing countries (Evtouchenko, 1997; McDonald, 2000; Snyder, 2000). Confiscations have occurred regularly in the United States. In the Black Sea region, Turkey and Georgia are among the countries that report illegal harvest in their waters. In short, there exists a lack of sufficient enforcement capability and ensuing penalties for wildlife crimes.

E. Other Natural or Man-Made Factors Affecting the Continued Existence of Beluga Sturgeon

Cyclic changes in sea level within the Caspian Sea have been common throughout geologic time (Ivanov, 2000). A drop in sea level from 1970 through 1977 adversely affected sturgeon populations due to changes in biochemical regimes and the subsequent changes in faunal communities (Ivanov, 2000; DeMeulenaer and Raymakers, 1996). Although a rise in water level between 1978 and 1989 may have had a positive effect on other sturgeon species, the average weight of beluga sturgeon continued to decrease from 110 kg in 1970, to 57 kg in 1991 (Khodorevskaya *et al.*, 1997).

Genetic alteration and hybridization of sturgeon stocks is also a serious concern. It is postulated that the Volga-Don Canal, linking the Black Sea and the Caspian Sea, allowed for an “avalanche” of genetic alteration and hybridization between these sturgeon populations (DeMeulenaer and Raymakers, 1996). Although hybridization occurs naturally when artificial connections are made between previously isolated water bodies, the rapidity with which hybridization occurs is accelerated. This process can impact the homogeneity of populations and further hamper recovery efforts.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by beluga sturgeon in determining to propose this rule. Based on this evaluation, the preferred action is to list *Huso huso* as endangered. If no action were to be taken, import of beluga caviar into the United States (the third-largest beluga caviar importing nation in the world) would continue. As a result, fishing effort would increase to meet market demand, and absolute numbers of

available adult female fish would continue to decline. The scarcity, popularity, and demand for beluga sturgeon caviar is driving a market that cannot be satisfied by current supply, and prices during the last decade have escalated ten-fold to reflect the demand. Presently, a pound of beluga sturgeon caviar retails for about \$1,500.00. The significant profit margin resulting from this scarce commodity further fuels the trade. Illegal harvest and trade is particularly attractive to fishermen in developing former Soviet nations that can make hundreds of dollars per fish and traders that realize much larger profits. It is quite likely that continued trade will increase the rapidity of beluga sturgeon stock declines. Current hypotheses indicate that natural reproduction can no longer sustain wild beluga sturgeon populations. Indeed, some scientists suggest that wild stocks are now sustained only through inadequate hatchery production and stocking programs. It is quite possible that we are rapidly approaching the critical point where the species will no longer be recoverable.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and encourages and results in conservation actions by Federal and State governments, private agencies and groups, and individuals.

Section 7(a) of the Act, as amended, and as implemented by regulations at 50 CFR part 402, requires Federal agencies to evaluate their actions within the United States or on the high seas with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is being designated. However, given that beluga sturgeon are not native to the United States, no critical habitat is being proposed for designation with this proposed rule.

With respect to the beluga sturgeon, no Federal activities, other than the issuance of CITES import and export permits, are currently required. Because the beluga sturgeon is listed in Appendix II of CITES, a finding of non-detriment must be issued by the Service's Division of Scientific Authority (DSA), and the Service's Division of Management Authority (DMA) must make a legal acquisition finding, before a CITES export permit can be issued for beluga sturgeon.

However, listing of beluga sturgeon as endangered under the Act would require the issuance of Endangered Species Act import and export permits by DMA, and consequently a consultation with DSA prior to the issuance of the permit.

The Act and implementing regulations set forth a series of general prohibitions and exceptions that generally apply to all endangered wildlife. The prohibitions, codified at 50 CFR 17.21, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), within U.S. territory or on the high seas, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to employees or agents of the Service, and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR part 17.22 and 17.23. Such permits are available for scientific research purposes, to enhance the propagation or survival of the species, and/or for incidental take in the course of otherwise lawful activities.

Requests for copies of the regulations regarding listed wildlife and inquiries about prohibitions and permits may be addressed to: Division of Scientific Authority, 4401 North Fairfax Drive, Room 750, Arlington, Virginia 22203, (telephone: (703) 358-1708; facsimile: (703) 358-2276).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Commenters may request that we

withhold their home address, which we will honor to the extent allowable by law. In some circumstances, we may also withhold a commenter's identity, as allowable by law. If you wish us to withhold your name or address, you must state this request prominently at the beginning of your comment. However, we will not consider anonymous comments. To the extent consistent with applicable law, we will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public comment in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

Final promulgation of the regulation(s) on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days of the date of the publication of the proposal in the **Federal Register**. Such requests must be made in writing and be addressed to: Chief, Division of Scientific Authority, 4401 North Fairfax Drive, Room 750, Arlington, Virginia 22203.

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we will seek expert opinions of at least three appropriate independent specialists regarding this proposed rule. The purpose of such review is to ensure listing decisions are based on scientifically sound data, assumptions, and analysis. We will send copies of this proposed rule immediately following publication in the **Federal Register** to these peer reviewers.

National Environmental Policy Act

We have determined that Environmental Assessments and Environmental Impact Statements, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended.

This rule contains no information collection requirements. An agency may not conduct or sponsor, and a person is not required to respond to a collection

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Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*		*
FISHES							

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
* Sturgeon, beluga	* <i>Huso huso</i>	* Azerbaijan, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Islamic Republic of Iran, Kazakhstan, Republic of Moldova, Romania, Russian Federation, Turkey, Turkmenistan, Ukraine, Yugoslavia (Caspian Sea, Black Sea, Adriatic Sea, Sea of Azov and all rivers in their watersheds).	* Entire	* E	*	NA	* NA

Dated: July 9, 2002.

Marshall P. Jones, Jr.,

Acting, Director, Fish and Wildlife Service.

[FR Doc. 02-19250 Filed 7-30-02; 8:45 am]

BILLING CODE 4310-55-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 622

[I.D. 071602C]

Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico; Secretarial Amendment 2; Public Hearings

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

ACTION: Notice of public hearings; request for comments.

SUMMARY: The Gulf of Mexico Fishery Management Council (Council) will convene public hearings to receive comments on the Council's proposed Secretarial Amendment 2 to the Reef Fish Fishery Management Plan (Secretarial Amendment 2) to set greater amberjack Sustainable Fisheries Act (SFA) targets and thresholds and to set a rebuilding plan.

DATES: The public hearings will be held in August. See **SUPPLEMENTARY INFORMATION** for specific dates and times.

ADDRESSES: Written comments should be sent to and copies of the scoping document are available from the Gulf of Mexico Fishery Management Council, 3018 U.S. Highway 301, North, Suite 1000, Tampa, FL 33619, telephone: (813) 228-2815.

FOR FURTHER INFORMATION CONTACT: Mr. Peter Hood, Fishery Biologist, Gulf of Mexico Fishery Management Council; telephone: (813) 228-2815.

SUPPLEMENTARY INFORMATION: The public hearings will be convened on Secretarial Amendment 2 to set greater amberjack SFA targets and thresholds and to set a rebuilding plan. The greater amberjack resource in the Gulf of Mexico was declared overfished by NMFS on February 9, 2001, and was based on the 2000 greater amberjack stock assessment. The results of several analyses indicated that the stock biomass was below the level needed to sustain harvest at maximum sustainable yield (MSY), with the best estimate indicating that the stock biomass was at less than half the biomass needed to sustain MSY, below the minimum level allowed under the 1998 NMFS National Standard Guidelines. However, NMFS concluded that overfishing is not currently occurring due to the recent implementation of management measures that were not reflected in the stock assessment. These measures included: (1) a reduction in the greater amberjack recreational bag limit from 3 to 1 fish (implemented 1997); (2) a commercial closed season during March, April and May (implemented 1998); and (3) partial protection of misidentified juvenile greater amberjack by establishment of a slot limit on lesser amberjack/banded rudderfish of 14 and

22 inches (35.6 and 55.9 cm) fork length plus an aggregate 5-fish recreational bag limit. As a result of this finding, additional measures to end overfishing are not needed, but a plan to rebuild the stock is needed.

Because NMFS has declared the stock overfished, the Council is required to rebuild the stock to a level where it is no longer considered overfished. Before a plan can be put into effect, management targets and thresholds that the stock needs to achieve must be defined. These are: definitions for MSY, optimum yield (OY), the minimum stock size threshold (MSST) below which a stock is considered to be overfished, the maximum fishing mortality threshold (MFMT) above which a stock is considered to be undergoing overfishing. The proposed amendment also provides alternative rebuilding plans that will rebuild the stock within 10 years or less and are based on various rebuilding strategies.

The public hearings will be held from 7 p.m. to 10 p.m. at the following locations and dates.

1. *Tuesday, August 6, 2002:* Texas A&M University, CLB Building Room 114, 200 Seawolf Parkway, Galveston, TX; telephone: 409-740-4736; and

2. *Wednesday, August 7, 2002:* City Hall Auditorium, 300 Municipal Drive, Madeira Beach, FL; telephone: 727-391-9951.

Special Accommodations

These meetings are physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Anne Alford at the Council (see **ADDRESSES**) by July 30, 2002.