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Chief, Branch of Delisting and Foreign Species
U.S. Fish and Wildlife Service
MS: PRB/3W
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Re: Comment on the U.S. Fish and Wildlife Service's Proposed Rule to List Russian, Persian, Ship, and Stellate Sturgeon as Endangered Species, Docket No. FWS-HQ-ES-2021-0073

Dear Ms. Maclin:

On behalf of the Sturgeon Industry Alliance of America ("SIAA"), we submit this comment in response to the U.S. Fish and Wildlife Service's ("FWS" or the "Service") proposal to list four foreign sturgeon species as endangered under the Endangered Species Act ("ESA").¹ The sturgeon species at issue are Russian sturgeon (*Acipenser gueldenstaedtii*), ship sturgeon (*A. nudipectus*), Persian sturgeon (*A. persicus*), and stellate sturgeon (*A. stellatus*) (together, "Ponto-Caspian Sturgeon" or the "Species").

FWS proposes to list the Ponto-Caspian Sturgeon in order to conserve and protect the Species. Yet paradoxically, the proposed listing would have precisely the opposite effect, because it would destroy or reduce the farmed-caviar populations that make up the vast majority of the Ponto-Sturgeon alive today. If the proposed listing does not appropriately account for this reality, it would reduce the global population of the Ponto-Caspian Sturgeon, fuel black-market harvests of wild sturgeon, and harm the very species that FWS seeks to protect.

Commercial caviar farming provides critical support for the Species. In 2001, the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES") issued stringent regulations barring wild sturgeon products from international trade. Today, as a result, virtually all caviar on the market is harvested from farmed sturgeon.² Because these sturgeon farms are self-sustaining and use little or no wild broodstock, the caviar industry has done nothing to contribute to the decline of Ponto-Caspian Sturgeon populations in the wild. To the contrary, wild Ponto-Caspian sturgeon populations have been buoyed—and, in some locations, entirely saved—thanks to breeding and restocking efforts using farmed fish.³

On its face, the Proposed Rule would destroy the farmed-caviar industry and, conversely, eliminate massive numbers of Ponto-Caspian Sturgeon. By listing Ponto-Caspian Sturgeon as

¹ *Endangered and Threatened Wildlife and Plants; Endangered Species Status for Russian, Ship, Persian, and Stellate Sturgeon* ["NPRM"], 87 Fed. Reg. 31834 (May 25, 2022).

² EUROPEAN MKT. OBSERVATORY FOR FISHERIES AND AQUACULTURE PRODS., *THE CAVIAR MARKET: PRODUCTION, TRADE, AND CONSUMPTION IN AND OUTSIDE THE E.U.* 7 (2021).

³ *Id.* at 61.

endangered, FWS would effectively ban the trade of even farmed products, risking the outright destruction of the 150-year-old American caviar industry.⁴ By the Service's own account, decades of stringent regulation under CITES, including restrictions on the trade of wild sturgeon, have not eliminated the threat to the Species. Yet eliminating the only legal source of Ponto-Caspian caviar would make things much worse, not better. A prohibition on trade in sustainably farmed caviar will only buoy the black-market caviar trade and will result in the destruction of thriving captive populations of the Species. This would greatly hinder the ESA's conservation goals and cause substantial and irreparable harm to Ponto-Caspian Sturgeon.

Instead, any final rule listing these species as endangered or threatened should preserve the cultivation of captive-bred specimens. This is for four reasons:

- *First*, the farming of Ponto-Caspian Sturgeon supports conservation of wild populations. It does not draw from wild broodstock, and captive-bred specimens can be reintroduced into the wild to replenish naturally breeding populations.
- *Second*, the ESA requires the inclusion of captive-bred Ponto-Caspian Sturgeon within the Species' "range." With these specimens included, Ponto-Caspian Sturgeon are neither endangered nor threatened. Alternatively, if the Service refuses to include farmed specimens, it should treat them as distinct population segments.
- *Third*, even if the species are included in the Final Rule, FWS should list Ponto-Caspian Sturgeon as threatened and grant farmed specimens an exception under section 4(d) of the ESA.
- *Fourth*, banning captive-bred products would test the limits of the Service's authority. The ESA does not contain clear congressional authorization for FWS to ban trade in captive-bred specimens, leading to the destruction of longstanding, legal American industries.

Accordingly, the Service can and should exempt captive-bred specimens and their products by listing the Species as threatened and exempting captive-bred specimens under section 4(d); treating farmed specimens as distinct population segments to which any listing does not apply; or listing none of the Species as endangered or threatened.

I. Listing captive-bred sturgeon as endangered would contravene the ESA's objective of conservation.

An endangered species listing for Ponto-Caspian Sturgeon that includes farmed sturgeon would contravene the ESA's mandate to "seek to conserve endangered species and threatened

⁴ See Emily Bell, *When New Jersey Was the Hub of Global Caviar Production*, N. J. MONTHLY (Dec. 23, 2019) (describing Henry Schacht's founding of the American caviar industry in 1873).

species.”⁵ Congress’s charge to the agencies enforcing the ESA is clear from the congressional record: “to halt and reverse the trend towards extinction.”⁶ The ESA requires the Service to employ “methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.”⁷ Because farmed sturgeon are a massive portion of existing Ponto-Caspian Sturgeon and are critical to the rehabilitation of wild populations, banning trade of the Species altogether would directly contradict the congressional requirement to “conserve” the Species.

The vast majority of Ponto-Caspian Sturgeon alive today are found in captivity. In concluding that the wild biomass of sturgeon is “considerably less than that of the farmed population,” the U.N. recently estimated that the worldwide biomass of farmed sturgeon is roughly 300,000 tons.⁸ Recent data indicate that Russian sturgeon alone account for 20.4% of caviar-producing sturgeon.⁹ Assuming Russian sturgeon account for a similar portion of non-caviar-producing sturgeon,¹⁰ at least 61,200 tons of Russian sturgeon exist in captivity. Assuming an average weight of 2 kilograms per sturgeon, aquaculture facilities hold 30.6 million Russian sturgeon.¹¹ By comparison, recent data indicate that at most, 7.3 million Russian and Persian sturgeon live in the Caspian Sea zone today.¹² This indicates that even ignoring the Persian sturgeon included in this figure, wild populations constitute at most only 19.3% of 37.9 million total Russian sturgeon.¹³ Buttressing this extraordinarily conservative estimate, two SIAA partner

⁵ 16 U.S.C. § 1532(c)(1).

⁶ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978).

⁷ 16 U.S.C. § 1532(3).

⁸ UNITED NATIONS OFFICE ON DRUGS AND CRIME, SEAFOOD CASE STUDY: CAVIAR 88 (2016), <https://bit.ly/3pHxWnm>.

⁹ Bronzi et al., *Sturgeon Meat and Caviar Production: Global Update*, 9 J. APPLIED ICHTHYOLOGY 257, 263 (2019). This figure reflects only a subset of farmed sturgeon, as much of the global farmed biomass is raised for meat and not caviar. Any error in this figure would only lead to a higher number of sturgeon, as sturgeon farmed for meat are harvested at much lower weights than females harvested for caviar. See Mikhail Chebanov et al., *The Culture of Sturgeon in Russia: Production of Juveniles for Stocking and Meat for Human Consumption*, 14 AQUATIC LIVING RES. 375–81 (2001) (referring to a market size of 1.5–2.0 kg for meat sturgeon).

¹⁰ Here, again, any error would mean far more specimens exist in captivity. See *supra* note 9.

¹¹ This weight is an extremely conservative estimate, as most large Chinese and Russian farms produce “family meal sized” fish of 1 kg to 1.5 kg in size. See L. Shen et al., *Sturgeon Aquaculture in China: status, challenge and proposals based on nation-wide surveys of 2010–2012*, 30 J. APPL. ICHTHYOL. 1547–51 (2014) (“[T]he popular size of live fish is only 1.0–1.5 kg, which represents the juvenile fish stage of a sturgeon.”).

¹² SIAA, Comment Letter: Endangered Species Status for Russian, Ship, Persian, and Stellate Sturgeon, at 7 (Aug. 25, 2022) (citations omitted).

¹³ The remaining three Species are found in much smaller numbers in both captivity and in the wild. See, e.g., EUROPEAN MKT. OBSERVATORY FOR FISHERIES AND AQUACULTURE PRODS., THE CAVIAR MARKET: PRODUCTION, TRADE, AND CONSUMPTION IN AND OUTSIDE THE E.U. 16 (2018);

farms (of over 2300 sturgeon farms worldwide¹⁴) report stocking nearly 700,000 Russian sturgeon. These two farms' populations are equivalent to nearly 10% of the total wild population of Russian and Persian sturgeon. These farmed populations are located throughout the world in Europe, China, and South America, as well as in the United States, and many of them produce caviar for import into the United States. The Service's decision to list the Species would eliminate the United States market, reduce the economic incentives to maintain and grow these farmed populations, and therefore directly threaten at least four-fifths of the Species' worldwide population. The Service cannot claim that this threat somehow helps to conserve the Species.

To serve the ESA's conservation mandate, FWS should instead exclude captive-bred sturgeon from any endangered listing. Aquaculture furthers the propagation and protection of the Species in three distinct ways: *First*, captive-bred sturgeon reduce fishing pressure on wild populations, since aquaculture has proven an effective substitute for wild-caught caviar on the open market. *Second*, captive-bred sturgeon are the best option to restore diminished wild populations. And *third*, captive specimens provide opportunities for concentrated scientific observation that would otherwise be unavailable.

A. *Captive-bred sturgeon reduce fishing pressure on wild populations.*

After decades of extraordinary investment, sturgeon aquaculture now offers a reliable, suitable substitute for wild-caught caviar. Indeed, aquaculture is at present "the only legal source of sturgeon" products.¹⁵ Sturgeon aquaculture "relies almost exclusively on captive broodstock" and "reduc[es] the pressure on wild sources" and the price of caviar, thereby making poached products less valuable.¹⁶ That substitute has played a significant role in meeting customer demand, in the United States and elsewhere, and therefore in relieving pressure on wild stocks. Destroying the sturgeon aquaculture industry would only increase fishing pressure on wild populations.

Since 1998, international trade of Ponto-Caspian Sturgeon has been regulated under the CITES treaty, with sturgeon's inclusion in the treaty due in large part to the overfishing of wild populations. The CITES treaty promotes scientific research of sturgeon populations, establishes a thorough system of labeling and marking of caviar in international trade, and requires the publication of export quotas of wild sturgeon by the range states.¹⁷ Since the implementation of CITES, there has been a substantial increase in the amount of sturgeon entering the international marketplace from aquaculture, while wild export quotas from the range states have remained at

EUROPEAN MKT. OBSERVATORY FOR FISHERIES AND AQUACULTURE PRODS., THE CAVIAR MARKET: PRODUCTION, TRADE, AND CONSUMPTION IN AND OUTSIDE THE E.U. 26 (2021).

¹⁴ SIAA, Comment Letter: Endangered Species Status for Russian, Ship, Persian, and Stellate Sturgeon, at 14.

¹⁵ WORLD STURGEON CONSERVATION SOCIETY, *Comment to NPRM*, at 2 (July 15, 2022).

¹⁶ *Id.*

¹⁷ CITES Resolution Conf. 12.7., *Conservation of and Trade in Sturgeon and Paddlefish*, at 1–2, bit.ly/3O7MLsY.

zero for every nation except Iran.¹⁸ Experience under the CITES regime thus demonstrates that aquaculture has reduced demand for wild products, thereby preventing overfishing and providing significant protection to the Species.

The Proposed Rule and the Species Status Assessment (“SSA”) imply that the current regime allows for a robust black market of illegal sturgeon.¹⁹ This contention is wrong and has no basis in evidence. The strict regulation of international trade under CITES, especially regarding importation into the United States, has led to much lower levels of import violations.²⁰ And the SSA and the Proposed Rule fail to consider that farmed and wild caviar can be easily distinguished from one another by simple chromatography, which discerns differences in fatty acid content stemming from the different diets of farmed and wild caviar.²¹

The SSA similarly asserts that farmed caviar is inferior in quality to wild-caught caviar, implying that farmed caviar cannot compete in the same markets with wild-caught products.²² But there is no support for that conclusion either. Farmed caviar is served at the highest-end restaurants and specialty stores in the United States. Indeed, a recent survey of food and department stores found that the stores described farmed and wild caviar as offering the same quality and taste.²³ Consumers themselves have grown to rely on farmed caviar as an acceptable and even preferable substitute for wild-caught caviar, especially as its quality has improved.²⁴

Finally, the Service’s prohibition on the importation of farmed caviar would, if anything, bolster the caviar black market. Because consumers have substituted farmed caviar for wild caviar, reducing the inflow of farmed caviar would leave the existing caviar demand without a legal supply.²⁵ That demand would be met by the very black market the Proposed Rule fears.²⁶

¹⁸ See Bronzi, *supra* note 9, at 258; CITES, *Export Quotas*, bit.ly/3Ps1eBj.

¹⁹ SSA at 4, 40–41; NPRM, 87 Fed. Reg. at 31850. However, the SSA admits elsewhere that the actual amount of wild-caught caviar seized in violation of CITES is “unknown.”

²⁰ Doukakis et al., *Testing the Effectiveness of an International Conservation Agreement: Marketplace Forensics and CITES Caviar Trade Regulation*, PLoS ONE, at *e40907.

²¹ Annalaura Lopez et al., *Sturgeon Meat and Caviar Quality from Different Cultured Species*, 5:9 FISHES 1, 3 (2020).

²² SSA, at 40.

²³ Lindsey Harris & Hiromi Shiraishi, *Understanding the Global Caviar Market. Results of a Rapid Assessment of Trade in Sturgeon Caviar*, WWF at 44 (2018).

²⁴ Bronzi, *supra* note 9, at 258 (“[G]radually the caviar from farmed sources gained similar acceptance as the product from wild origin was no longer available and quality improvements became noticeable.”).

²⁵ *Id.*

²⁶ See NPRM, 87 Fed. Reg. at 31850.

B. *Captive-bred sturgeon can be used to restock wild populations.*

Banning the trade of farmed products would devastate the captive populations necessary to implement restocking programs, which may serve as the only real hope for restoring wild populations. As the SSA acknowledges, the Species may have no remaining self-sustaining populations in the wild in the future, and some will improve their numbers only “if a number of populations are reestablished through restocking.”²⁷ It is clear that “aquaculture is of decisive significance for the conservation of sturgeon stocks.”²⁸ This is because the rearing of fingerlings in captivity and their reintroduction into wild populations is “essential to . . . stabilizing and increasing stocks in natural waters.”²⁹ The SSA notes that “[i]n some locations, populations exist only thanks to continued restocking using captive-bred fish.”³⁰ Unfortunately, the Proposed Rule would cripple the market for captive-bred sturgeon by barring the importation of farmed caviar into one of the world’s largest international markets. This would devastate the global caviar industry and lead to the shuttering and diminution of aquaculture facilities that currently promote the protection and growth of the Species by sustaining robust, healthy populations of Ponto-Caspian Sturgeon.³¹

Indeed, it is foreseeable that even with the listing, some or all of the Species may one day be found only in captivity. The Proposed Rule posits that each species faces possible extinction from factors outside the control and jurisdiction of FWS. It admits that, if that is true, only proactive conservation measures could save the Species.³² But if the Species face likely extinction—as would be necessary to justify an endangered listing—then it is only *more important* to promote the cultivation of the Species in aquaculture facilities.³³ A final rule that includes farmed sturgeon would do the opposite: By crippling the caviar industry, it would lead to the destruction of most, if not all, of the Species left in captivity. Given the dwindling natural stocks of wild sturgeon, the direct and foreseeable result of an undifferentiated endangerment finding might be to wipe out, instead of conserve, the very populations FWS seeks to protect.

²⁷ SSA, at 86–88.

²⁸ W. Steffens, *Significance of Aquaculture for the Conservation and Restoration of Sturgeon Populations*, BULG. J. AGRIC. SCI. 162 (2008).

²⁹ *Id.*

³⁰ SSA, at 5.

³¹ See Florida Dep’t of Agriculture and Consumer Services, Comment Letter on Proposed Rule to List the Amur Sturgeon as an Endangered Species under the Endangered Species Act (ESA) (Sept. 23, 2021); Sichuan RunZhao Fisheries Co., Ltd., Comment Letter on Proposed Rule to List the Amur Sturgeon as an Endangered Species under the Endangered Species Act (ESA) (Oct. 12, 2021).

³² SSA, at 86–88.

³³ Cf. World Sturgeon Conservation Society, Comment to NPRM, at 2 (July 15, 2022) (noting that blocking foreign aquaculture facilities’ access to the U.S. market will harm conservation efforts).

C. *Captive-bred sturgeon aid in scientific study.*

Captive-bred specimens are also critical to the collection of scientific data on sturgeon species. The governments of many countries in the Ponto-Caspian region have had strained relations with western nations and have not taken effective measures to preserve the Species.³⁴ This dynamic makes it difficult for scientists in the United States and Europe to gather current and reliable biological and ecological information on the sturgeon species. Many scientists have therefore turned to captive-bred sturgeon to gather data.³⁵ Destroying any incentive to maintain these huge populations of captive-bred specimens would greatly reduce the number of sturgeon available to scientists for research and conservation efforts.

* * *

In sum, the mandate of the ESA is to conserve species that are facing threats and extinction and to effectuate policies that will lead to those species' continued existence. For the reasons discussed above, the continuance of commercial aquaculture serves both these ends for Ponto-Caspian Sturgeon. Accordingly, captive-bred specimens should not be included in any listing.

II. FWS must engage in an SPR assessment and must include captive-bred Ponto-Caspian Sturgeon within the Species' range.

The Proposed Rule posits that the Species are in danger of extinction throughout all their ranges, such that the Service need not engage in "significant portion of their range" ("SPR") assessment. This is incorrect for two reasons: *First*, the best available data contradict this conclusion. *Second*, if farm-bred specimens are to be included in the Species' "range" for purposes of banning their trade, then the Service must consider those same specimens in its SPR assessment, rendering the Species far from threatened. The Service should therefore engage in an SPR analysis for each of the Species and, because of the abundance of captive-bred specimens, conclude that none of the Species is endangered or threatened. Alternatively, if the Service determines that farmed specimens should be excluded from the Species' ranges, then the Service should similarly treat farmed specimens as distinct populations segments ("DPSs").

A. *FWS ignores updated data showing the resurgence of Ponto-Caspian Sturgeon.*

The Service maintains that the Species are in danger of extinction throughout all of their ranges.³⁶ But the Proposed Rule itself cites a study that contradicts this finding.³⁷ The study, *The Lower Danube River–Danube Delta–North West Black Sea*,³⁸ discusses the Sturgeon 2020

³⁴ See CITES, *Export Quotas*, bit.ly/3Ps1eBj.

³⁵ See, e.g., Chebanov, *supra* note 9, at 375 (using aquaculture sturgeon to study how to improve restocking efforts).

³⁶ NPRM, 87 Fed. Reg. at 31852.

³⁷ See *id.* at 31845 (citing Doru Banaduc et al., *The Lower Danube River–Danube Delta–North West Black Sea: A Pivotal Area of Major Interest for the Past, Present and Future of its Fish Fauna — A Short Review*, 545 SCI. TOTAL ENV'T 137 (2016)).

³⁸ Banaduc, *supra* note 37, at 137.

Programme, which was established under the EU Strategy for the Danube River and a Danube Sturgeon Task Force.³⁹ The article notes “tremendous effort that has gone into bringing anadromous sturgeon[] back up the Danube River basin.”⁴⁰ The Proposed Rule conspicuously ignores this repopulation effort.⁴¹ Because of this contradiction, FWS should analyze any SPR for the Species and, if the Service still believes that any of the Species are threatened, grant farmed sturgeon a 4(d) exception for the reasons discussed in Part III below.

B. *Captive-bred specimens must be included in the Species’ “ranges.”*

The Proposed Rule contradicts itself with respect to the treatment of captive-bred fish: It treats captive-bred specimens as part of the Species’ “range” for the purpose of banning their trade. But it ignores those same specimens as part of the Species’ range when it comes to making an SPR assessment. As discussed above, the Service can avoid this problem entirely by refraining from banning the trade of captive-bred products. If, however, the Service disagrees, it must, at minimum, include captive-bred species in its range analysis. And doing so would show that the Species are not endangered, because the vast majority of the Species are members of sustainable and thriving populations in captivity.

FWS’s own interpretation of the term “range” includes all members of the species, wherever they may be found, including those in captivity.⁴² More specifically, FWS defines “range” as “the general geographic area within which that species can be found at the time the Fish and Wildlife Service . . . makes any particular status determination.”⁴³ FWS has noted that this definition is “broad enough to include areas where animals have been moved by humans and are being held in captivity beyond the geographic area in which specimens are found in the wild.”⁴⁴ Additionally, FWS “consider[s] a captive species to have no ‘range’ separate from that of the species to which it belongs.”⁴⁵

Here, in direct conflict with this regulatory definition, FWS determined that Ponto-Caspian Sturgeon are in danger of extinction or likely to become so soon in *all parts of their range*.⁴⁶ But,

³⁹ *Id.* at 147.

⁴⁰ *Id.*

⁴¹ NPRM, 87 Fed. Reg. at 31852.

⁴² *Final Policy on Interpretation of the Phrase “Significant Portion of Its Range” in the Endangered Species Act’s Definitions of “Endangered Species” and “Threatened Species”*, 79 Fed. Reg. 37578, 37583, 37597 (July 1, 2014).

⁴³ *Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions To Delist U.S. Captive Populations of the Scimitar-horned Oryx, Dama Gazelle, and Addax*, 78 Fed. Reg. 33790, 33792 (June 5, 2013).

⁴⁴ *Id.*

⁴⁵ *Final Policy on Interpretation of the Phrase “Significant Portion of Its Range” in the Endangered Species Act’s Definitions of “Endangered Species” and “Threatened Species”*, 79 Fed. Reg. at 37597.

⁴⁶ NPRM, 87 Fed. Reg. at 31852.

under FWS’s own definition of “range,” this is simply untrue. Farmed Ponto-Caspian Sturgeon are not in danger of extinction. Quite the opposite: The global aquaculture production of sturgeon—including Ponto-Caspian Sturgeon—has continually increased year over year, rising from fewer than 20 tons of sturgeon in 2002 to about 115.168 tons in 2018.⁴⁷ That is because those populations are carefully managed by commercial entities that rely on their continued, sustained existence and ensure that the sturgeon populations remain healthy and sustainable.⁴⁸ FWS therefore could not rationally conclude that the Species are in danger of extinction from all parts of their range, had it included the global aquaculture population in that analysis.

C. *Alternatively, captive-bred specimens should be treated as a DPS.*

If the Service concludes that captive-bred specimens are not part of the Species’ ranges, then it should treat those same specimens as distinct population segments.⁴⁹ The ESA defines a species as including “any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”⁵⁰ Under FWS’s Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, a species can comprise a distinct population segment (“DPS”) if it is both “discrete” and “significant.”⁵¹ FWS will also consider the population segment’s “conservation status in relation to the Act’s standards for listing (i.e., is the population segment, when treated as if it were a species, endangered or threatened?).”⁵² Because captive-bred sturgeon of the Species are discrete, significant, and neither endangered nor threatened, they meet this standard. They should thus be excluded from FWS’s listing of wild sturgeon as endangered or threatened.

A population segment is “discrete” if it is either: (1) markedly separate from other populations of the same taxon due to physical, physiological, ecological, or behavioral factors; or (2) delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the ESA.⁵³ Captive-bred populations of the Species meet the second criterion. Any decision by FWS to exclude them from the range analysis would only confirm that conclusion.

⁴⁷ See EUROPEAN MKT. OBSERVATORY FOR FISHERIES AND AQUACULTURE PRODS., THE CAVIAR MARKET: PRODUCTION, TRADE, AND CONSUMPTION IN AND OUTSIDE THE E.U. 7 (2021).

⁴⁸ See *id.* at 8.

⁴⁹ FWS has previously excluded captive Atlantic salmon in aquaculture facilities within the range of a listed DPS. See *Endangered and Threatened Species; Final Endangered Status for a Distinct Population Segment of Anadromous Atlantic Salmon (Salmo salar) in the Gulf of Maine*, 65 Fed. Reg. 69459, 69459 (Nov. 17, 2000). At minimum, the Service should take the same approach here, applying any listing only to “naturally producing” specimens. *Id.*

⁵⁰ 16 U.S.C. § 1532(16).

⁵¹ *Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act*, 61 Fed. Reg. 4722, 4725 (Feb. 7, 1996).

⁵² *Id.*

⁵³ *Id.*

There are massive differences in regulation, exploitation, habitat management, and conservation between farmed and wild specimens. Farmed and wild sturgeon are subject to entirely different legal regimes. CITES has developed a number of conservation management initiatives for Ponto-Caspian and other sturgeon species, including fishery management programs, recommendations on legislation, promotion of regional agreements, and development of marking systems, aquaculture, and the control of illicit trade.⁵⁴ CITES resolutions have also continually acknowledged that the production of sturgeon in captivity may contribute to alleviating pressure on wild populations and has urged member states to “pay special attention to the development of sturgeon aquaculture facilities in their countries.”⁵⁵ In fact, CITES has *excluded* captive-bred sturgeon from the stringent quotas it recommends exporters of sturgeon products impose on their international exports.⁵⁶

Following the implementation of these CITES recommendations, the importation of black-market caviar to the United States has been significantly reduced. As the SSA notes, “[s]ome international caviar smuggling occurs, but is not thought to be of nearly the same volume as domestic sales, given the effectiveness of CITES in forcing a switch to farmed caviar.”⁵⁷ As a result, U.S. seizures of caviar following implementation of CITES regulations generally resulted from improper CITES labeling or from mislabeled species identity—not from illegal importations of caviar sourced from wild sturgeon. The most the SSA could say was that an “unknown” volume of seized caviar was “likely” wild-sourced.⁵⁸ In other words, there is no reliable information to suggest that the importation of farmed sturgeon is having any significant impact in promoting the illegal trade in caviar from wild sturgeon populations.

Further, wild sturgeon populations occur almost entirely within the jurisdictions of the littoral states around the Caspian Sea—Azerbaijan, Kazakhstan, Russia, Turkmenistan, and Iran. Much of the available information on wild populations of sturgeon within these states’ borders is incomplete, outdated, or untrustworthy.⁵⁹ The last trawl survey across the whole Caspian Sea was conducted in 2004. Afterwards, such surveys were conducted only in the northern part of the sea, in Russian territory.⁶⁰

⁵⁴ Georgii Ruban et al., *Factors Influencing the Natural Reproduction Decline in the Beluga (Huso huso, Linnaeus, 1758), Russian Sturgeon (Acipenser gueldenstaedtii, Brandt & Ratzeburg, 1833), and Stellate Sturgeon (A. stellatus, Pallas, 1771) of the Volga–Caspian Basin: A Review*, 35 J. Applied Ichthyology 387, 389–90 (2019).

⁵⁵ CITES Resolution Conf. 12.7., *Conservation of and Trade in Sturgeon and Paddlefish*, at 1, bit.ly/3O7MLsY.

⁵⁶ *Id.* at 3.

⁵⁷ SSA, at 41.

⁵⁸ *Id.*

⁵⁹ G.I. Ruban et al., *Long-Term Dynamics of Sturgeon Distribution in the Northern Part of the Caspian Sea (Review)*, 12 INLAND WATER BIOLOGY 443, 447 (2019).

⁶⁰ *Id.*

Captive-bred populations are also significant to the taxon, since they may represent the last, best hope for the Species' continuation. Captive-bred Ponto-Caspian Sturgeon are almost entirely non-indigenous to the area in which they are bred.⁶¹ And should captive-bred populations be lost, the population of wild sturgeon would be unable to fill in the remaining gap in the population. Indeed, because the populations of wild sturgeon are so comparatively small, the loss of captive-bred sturgeon would create a significant decrease in the genetic variability of these taxa.

As discussed above, such a loss would likely lead to the extinction of one or more of the Species. Captive populations could be the last hope of the species if the wild populations are completely lost due to the ecological and habitat factors discussed in the Proposed Rule. Therefore, the Service's aim should be to *promote and maintain* captive populations of these sturgeon, rather than to outlaw their commercial trade. It is only through effective management of the captive sturgeon, which is currently being done by commercial organizations, can there be any certainty that these species will exist at all on Earth. Thus, it is evident that the captive populations are significant to the taxon.

In determining whether a species is threatened or endangered under the ESA, FWS must examine: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence.⁶²

None of these factors points towards the captive-bred sturgeon population qualifying as endangered or threatened. First, the only threatened destruction to captive-bred sturgeon habitats comes from regulatory schemes that would depress sturgeon aquaculture—which would, ironically, include the Proposed Rule. As to the second factor, it would make no sense for a commercial farm to overutilize its farmed populations, which are integral to the continued existence of its business. In fact, some aquaculture facilities have begun experimenting with novel techniques for harvesting caviar that allows the sturgeon to continue to live, demonstrating the farms' desire to sustain their sturgeon populations.⁶³ Third, farmed sturgeon are carefully managed by sophisticated aquaculturists and are often sequestered from open waters and other fish and wildlife, dramatically reducing the risk of disease and predation.⁶⁴ Fourth, as discussed above, CITES provides a wholly adequate regulatory scheme to oversee the international trade of sturgeon

⁶¹ See Bronzi, *supra* note 9, at 261 (showing farms in California, Idaho, North Carolina, Hawaii, Florida, the EU, South America, and Asia).

⁶² 16 U.S.C. 1533(a).

⁶³ EUROPEAN MKT. OBSERVATORY FOR FISHERIES AND AQUACULTURE PRODS., THE CAVIAR MARKET: PRODUCTION, TRADE, AND CONSUMPTION IN AND OUTSIDE THE E.U. 5 (2018).

⁶⁴ See MIKHAIL S. CHEBANOV & ELENA V. GALICH, STURGEON HATCHERY MANUAL 19–34, 205–09 (2013) (describing the structure and sanitation process of some captive sturgeon breeders); see also Bronzi, *supra* note 9, at 258 (describing farming technologies that sequester the sturgeon, including cages, nets, and standalone ponds).

products. Finally, as to the fifth factor, farmed sturgeon's environments are carefully managed to maintain sustainable, healthy populations of the Species.

III. Alternatively, FWS should list the Species as threatened and grant farmed specimens a 4(d) exception.

If farmed Ponto-Caspian Sturgeon are included in the Final Rule's listings, FWS should list Ponto-Caspian Sturgeon as threatened, rather than in endangered, and grant an exception under Section 4(d) of the ESA for farmed Ponto-Caspian Sturgeon products. Alternatively, FWS should grant Section 10 enhancement permits to Ponto-Caspian Sturgeon aquaculture producers and their customers.

A. FWS should list the species as threatened.

FWS should list Ponto-Caspian sturgeon as threatened, rather than endangered, because it would ensure consistency among FWS's approach to sturgeon and would better realize the ESA's conservation mandate.

FWS has recently listed as threatened Beluga sturgeon, which have faced challenges similar to those identified to the Species in the Proposed Rule.⁶⁵ FWS has granted a 4(d) exception to qualifying commercial farms based on the finding that commercial aquaculture was integral to conservation efforts, and that the most effective way to continue such efforts was through open access to American commercial markets.⁶⁶ Furthermore, this special rule for the Beluga sturgeon allowed for the United States to uphold its part in the multilateral, international CITES treaty, which provided avenues for regulation of the trade of Beluga sturgeon while keeping the market open. This commitment to international cooperation is contemplated by the ESA itself, which obligates the United States to conserve species pursuant to the CITES treaty.⁶⁷ That reasoning applies with equal force to Ponto-Caspian Sturgeon.

The Service has relied on captive populations in the past to save critically endangered species. For example, the California condor is being reintroduced back into the wild by private entities who raised specimens of the species in captivity.⁶⁸ While the partnering entities in the condor's instance were zoos, here, commercial farms that rely on healthy, sustainable populations would have the strongest interest in conserving the Species. For these commercial farms to

⁶⁵ *Endangered and Threatened Wildlife and Plants; Special Rule To Control the Trade of Threatened Beluga Sturgeon (Huso huso)*, 70 Fed. Reg. 10493, 10493 (Mar. 4, 2005) ("The [Beluga sturgeon] is threatened by habitat modification and degradation, overexploitation for trade, and limited natural reproduction.").

⁶⁶ *Id.* at 10494.

⁶⁷ 16 U.S.C. § 1531(a)(4)(F).

⁶⁸ *California Condor*, FISH AND WILDLIFE SERV., <https://bit.ly/3aGu8Po> (last visited Aug. 25, 2022); *see also Comeback of the California Condor*, OR. WILD, <https://bit.ly/3PovIJO> (last visited Aug. 25, 2022).

effectuate their shared goal of conservation, the sturgeon species at issue should only be listed as threatened, with a 4(d) exception that allows the farms to continue their operations. An endangered species listing would, paradoxically, remove the incentives for conservation from the very entities who have been crucial to maintaining the farmed populations and thereby conserving the Species thus far.

B. *FWS should grant a 4(d) exception for farmed products.*

FWS should allow for the continued importation of these sturgeon products under Section 4(d). Section 4(d) of the ESA states “[w]henver any species is listed as a threatened species . . . the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species.” The Service should grant a 4(d) exception for the production and trade of farmed Ponto-Caspian Sturgeon products because aquaculture is critical to the conservation efforts for these sturgeon species.

As discussed above, both independent scientific evidence and FWS’s own SSA show that farmed sturgeon have been and will continue to be integral to conservation efforts. Thus, in order to realize the conservation obligation of the ESA and FWS, sturgeon aquaculture should continue. To this end, FWS should grant a 4(d) exception to aquaculture facilities that do not rely on wild broodstock and comply with existing CITES regulations. This exception should broadly encompass all farming practices that meet these two criteria, minimizing any negative impact on farmed populations. Doing so would promote conservation efforts while ensuring that sturgeon products imported into the United States do not harm wild populations.

C. *Alternatively, FWS should grant Section 10 exemptions in accordance with the applicable CITES criteria.*

Even if the Service lists the Species as endangered, it should lay the framework for Section 10 exemptions. Section 10 of the ESA allows the Secretary of the Interior to permit “any act otherwise prohibited” if performed “for scientific purposes or to enhance the propagation or survival of the affected species.”⁶⁹ FWS should also be prepared to grant exemptions for the import, export, and farming of sturgeon caviar from aquaculture farms that continue their compliance with applicable CITES criteria.

Aquaculture plays a critical role in perpetuating the Species. The continued success of the farmed sturgeon industry is imperative for the survival of wild sturgeon. Should FWS decide to include farmed sturgeon in the Final Rule, the criteria for Beluga sturgeon product exemptions should be applied to farmed sturgeon products.

⁶⁹ 16 U.S.C. § 1539.

IV. Banning aquaculture of Ponto-Caspian Sturgeon would test the limits of the Service's statutory authority.

The failure to exempt captive-bred specimens from any listing would exceed the Service's authority under the ESA. It would destroy a 150-year-old domestic industry and create massive fissures in international trade, while serving no conservation purpose. It would allow bad actors to harm wild populations while simultaneously destroying the Species' last remaining hope for survival. Rather than exceeding the boundaries of its statutory authority, the Service should exempt aquaculture from any listing.

Had Congress meant to give the Service power to destroy whole, legal agricultural industries with no basis in conservation, then it would have done so in the clearest of terms.⁷⁰ An agency's authority to destroy longstanding, legal industries is a major question whose delegation must be made in clear, unambiguous terms.⁷¹ Without a clear congressional mandate, the Service does not have the power to prohibit the importation of farmed animals where such a prohibition would have no negative impact on wild populations.⁷² This is especially true here, where the Proposed Rule would result in the destruction of massive sturgeon populations, directly undermining the ESA's conservation purpose.

Far from clearly authorizing this economic destruction, the ESA makes no mention of farming or agriculture. Instead, the ESA's language clearly contemplates the regulation of wild species. It requires the Service to assess a species' "range" before an endangered listing,⁷³ a requirement that makes no sense applied to animals held in captivity. The Act similarly speaks of "habitats," defining "critical habitats" to comprise specific geographic areas whose features relate to a species' conservation.⁷⁴ Further, one of the ESA's purposes is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved" and "to provide a program for the conservation of such endangered species and threatened species."⁷⁵ These terms make clear that the ESA is intended to protect animals in the wild, where

⁷⁰ See, e.g., *West Virginia v. EPA*, 597 U.S. __ (2022) (slip op., at 19) (in cases where an agency claims broad regulatory power, "[t]he agency must point to clear congressional authorization for the power it claims" (internal quotation marks omitted)).

⁷¹ *Id.* (slip op., at 17) (noting that there are cases where the "economic and political significance of [the claimed agency authority] provide a reason to hesitate before concluding that Congress meant to confer such authority" (internal quotation marks omitted)).

⁷² See, e.g., *Ala. Ass'n of Realtors v. HHS*, 597 U.S. __ (2022) (slip op., at 6) ("We expect Congress to speak clearly when authorizing an agency to exercise powers of vast economic and political significance." (internal citations and quotation marks omitted)).

⁷³ 16 U.S.C. § 1532(6) ("The term 'endangered species' means any species which is in danger of extinction throughout all or a significant portion of its range . . ."); see also *id.* § 1533(a) (describing FWS's power to make listings for endangered and threatened species).

⁷⁴ *Id.* § 1532(5).

⁷⁵ *Id.* § 1531(b).

populations may become diminished. It makes no sense to apply them to farming, where human behavior keeps populations at sustainable levels.

For these same reasons, notwithstanding the major-questions doctrine, the ESA's text does not authorize the Service's regulation of legal, sustainably maintained, farmed populations, where there is no evidence that doing so would protect wild populations. The ESA clearly contemplates that the Service may ban or limit the trade of wild or, at minimum, predominately wild populations. But here, the Service seeks to wipe out a legal, longstanding aquaculture industry, which by all scientific accounts is the last, best hope for the Species the Proposed Rule seeks to protect. The Service's failure to exempt these populations—through 4(d) exemptions, DPS findings, or non-listings—would bring it outside the boundaries of its authority under the ESA.

* * *

In conclusion, a listing that has the effect of banning trade of captive-bred specimens would do nothing to help conserve Ponto-Caspian Sturgeon. Indeed, it would be counterproductive, bolstering the black market and shutting down aquaculture facilities that hold the last, best hope for the Species' propagation. Such a ban would destroy a 150-year-old domestic industry while doing nothing to combat foreign overfishing and other threats to the Species over which the Service simply has no control. And it would test the upper limits of the Service's authority to regulate captive-bred animals that are siloed off from wild populations. The Service should therefore exempt captive-bred products by exempting captive-bred specimens under section 4(d), treating farmed specimens as distinct population segments, or listing none of the Species as endangered or threatened.

Respectfully,



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