

FOR FURTHER INFORMATION CONTACT: For more detailed information on specific aspects of this rulemaking, contact Marilyn Goode, Office of Solid Waste, Hazardous Waste Identification Division, MC 5304P, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460, (703-308-8800) (goode.marilyn@epa.gov) or Tracy Atagi, Office of Solid Waste, Hazardous Waste Identification Division, MC 5304P, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460, (703-308-8672) (atagi.tracy@epa.gov).

SUPPLEMENTARY INFORMATION: A. *Comment Period.* We are extending the comment period by 30 days in response to requests from several stakeholders.

B. *Regulated Entities.* Entities potentially affected by this action include about 4,600 facilities in 530 industries in 17 economic sectors that generate or recycle hazardous secondary materials which are currently regulated as RCRA Subtitle C hazardous wastes (e.g., industrial co-products, by-products, residues, unreacted feedstocks). About 80 percent of these affected facilities are classified in NAICS code economic sectors 31, 32, and 33 (manufacturing), and the remainder are in NAICS code economic sectors 21 (mining), 22 (utilities), 23 (construction), 42 (wholesale trade), 44 and 45 (retail trade), 48 and 49 (transportation), 51 (information), 54 (professional, scientific and technical services), 56 (administrative support, waste management and remediation), 61 (educational services), 62 (health care and social assistance, and 81 (other services). About 0.65 million tons per year of recyclable industrial materials handled by these entities may be affected, of which the most common types are metal-bearing hazardous secondary materials (e.g., sludges and spent catalysts), and organic chemical liquids. This proposed rule, if promulgated, is expected to result in regulatory and materials recovery cost savings to these industries of approximately \$107 million per year. Taking into account impact estimation uncertainty factors, this rule, if promulgated, could affect between 0.3 to 1.7 million tons per year of industrial hazardous secondary materials handled by 3,600 to 5,400 entities in 460 to 570 industries, resulting in \$93 million to \$205 million per year of net cost savings. More detailed information on the potentially affected entities, industries, and industrial materials, as well as the economic impacts of this rule (with impact uncertainty factors), is

presented in the "Economics Background Document" available in the docket for this rulemaking.

C. *Submitting CBI.* Do not submit this information to EPA through www.regulations.gov or e-mail. Clearly mark all information that you claim to be CBI. For CBI information in a disk or CD-ROM that you mail to EPA, mark the outside of the disk or CD-ROM as CBI and then identify electronically within the disk or CD-ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed, except in accordance with procedures set forth in 40 CFR part 2.

List of Subjects

40 CFR Part 260

Environmental protection, Administrative practice and procedure, Confidential business information, Hazardous waste, Reporting and recordkeeping requirements.

40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

Dated: April 13, 2007.

Matt Hale,

Director, Office of Solid Waste.

[FR Doc. E7-7761 Filed 4-23-07; 8:45 am]

BILLING CODE 6560-50-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Revised 12-Month Finding for Upper Missouri River Distinct Population Segment of Fluvial Arctic Grayling

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of revised 12-month finding.

SUMMARY: We, the Fish and Wildlife Service (Service), announce our revised 12-month finding on a petition to list the upper Missouri River Distinct Population Segment (DPS) of fluvial Arctic grayling (*Thymallus arcticus*) as threatened or endangered under the Endangered Species Act of 1973, as amended (Act). After a review of the

best available scientific and commercial information, we find that fluvial Arctic grayling of the upper Missouri River does not constitute a species, subspecies, or distinct population segment under the Act. Therefore, we find that the petition to list the upper Missouri River DPS of fluvial Arctic grayling is not warranted, and we withdraw the fluvial Arctic grayling from the candidate list. The Service continues to seek new information on the taxonomy, biology, ecology, and status of fluvial Arctic grayling and to support cooperative conservation of fluvial Arctic grayling in the upper Missouri River system.

DATES: This finding was made on April 24, 2007.

ADDRESSES: The complete file for this finding is available for inspection, by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Montana Field Office, 585 Shepard Way, Helena, MT 59601; telephone (406) 449-5225. Submit new information, materials, comments, or questions concerning this species to us at this address (Attention: Arctic grayling).

FOR FURTHER INFORMATION CONTACT: Mark Wilson, Field Supervisor, Montana Field Office, at the address and telephone listed above.

SUPPLEMENTARY INFORMATION:

Species Information

Description

The Arctic grayling (*Thymallus arcticus*) belongs to the family Salmonidae (salmon, trout, charr, whitefishes), subfamily Thymallinae (graylings), and is represented by a single genus, *Thymallus*, which contains three other recognized species in addition to *T. arcticus* (Scott and Crossman 1973, pp. 301-302; Behnke 2002, pp. 327-331). Arctic grayling have elongate, laterally compressed bodies with deeply forked tails, and adults typically average 254 to 330 millimeters (10 to 13 inches) in length. Coloration varies from silvery or iridescent blue and lavender, to dark blue (Behnke 2002, pp. 327-328). During the spawning period, the colors darken and the males become more brilliantly colored than the females. A prominent morphological feature of Arctic grayling is the sail-like dorsal fin, which is large and vividly colored with rows of orange to bright green spots, and often has an orange border. Dark spots are often evident on the body towards the head (Behnke 2002, pp. 327-328).

Distribution

Arctic grayling have a primarily holarctic distribution and are native to Arctic Ocean drainages of northwestern Canada and Alaska, from the Peace, Saskatchewan, and Athabasca River drainages in Alberta eastward to Hudson Bay and westward to the Bering Straits and eastern Siberia and northern Eurasia (Scott and Crossman 1973, pp. 301–302). Arctic grayling also are native to Pacific coast drainages of Alaska and Canada as far south as the Stikine River in British Columbia (Scott and

Crossman 1973, pp. 301–302; Nelson and Paetz 1991, pp. 253–256; Behnke 2002, pp. 327–331). Arctic grayling generally occur throughout their native range though the species is extirpated in some locations (Michigan) and has experienced local range contraction in others (e.g., Peace-Willison watershed in British Columbia (Blackman et al. (1990, pp. 15, 17, 34), portions of Alberta (Alberta Sustainable Resource Development (2005; pp. iv, 5–18), and Montana).

In North America, two populations of Arctic grayling, believed to have been

isolated by Pleistocene glaciations, have been recorded outside of Canada and Alaska (Vincent 1962, pp. 23–31). One population was found in streams and rivers of the Great Lakes region of northern Michigan, but those grayling were extirpated in the 1930s (Hubbs and Lagler 1949, p. 44; Scott and Crossman 1973, p. 301). The second population historically inhabited watersheds in the upper Missouri River basin upstream of Great Falls, Montana (Figure 1).

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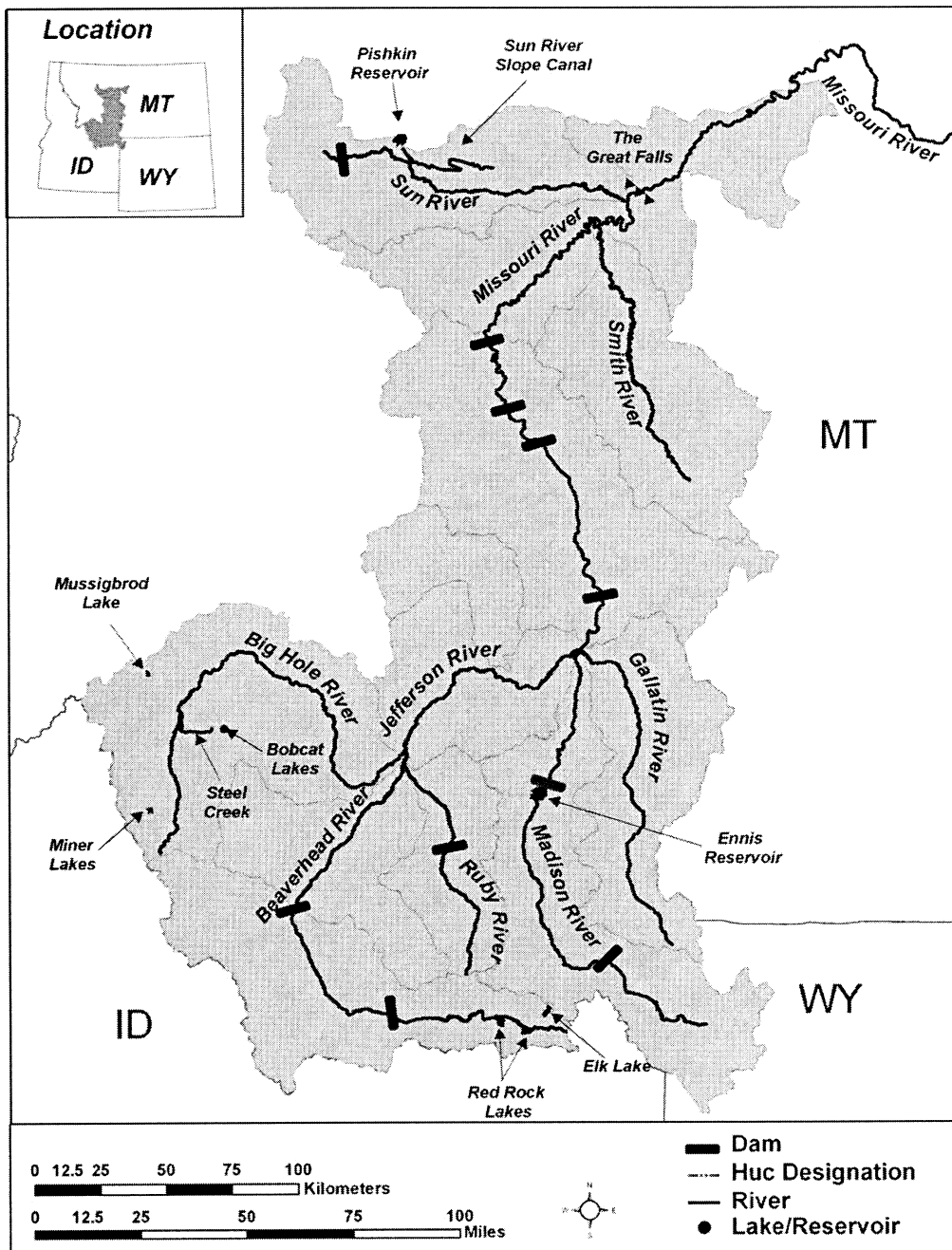


Figure 1. The upper Missouri River watershed upstream from Great Falls, Montana (shaded area) showing the presumed historical distribution of fluvial Arctic grayling in major river drainages (dark lines) and present-day location of impassable dams (horizontal bars). The fluvial form of Arctic grayling is believed extirpated from about 95 percent of its historic range in the upper Missouri River basin, with the remaining fluvial population found in the Big Hole River. Other Arctic grayling populations discussed in this finding are indicated by place names and arrows. The Elk Lake population is believed extirpated, and the Pishkin Reservoir and Sun River Slope Canal populations are derived from stocking. See text for additional information about other populations.

Genetic data indicate Arctic grayling native to the Missouri River system were most likely isolated geographically from Hudson Bay and Arctic Ocean drainages by the onset of Wisconsin glaciation approximately 70,000 years ago (Redenbach and Taylor 1999, p. 32). Arctic grayling native to the upper Missouri River system are genetically diverged from Arctic grayling in the northern part of the species' range (Lynch and Vyse 1979, pp. 268–270, 275; Everett 1986, pp. 15–16, 79–80; Redenbach and Taylor 1999, pp. 23, 28–29, 32–33; reviewed by Leary 2005, pp. 1–3; reviewed by Campton 2006, pp. 5–6), and appear to be most closely related evolutionarily to populations in the Fond du Lac area of northeastern Saskatchewan, Canada (Stamford and Taylor 2004, p. 1538). Genetic divergence happens when two or more genetic characteristics that have occurred naturally over time are passed from one generation to subsequent generations. Arctic grayling in the upper Missouri River basin are commonly referred to as “Montana grayling” and have been variously categorized as a separate species (*Thymallus montanus*; Scott and Crossman 1973, p. 301) or subspecies (*T. arcticus montanus*; Williams et al. 1989, p. 4), but these designations are of uncertain validity (Scott and Crossman 1973, p. 301) and not widely accepted (Kaya 1990, pp. 3–4; Integrated Taxonomic Information System 2006). The lack of accepted subspecific designations is based on morphological similarity among disjunct populations (Kaya 1990, p. 4).

Arctic grayling in the upper Missouri River basin currently represent the southern extent of the species' range (Scott and Crossman 1973, pp. 301–302), and both migratory, river-dwelling (fluvial) and lake-dwelling (adfluvial and lacustrine) populations are native to the upper Missouri River. For simplicity, the term “adfluvial” will be used to refer to all Arctic grayling populations associated with lakes or reservoirs. The migratory, stream- and river-dwelling form of Arctic grayling native to the upper Missouri River is hereafter referred to as “fluvial” Arctic grayling of the upper Missouri River.

Arctic Grayling Distribution in the Upper Missouri River Basin

Fluvial Arctic grayling reside in the Big Hole River and the lower reaches of connected tributaries (see Figure 1 above). Adfluvial Arctic grayling native to the upper Missouri River system are known to reside in the Red Rock Lakes system, in the upper reaches of the Beaverhead River within the Centennial Valley, Montana (Vincent 1962, p. 120;

see Figure 1 above). An indigenous Arctic grayling population exhibiting adfluvial characteristics also is present in the Madison River upstream from Ennis Reservoir (see Figure 1 above). The adfluvial characteristics expressed by the Madison River-Ennis Reservoir population may reflect recent divergence away from the presumed ancestral fluvial form resulting from the construction of Ennis Dam (Kaya 1990, p. 33; Kaya 1992a, p. 53). A few adfluvial populations found in small lakes within the Big Hole River system (in particular Miner and Mussigbrod Lakes; see Figure 1 above) may be remnant native populations derived from fluvial Arctic grayling from the Big Hole River and isolated by recent habitat fragmentation, but widespread stocking of these and other locations with hatchery-reared Arctic grayling during the 1930s–1950s (e.g., Everett 1986, p. 4, 16; Kaya 1990, pp. 31, 75–80) also makes it possible that these fish are introduced populations or that the existing populations are a mixture of native and introduced Arctic grayling.

Ecology

Northcote (1995) and Kaya (1990) reviewed the ecology of Arctic grayling and fluvial Arctic grayling of the upper Missouri River, respectively. Much of the information on fluvial Arctic grayling in the upper Missouri River system comes from the Big Hole River, Montana (see Figure 1 above), which contains a fluvial population. Arctic grayling exhibit life history and migratory forms present in other species of inland trout and charr, including fluvial and adfluvial. Fluvial populations are characterized by a cycle of migratory behavior over their lifespan between spawning, feeding, and overwintering habitats within rivers or streams (Northcote 1995, pp. 156–160). Fluvial Arctic grayling typically migrate upstream to spawn in tributary or mainstem river locations and downstream to overwintering habitats. Such movement patterns have been observed in fluvial Arctic grayling in Big Hole River, Montana (Shepard and Oswald 1989, pp. 18, 27–28). Migrations to feeding habitats may occur if these locations differ from spawning or overwintering habitats (Kaya 1990, pp. 9–11). Overall, movements by fluvial populations within and among tributaries and mainstem rivers may cover hundreds of kilometers (Armstrong 1986, p. 7). Fluvial Arctic grayling in the Big Hole River system have been shown to migrate in excess of 80 km (50 mi) between spawning, feeding and wintering areas (Shepard and Oswald 1989, pp. 18, 21; Lamothe

and Magee 2003, pp. 7, 11, 17). Adfluvial Arctic grayling feed and overwinter in lakes, but migrate to inlet or outlet streams to spawn (Northcote 1995, p. 148–149; Northcote 1997, pp. 1030–1034).

Age at maturity and longevity in Arctic grayling varies among systems and is probably related to growth rate, with populations in colder, less productive habitats maturing at later ages and having a greater lifespan (Northcote 1995, pp. 155–157). Fluvial Arctic grayling in the Big Hole River system typically mature at 2 years of age (males) or 3 years of age (females), and individuals older than 6 years of age are rare (Liknes 1981, pp. 16–18; Kaya 1990, pp. 18–20; Magee and Lamothe 2003, p. 22). Arctic grayling are spring spawners. In Montana, Arctic grayling typically spawn from late April to mid-May by depositing adhesive eggs over gravel substrate without excavating a nest or redd (Shepard and Oswald 1989, pp. 24–25, 29; Kaya 1990, pp. 15–16). In general, the reproductive ecology of Arctic grayling is somewhat different from other salmonid species (trout and salmon) in that Arctic grayling eggs tend to be comparatively small (Behnke 2002, p. 328), and males establish and defend spawning territories rather than defending access to females (Northcote 1995, p. 150). The time required for development of eggs from embryo until they emerge from stream gravel and become swim-up fry varies with water temperature, but averages about 3 weeks for Arctic grayling in the upper Missouri River basin (Kaya 1990, pp. 16–17). Small, weakly swimming fry of fluvial Arctic grayling prefer low velocity stream habitats (Kaya 1990, pp. 23–24; Northcote 1995, pp. 152–153).

Arctic grayling of all ages feed primarily on aquatic and terrestrial invertebrates captured on or near the water surface (Northcote 1995, pp. 153–154; Behnke 2002, p. 328). They also will feed opportunistically on fish and fish eggs (Northcote 1995, p. 154; Behnke 2002, p. 328). Feeding locations for individual fish are typically established and maintained through size-mediated dominance hierarchies (e.g., Hughes 1992, pp. 1994–1995).

Although fluvial Arctic grayling may have specific habitat requirements depending on their life stage (e.g., fry) and ecological activity (e.g., spawning), individuals inhabiting streams and rivers often exhibit a preference for pool habitats (Liknes 1981, pp. 22, 28; Kaya 1990, pp. 20–21; Lamothe and Magee 2003, pp. 13–14, 17; Lamothe and Magee 2004, p. 24). Vincent (1962, pp. 39, 42) concluded that fluvial Arctic grayling in Montana typically reside in

streams with low-to-moderate gradient (<4 percent) and prefer low-to-moderate water velocities (<60 centimeters/sec). Observations of fluvial Arctic grayling habitat use in the Big Hole River by Liknes (1981, p. 28) and Liknes and Gould (1987, p. 128) are consistent with these generalizations.

Arctic grayling generally prefer cool or coldwater habitats (Hubert et al. 1985, pp. 9, 14, 25, 27). Selong et al. (2001, p. 1032) placed Arctic grayling in a "coldwater" group of salmonids, along with Arctic charr and bull trout, based on critical thermal maximum values.

Genetic Relationships Among Arctic Grayling Populations in the Upper Missouri River Basin

Discussion of genetic divergence among Arctic grayling populations is complicated by the extensive hatchery propagation and transplantation of stocks from location to location (Everett 1986, p. 40). Over 10 million grayling of unknown origin were stocked in the Big Hole River over a 30-year period from the 1930s to the 1950s (Kaya 1990, pp. 31, 75–80). Everett (1986 pp. 42, 43, 47) concluded that the effect of grayling introductions on local genetics appears stronger in lake populations than in the Big Hole River. Nonetheless, the limited available genetic data suggest the presence of two or more groups—clusters or sets of populations that are genetically more closely related to each other than they are to other populations of the same species—of Arctic grayling within the upper Missouri River that may not be strictly delineated by geography and life history (Leary 2005, p. 3; Campton 2006, pp. 6–9, 12).

Inferences about genetic differences among Arctic grayling populations within the upper Missouri River basin are primarily based on data collected by Everett (1986) and Leary (1990). These two studies examined how a particular form (allele) of a protein molecule (allozyme) varied in frequency across Arctic grayling populations in Montana. Allozymes are gene products coded by DNA, so allozyme variation can be used to infer genetic relationships among populations, subspecies or species. Campton (2006, pp. 6, 12), in his review of those data, suggested the existence of two possible genetic groups: (a) A Big Hole-Madison River group that includes the fluvial population in the Big Hole River, certain populations in adjoining waters of the Big Hole River system (e.g., Bobcat, Miner, and Mussigbrod Lakes, and Steel Creek; see Figure 1 above; see Everett 1986, p. 7; Leary 1990, pp. 6–8), and fish from the Madison River-Ennis Reservoir; and (b) a Red Rock Lakes group that includes

native adfluvial populations from the Red Rock and Elk Lakes system in the upper Beaverhead River system, and a number of introduced adfluvial populations (Agnes, Grebe, Rogers, Odell, and Elizabeth Lakes; see Leary 1990, pp. 7–8) believed to be derived from human introductions of Red Rock Lakes grayling and/or associated hatchery stocks. The two groups (Big Hole-Madison and Red Rock Lakes) are differentiated by divergent allele frequencies for two allozymes (Campton 2006, p. 6). The relative genetic difference between these two groups within the upper Missouri River basin is less than the difference between upper Missouri River Arctic grayling and sample populations from Alaska and Canada (Everett 1986, p. 80; Leary 1990, pp. 1, 7–8). The level of genetic divergence observed among populations within the upper Missouri River is consistent with what would be expected for populations within a geographic area that share a recent ancestry but have since diverged, as compared with the greater divergence observed among populations from different geographic areas or river systems that have been separated from each other for a much longer period of time (i.e., upper Missouri River versus Alaskan and Canadian populations).

Campton (2006, p. 12) also noted that a few adfluvial populations of Arctic grayling in the Big Hole River drainage, including Miner Lake (see Figure 1 above), appear to share recent ancestry with the mainstem Big Hole River fluvial population.

Like Campton, Leary also concluded that Big Hole River and Madison River grayling samples appear to be quite similar (Leary 2005, p. 3). Leary's interpretation of the genetic relationships among Miner Lake, Red Rock Lakes, and Elk Lake populations was different from Campton's. Leary found Miner Lake to be very divergent from all the others, but also concluded that there was significant divergence between the Red Rock Lakes and Elk Lake samples (Leary 2005, p. 3). He interpreted the allozyme data to mean that the adfluvial samples do not appear to form a genetically distinct group and consequently concluded that the data do not support the premise that the fluvial and adfluvial life histories fall into two distinct genetic lineages (Leary 2005, p. 3). Rather, he contended the data represent divergence among populations regardless of life history (Leary 2005, p. 3). In his review, Campton (2006) concurred that the apparent genetic divergence between the two groups (Big Hole-Madison River and Red Rock Lakes) was not completely consistent

with life histories because several adfluvial populations belonged to the Big Hole River-Madison River genetic group.

An Arctic grayling population residing in the Sunnyslope irrigation canal in Teton County, Montana, is thought to be derived from an introduction into Pishkin Reservoir (Kaya 1990, p. 41; see Figure 1 above) and is not easily assigned to either of the two genetic groups suggested by Campton. These fish appear to be genetic outliers relative to the two other native genetic groups of Arctic grayling (Leary 1990, p. 8; Campton 2006, p. 7).

Overall, both Campton and Leary observe that: (a) Fluvial Arctic grayling from the Big Hole River are genetically different from native adfluvial Arctic grayling in Red Rock Lakes based on observed differences in allozyme allele frequencies even if the genetic divergence between these populations appears to be low (average Nei's genetic distance of the cluster containing these populations equals 0.0132 (Leary 1990, pp. 1, 8)); (b) the existing genetic data do not strongly support the hypothesis that the fluvial form of Arctic grayling in the upper Missouri River represents a unique genetic lineage, because it is genetically similar to adfluvial populations in Miner Lake and in the Madison River (Leary 2005, pp. 3–4; Campton 2006, p. 12); and (c) the low allozyme variability in upper Missouri River Arctic grayling samples results in a weak dataset for resolving ancestries among recently diverged populations (Leary 2005, pp. 3–4; Campton 2006, p. 10). The Service views Campton's and Leary's conclusions about the ancestral relationships among Arctic grayling populations in the upper Missouri River as tentative, given the inherent limitations of the existing genetic data. However, it is the best available scientific information at this time. Further investigations with more variable genetic markers, such as microsatellite DNA, may clarify genetic relationships (Campton 2006, pp. 10, 14).

Heritable, Behavioral Differences Between Fluvial and Adfluvial Arctic Grayling in the Upper Missouri River Basin

Arctic grayling exhibit at least two life histories in the upper Missouri River system—a river-dwelling fluvial form and a lake-dwelling adfluvial form. Life history variation in salmonid fishes (trout and salmon) may or may not be related to genetic differentiation (e.g., Fausch and Young 1995, p. 365). However, experiments designed to determine whether behavioral

differences were due to genetic or environmental influences found that the behavioral differences between fluvial and adfluvial Arctic grayling in Montana were heritable. In tests of swimming behavior of young-of-year Arctic grayling raised in common conditions in captivity, progeny of fluvial Big Hole River fish behaved significantly differently, on average, than adfluvial progeny from Red Rock Lakes and Madison River-Ennis Reservoir populations (Kaya 1989, 1991; Kaya and Jeanes 1995). The Big Hole River progeny exhibited a greater tendency to hold position in flowing water (Kaya and Jeanes 1995, pp. 453–456). Because the test fish from the Big Hole River population were progeny of parents reared in a non-fluvial environment, retention of this rheotactic behavior (behavior in response to flowing water) was taken as evidence that such behavior has a genetic (heritable) basis (Kaya and Jeanes 1995, p. 456), consistent with conclusions of previous investigations (Kaya 1989, pp. 474, 478–479; Kaya 1991, pp. 53, 55–58).

Expression of rheotactic characteristics in Arctic grayling also can be influenced by ontogeny, or the developmental history of an individual (in this case, time from emergence from gravel as fry until maturity; Kaya 1991, pp. 53, 55–57), and environmental conditions, such as time of day (Kaya 1989, p. 56), light intensity (Kaya 1989, p. 478; Kaya 1991, p. 56), or water temperature (Kaya 1989, p. 478). However, the collective results are nonetheless consistent with the hypothesis that heritable, behavioral differences in the test populations exist between the fluvial and adfluvial populations and those associated with lakes or reservoirs.

Adfluvial Arctic grayling repeatedly introduced into rivers have failed to establish viable populations (Kaya 1992b, pp. 12–14). Adaptive divergence and lack of ecological exchangeability between life history types are among the factors that may have contributed to these failures (Campton 2006, p. 13). However, introductions of fluvial grayling into other rivers within the native range have not been successful either, so success may be due to other factors (e.g., habitat degradation or competition with nonnative fish (Kaya 1992b, pp. 10–12, 60)). In general, life history expression in salmonid species can be flexible, and Arctic grayling exhibit variation in migratory behavior across the range of the species (Northcote 1997, p. 1030). Geography may be a stronger determinant of ancestral relationships than life history

for Arctic grayling. Native Arctic grayling populations within the upper Missouri River basin may be similar based on genetics, because they reside in the same river basin and presumably share a recent evolutionary ancestry (Campton 2006, p. 12), while at the same time expressing different life histories in response to local habitat conditions.

Previous Federal Action

The Service initiated a status review for the Montana Arctic grayling (*Thymallus arcticus montanus*) through a notice of review published on December 30, 1982 (47 FR 58454). In that notice, Montana Arctic grayling was designated a Category 2 species, which included taxa for which information in possession of the Service at that time indicated that proposing to list the species as Endangered or Threatened was possibly appropriate, but for which substantial data were not currently available to biologically support a proposed rule (47 FR 58454). We received a petition, dated October 2, 1991, from the Biodiversity Legal Foundation and George Wuerthner on October 9, 1991. The petition requested that the “fluvial Arctic grayling” be listed as an endangered species throughout its historic range “in the conterminous United States.”

We published a notice of a 90-day finding in the January 19, 1993, **Federal Register** (58 FR 4975). In that 90-day finding we found that the petitioners presented substantial information indicating that listing the fluvial Arctic grayling of the upper Missouri River, in Montana and northwestern Wyoming, may be warranted. We also found that because the Michigan population of Arctic grayling is extinct and, therefore, by definition cannot be listed, the finding would address only the fluvial population of the Arctic grayling in the upper Missouri River drainage.

On July 25, 1994, we published a notice of a 12-month petition finding in the **Federal Register** concluding that listing the fluvial Arctic grayling indigenous to the upper Missouri River was warranted but precluded by other higher priority listing actions (59 FR 37738). This finding stated that the Service viewed adfluvial Arctic grayling as not under consideration in the Service’s finding as it was believed to be a distinct population from the fluvial Arctic grayling. This 1994 status review identified the fluvial form of Arctic grayling in the upper Missouri River drainage as a DPS based on its geographic isolation and behavioral distinctiveness (59 FR 37738–37741, July 25, 1994). This status review

occurred prior to the finalization of the Service and the National Marine Fisheries Service’s joint DPS policy in 1996 (61 FR 4722, February 7, 1996).

Since 1994, and based on the best available information and the assessment that we conduct during our candidate review process, we have continued to preliminarily recognize the fluvial Arctic grayling of the upper Missouri River as a DPS, and has maintained it as a candidate species through the annual Candidate Notice of Review. In 2004, the Service elevated the listing priority number of the fluvial Arctic grayling to 3 (69 FR 24881, May 4, 2004) because the abundance of the remnant population in the Big Hole River declined substantially and reestablishment efforts had not yet produced self-sustaining populations elsewhere in the upper Missouri River.

On May 31, 2003, the Center for Biological Diversity and Western Watersheds Project (collectively plaintiffs) filed a complaint in United States District Court in Washington, DC (1:03-cv-01110), challenging the Service’s continuing “warranted but precluded” determination for fluvial Arctic grayling contained in the 2002 Candidate Notice of Review (67 FR 40657, June 13, 2002). Plaintiffs filed an amended complaint on July 22, 2004, challenging the Service’s failure to use its emergency listing authority to protect the fluvial Arctic grayling under the Act (16 U.S.C. 1531 et seq.). The litigation with plaintiffs was settled in August 2005. In this settlement agreement, the Service agreed that on or before April 16, 2007, it shall submit for publication in the **Federal Register** a final determination made pursuant to the Act as to whether or not the “Montana fluvial Arctic grayling” is an endangered or threatened species. During the evaluation of the petition, the Service considered the term “Montana fluvial Arctic grayling” as synonymous with “fluvial Arctic grayling of the upper Missouri River.” In this finding, as in the past, the fluvial form of the indigenous Arctic grayling from the upper Missouri River drainage in Montana and Wyoming is referred to as the fluvial Arctic grayling. This revised 12-month finding is being published as a final listing determination in accordance with the settlement agreement.

Distinct Vertebrate Population Segment

Pursuant to the Act, we must consider for listing any species, subspecies, or, for vertebrates, any DPS of these taxa if there is sufficient information to indicate that such action may be warranted. The petition we received

concerns a potential DPS of fluvial Arctic grayling. Under our Policy Regarding the Recognition of Distinct Vertebrate Population Segments (61 FR 4722, February 7, 1996) (known as the DPS Policy), three elements are considered in a decision regarding the status of a possible DPS as endangered or threatened under the Act. These factors are applied similarly for additions to the Lists of Endangered and Threatened Wildlife and Plants (Lists), reclassification, and removal from the Lists. They are: (1) Discreteness of the population segment in relation to the remainder of the species to which it belongs; (2) the significance of the population segment to the species to which it belongs; and (3) 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?). Discreteness refers to the isolation of a population from other members of the species, and we evaluate this based on specific criteria that are also contained in the DPS Policy and are listed below. If the population segment is determined to be discrete, then we evaluate significance by using the available scientific information to determine the population segment's importance to the taxon to which it belongs. If we determine that a population segment is discrete and significant, we subsequently evaluate it for endangered or threatened status based on the Act's standards.

Discreteness

Under our DPS Policy, a population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation; or (2) It is 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 Act.

The subject of this DPS evaluation is the fluvial Arctic grayling of the upper Missouri River. In response to a petition, the fluvial Arctic grayling was the subject of a status review by the Service in 1994, which identified Arctic grayling indigenous to the Big Hole and Madison Rivers as elements of a fluvial DPS in the upper Missouri River (59 FR 37738–37741, July 25, 1994). However,

this status review occurred prior to the finalization of the Service and the National Marine Fisheries Service's joint DPS policy in 1996 (61 FR 4722, February 7, 1996). Since 1994, and most recently in 2004 and 2005, the Service reviewed the available information concerning the taxonomic status of the species in relation to the DPS policy and again preliminarily determined that the fluvial Arctic grayling of the upper Missouri River was a valid DPS (Service 2004, 2005). This DPS evaluation considers the information used in the previous assessments as well as a solicited review (Campton 2006) and unsolicited review (Leary 2005) of the available genetic data for Arctic grayling in Montana.

(1) Fluvial Arctic Grayling Are Discrete as a Consequence of Physical Features

Fluvial arctic grayling native to the upper Missouri River are “markedly separated” from other grayling, both those in Canada and Alaska, and from the adfluvial form in the Missouri River drainage because of physical and reproductive isolation. Fluvial arctic grayling are geographically disjunct and reproductively isolated from populations inhabiting Arctic Ocean and Hudson Bay drainages in Canada and Alaska (Scott and Crossman 1973, p. 301). Arctic grayling in the upper Missouri River are reproductively isolated from their nearest conspecifics by at least 800 kilometers (km) (500 miles (mi)) (Nelson and Paetz 1991, p. 255) and have been separated from Arctic Ocean populations for perhaps 70,000 years as a result of glacial activity (Lynch and Vyse 1979, p. 263; Redenbach and Taylor 1999, p. 32). This long period of reproductive isolation coupled with genetic drift and environmental selection pressures has resulted in genetic differences between Arctic grayling from the Missouri River and elsewhere based on analyses of allozymes and mitochondrial DNA (Lynch and Vyse 1979, pp. 263, 268, 275; Everett and Allendorf 1985, pp. 22–23, 26; Everett 1986, pp. 79–80; Redenbach and Taylor 1999, p. 23; reviewed by Campton 2006, pp. 5–6; reviewed by Leary 2005, pp. 1–3).

Fluvial and adfluvial Arctic grayling within the upper Missouri River basin are “markedly separated” from each other as a result of physical features. The fluvial form was once widespread in the upper Missouri River basin, but the adfluvial form was native only to the Red Rocks Lakes and possible Elk Lake in the headwaters of the Beaverhead River (Kaya 1990). Extant populations of native fluvial and adfluvial Arctic grayling within the upper Missouri

River are reproductively isolated, and the available genetic data are consistent with the hypothesis of two genetic groups of Arctic grayling (the Big Hole—Madison River and Red Rock Lakes genetic groups) within the upper Missouri River (Leary 2005, p. 3; Campton 2006, pp. 6–9, 12)

(2) Fluvial Arctic Grayling Are Not Discrete as a Consequence of Physiological Features

We do not believe that fluvial Arctic grayling are discrete because of unique or different physiological characteristics. Lohr et al. (1996) examined the thermal tolerance of juvenile fluvial Arctic grayling from the Big Hole River to elevated temperatures in laboratory tests. However, grayling from the Big Hole River did not appear to be more tolerant of warm stream temperatures than grayling from Alaska (Lohr et al. 1996, p. 937).

Arctic grayling from the upper Missouri River tend to grow more quickly than individuals from northern populations (Northcote 1995, pp. 156–157). However, experimental data are lacking that permit these differences to be attributed to environmental versus genetic influences.

(3) Fluvial Arctic Grayling Are Not Discrete as a Consequence of Ecological Features

The Arctic grayling of the upper Missouri River represent the only natural example of the taxon inhabiting an Atlantic Ocean drainage (via the Missouri and Mississippi Rivers and Gulf of Mexico). All other wild populations of Arctic grayling inhabit drainages of the Arctic Ocean, Hudson Bay, or north Pacific Ocean (USFWS 2005, p. 10). However, fluvial Arctic grayling of the upper Missouri River basin are not discrete from adfluvial Arctic grayling of the upper Missouri River basin as a consequence of ecological features as they exist within a common drainage.

(4) Fluvial Arctic Grayling Are Discrete as a Consequence of Behavioral Features

Under historical conditions within the upper Missouri River basin, native fluvial and adfluvial populations of Arctic grayling spawned in different locations (Vincent 1962, pp. 98–121; Kaya 1990, pp. 24–30; Kaya 1992a, pp. 47–53). Homing behavior to natal (birth) habitats that is typically expressed by Arctic grayling (e.g., Carl et al. 1992, p. 245) would presumably result in the reproductive isolation of historical fluvial and adfluvial populations even if occasional exchange was possible. In

addition, genetic differences between the extant fluvial population in the Big Hole River and the native adfluvial population in Red Rock Lakes (e.g., Everett 1986, pp. 79–30; Leary 1990, pp. 7–8) are consistent with reproductive isolation between those populations based on observed differences in allozyme allele frequencies.

Fluvial and adfluvial Arctic grayling do not appear to represent distinct lineages based strictly on life histories within the upper Missouri River system (e.g., Leary 2005, p. 3; Campton 2006, p. 12); there are clearly some heritable differences in juvenile swimming behavior among fluvial Arctic grayling and the native adfluvial populations in terms of rheotactic response to flowing water (Kaya 1989, pp. 474, 478–479; Kaya 1991, pp. 53, 55–58; Kaya and Jeanes 1995, pp. 453–456). These differences in behavior are sufficient to satisfy the discreteness criterion of the DPS policy.

On the basis of the available information, we conclude that the fluvial Arctic grayling of the upper Missouri River drainage is discrete from other populations of the same taxon as a consequence of physical and behavioral factors. Since a population segment of a vertebrate species may be considered discrete if the first factor is met (marked separateness), we need not address the second factor (delimitation by an international boundary). Therefore, we considered the potential significance of this discrete population to the remainder of the taxon.

Significance

If a population segment is determined to be discrete, the Service considers the available scientific evidence of its significance to the taxon to which it belongs. Our policy states that this consideration may include, but is not limited to, the following:

(1) Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon;

(2) Evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon;

(3) Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; or

(4) Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

A population segment needs to satisfy only one of these criteria to be considered significant. Furthermore, the

list of criteria is not exhaustive; other criteria may be used, as appropriate.

(1) Fluvial Arctic Grayling Do Not Persist in an Ecological Setting Unusual or Unique for the Taxon

As discussed above, Arctic grayling generally occur throughout their native range in the holarctic region of Canada and Alaska to eastern Siberia and northern Eurasia (Scott and Crossman 1973, pp. 301–302). In our 2005 candidate assessment, we asserted that the fluvial Arctic grayling of the upper Missouri River persist in an ecological setting unusual or unique for the taxon as they represent the only natural example of the taxon inhabiting an Atlantic Ocean drainage via the Missouri and Mississippi Rivers and Gulf of Mexico. We noted that all other wild populations of Arctic grayling inhabit drainages of the Arctic Ocean, Hudson Bay, or north Pacific Ocean (USFWS 2005, p. 10). However, as established above, we now note that adfluvial Arctic grayling also persist in the upper Missouri River drainage. Our prior finding did not take these fish into account in its discussion of ecological setting. Because both the fluvial and adfluvial forms are found in the upper Missouri drainage, we cannot find that the population persists in an ecological setting unique or unusual to the taxon as a whole.

Further, existence of the species in a different drainage, or different rivers and lakes, from those grayling found in Canada and Alaska is not necessarily evidence of a unique ecological setting. Arctic grayling in the neararctic region are found in the same habitat type as those in Montana. Grayling inhabit clear water streams, rivers, and lakes. Riverine populations depend on large streams, deep pools of small streams, or spring-fed reaches that are not completely frozen in winter for overwinter survival. Populations not associated with lakes are found in both Alaska and Montana (Hubert 1985, p. 1). For this reason also, we find that fluvial Arctic grayling do not persist in an ecological setting unique or unusual for the taxon.

(2) The Loss of the Fluvial Arctic Grayling Would Not Result in a Significant Gap in the Range of the Taxon

Loss of the fluvial Arctic grayling in the upper Missouri River, when considered in relation to grayling throughout the remainder of the neararctic region, would mean the loss of a small percentage of the entire range of the taxon. Due to the broad geographic range of Arctic grayling, the gap in the

range of Arctic grayling resulting from the loss of fluvial Arctic grayling in the upper Missouri River basin would not result in a significant gap in the range of the taxon as a whole.

In our 2005 candidate assessment, we asserted that the loss of the fluvial Arctic grayling of the upper Missouri River would result in a significant gap in the range of the taxon as these fish are the only extant fluvial grayling population in the contiguous United States and represent the southernmost extent of the species (USFWS 2005, p. 10). However, the Ninth Circuit Court has rejected this argument as a misconstruction of this criterion in the case of *National Association of Home Builders v. Norton*, 340 F. 3d 835, 852 (9th Cir. 2003) concerning the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) (70 FR 44551, August 3, 2005). The Court found that in designating a DPS under the DPS policy, we must find that a discrete population is significant to the taxon as a whole, not to the United States. Therefore, we have determined, based on the information available to the Service, the loss of the fluvial Arctic grayling in the upper Missouri River would not result in a significant gap in the range of the species on the basis of the significance of the Montana population to the species as a whole.

(3) Fluvial Arctic Grayling Do Not Represent the Only Surviving Natural Occurrence of the Taxon

This criterion from the DPS policy does not apply to the fluvial Arctic grayling in the upper Missouri River because it is clearly not a population segment representing the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range. Consequently, this population of grayling is not significant according to this standard.

(4) Fluvial Arctic Grayling in the Missouri River Drainage Do Not Differ Markedly in Genetic Characteristics From Adfluvial Populations in the Missouri River Drainage

As noted above, analyses of allozymes and mitochondrial DNA show genetic divergence between Arctic grayling in the upper Missouri River and Arctic grayling in Canada and Alaska (Lynch and Vyse 1979, pp. 263, 268, 275; Everett and Allendorf 1985, pp. 22–23, 26; Everett 1986, pp. 79–80; Redenbach and Taylor 1999, p. 23; reviewed by Campton 2006, pp. 5–6; reviewed by Leary 2005, pp. 1–3) and appear to be most closely related evolutionarily to populations in northeastern

Saskatchewan, Canada (Stamford and Taylor 2004, p. 1538).

In addition, fluvial Arctic grayling from the Big Hole River are genetically different from native adfluvial Arctic grayling in Red Rock Lakes based on observed differences in allozyme allele frequencies (Campton 2006, p. 6). However, the relative genetic difference between these two groups within the upper Missouri River basin is less than that between upper Missouri River Arctic grayling and sample populations from Alaska and Canada (Leary 1990, pp. 1, 7–8).

Resolving ancestries among recently diverged upper Missouri River Arctic grayling populations is difficult due to the low allozyme variability among samples (Leary 2005, pp. 3–4; Campton 2006, p. 10). In this case, although allozyme data from 39 loci are available from these populations, only 2 of the loci analyzed were generally variable among them (Everett 1986; Leary 1990; Leary 2005, p. 3). Information from only two loci may cause chance similarities or differences and require cautious interpretation (Leary 2005, p. 3).

Likewise, the paucity of genetic variation detected by Redenbach and Taylor (1999, p. 27) in their restriction enzyme analysis of *mtDNA* of upper Missouri River basin Arctic grayling precludes making any inferences about genetic similarities or differences among the upper Missouri River populations sampled except that they all appear to share a common maternal lineage (Leary 2005, p. 4). The level of genetic divergence observed among populations within the upper Missouri River is consistent with what would be expected for populations within a geographic area that share a recent ancestry (Campton 2006, p. 12).

Discerning genetic divergence among Arctic grayling populations is further complicated by the extensive hatchery propagation and transplantation of stocks, as discussed above (Everett 1986, p. 40). The Service does not regard the introduced, lake-dwelling grayling to be part of the indigenous upper Missouri River fluvial Arctic grayling population (59 FR 37739, July 25, 1994). However, widespread stocking of hatchery-reared Arctic grayling in the Big Hole River system and other locations (e.g., Everett 1986, pp. 4, 16; Kaya 1990, pp. 31, 75–80) makes it possible that some fish are introduced populations or that the existing populations are a mixture of native and introduced Arctic grayling.

We find that, based on the genetic information currently available, the fluvial Arctic grayling of the upper Missouri River drainage do not differ markedly from adfluvial populations of

the species in their genetic characteristics such that they should be considered biologically or ecologically significant based simply on genetic characteristics. Biological and ecological significance under the DPS policy is always considered in light of Congressional guidance (see Senate Report 151, 96th Congress, 1st Session) that the authority to list DPSs be used “sparingly” while encouraging the conservation of genetic diversity.

Conclusion on DPS

Under section 3 of the Act and our implementing regulations at 50 CFR 424.02, a “species” is defined to include any species or subspecies of fish, wildlife, or plant, and any distinct population segment of any vertebrate species which interbreeds when mature. Our implementing regulations provide further guidance on determining whether a particular taxon or population is a species or subspecies for the purposes of the Act: “The Secretary shall rely on standard taxonomic distinctions and the biological expertise of the Department and the scientific community concerning the relevant taxonomic group” (50 CFR 424.11). As noted above, Arctic grayling in the upper Missouri River basin have been classified into separate species and subspecies, but these designations are not widely accepted. Therefore, we do not consider the subject of this petition to constitute a distinct species or subspecies.

The 1994 status review identified the fluvial form of Arctic grayling in the upper Missouri River drainage as a DPS based on its geographic isolation and behavioral distinctiveness (59 FR 37738, July 25, 1994). On the basis of the best available information, we continue to conclude that the fluvial Arctic grayling of the upper Missouri River drainage is “markedly separated” from all other populations of the same taxon as a consequence of physical and behavioral factors. Consequently, the Service concludes that the petitioned entity is discrete according to the 1996 DPS policy. However, on the basis of the four significance criteria in the 1996 DPS Policy, the Service is unable to conclude at this time that the petitioned entity is significant. Therefore, we find that the fluvial Arctic grayling of the upper Missouri River does not qualify as a distinct population segment under the Act.

Significant Portion of the Range

Pursuant to the Act and our implementing regulations, a species may warrant listing if it is threatened or endangered in a significant portion of its

range. However, the petition did not request that we determine whether the grayling was threatened or endangered in a significant portion of its range. Rather, it asked that we list the fluvial Arctic grayling in the U.S. as an endangered species. Consistent with the petition, our previous petition findings have uniformly addressed possible listing in the context of whether the fluvial Arctic grayling in Montana constitutes a DPS, and therefore a “species” under the Act. As discussed above, we have now determined that the fluvial Arctic grayling is not a DPS. Thus, we have disposed of the question raised by the petition: we have no obligation under the Act to address the separate question of whether the fluvial Arctic grayling in Montana constitutes a significant portion of the range of some of the entire grayling species, or some valid but currently undefined DPS. If the Service determines in the future that the grayling is threatened or endangered in a significant portion of its range, we will add the species to the candidate list and propose its listing. However, that would be a future action. Because the petition and our prior finding were with respect to a DPS, and we have found that there is not a valid DPS, we do not need to address significant portion of the range at this time.

Finding

On the basis of the discussion presented in this document, we find that the fluvial Arctic grayling of the upper Missouri River does not qualify as a distinct population segment. As a result, we find that the petition to list the fluvial Arctic grayling of the upper Missouri River is not warranted. Based on this determination, we withdraw the fluvial Arctic grayling of the upper Missouri River from the candidate list. Although no further action will result from this finding, we request that you submit new information concerning the taxonomy, biology, ecology, and status of the Arctic grayling of the upper Missouri River system to the Montana Field Office (see **ADDRESSES** below) whenever it becomes available. We will accept additional information and comments from all concerned governmental agencies, the scientific community, industry, or any other interested party concerning this finding; and will reconsider this determination in the event of new information as appropriate. The Service continues to strongly encourage cooperative conservation and restoration of fluvial Arctic grayling in the upper Missouri River.

References

A complete list of all references cited herein is available upon request from the Montana Field Office, U.S. Fish and Wildlife Service (see **ADDRESSES**).

Author

The authors of this finding are biologists in Region 6 of the U.S. Fish and Wildlife Service.

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Dated: April 13, 2007.

H. Dale Hall,

Director, Fish and Wildlife Service.

[FR Doc. E7-7484 Filed 4-23-07; 8:45 am]

BILLING CODE 4310-55-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 070409081-7081-01; I.D. 032907A]

RIN 0648-AS22

Magnuson-Stevens Fishery Conservation and Management Act Provisions; Fisheries of the Northeastern United States; Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan; Amendment 14

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

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes regulations to implement Amendment 14 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP) developed by the Mid-Atlantic Fishery Management Council (Council). The proposed measures include a plan to rebuild the scup stock from an overfished condition to the level associated with maximum sustainable yield, as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This action also proposes to allow the regulations concerning the Gear Restricted Areas (GRAs) to be modified through framework adjustments to the FMP. The intended effect of this change would improve the timing of developing and implementing modifications to the GRAs.

DATES: Comments must be received by 5 p.m. local time, on May 24, 2007.

ADDRESSES: You may submit comments by any of the following methods:

- E-mail: FSBAmdment14ProposedRule@noaa.gov. Include in the subject line the following identifier: "Comments on Amendment 14 Proposed Rule (Scup Rebuilding Plan)."
- Federal e-rulemaking portal: <http://www.regulations.gov>
- Mail: Patricia A. Kurkul, Regional Administrator, NMFS, Northeast Regional Office, One Blackburn Drive, Gloucester, MA 01930. Mark the outside of the envelope: "Comments on Amendment 14 Proposed Rule (Scup Rebuilding Plan)."
- Fax: (978) 281-9135

Copies of Amendment 14 and of the draft Environmental Assessment, preliminary Regulatory Impact Review, and Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) are available from Daniel T. Furlong, Executive Director, Mid-Atlantic Fishery Management Council, Room 2115, Federal Building, 300 South New Street, Dover, DE 19901-6790. The EA/RIR/IRFA is also accessible via the Internet at <http://www.nero.noaa.gov>.

FOR FURTHER INFORMATION CONTACT:

Michael P. Ruccio, Fishery Policy Analyst, (978) 281-9104.

SUPPLEMENTARY INFORMATION: On August 18, 2005, NMFS notified the Council that the scup (*Stenotomus chrysops*) stock had been designated as overfished and that, within 1 year of that notice, an amendment or proposed regulations for the scup fishery to end overfishing and to rebuild the stock must be prepared in accordance with the Magnuson-Stevens Act. In response, the Council has developed, and submitted for Secretarial review, Amendment 14 to propose two actions: (1) A 7-year plan to rebuild the scup stock from an overfished condition to a level associated with maximum sustained yield (B_{msy}), as required by the Magnuson-Stevens Act; and (2) an administrative change to the regulations on framework adjustments.

Background

The scup stock was determined to be overfished in 1998 when the Sustainable Fisheries Act (SFA) amendments to the Magnuson-Stevens Act were implemented. The Council developed and proposed Amendment 12 (64 FR 16891, April 7, 1999) to rebuild the scup stock in accordance with the provisions outlined in the SFA. The Council proposed in Amendment 12 that the management measures in place to rebuild the scup fishery, established by Amendment 8, were

adequate under SFA guidelines. NMFS disagreed, and the rebuilding plan proposed in Amendment 12 was disapproved on April 28, 1999. Following the disapproval, the management measures previously implemented by Amendment 8 remained in place for the scup fishery.

In years subsequent to the disapproval of Amendment 12, the scup stock exhibited signs of recovery. The Northeast Fisheries Science Center (NEFSC) spring survey index 3-year average value for 2001-2003 indicated that scup spawning stock biomass (SSB) had increased to 3.31 kg/tow, above the minimum biomass threshold ($1/2 B_{msy}$) of 2.77 kg/tow. The scup stock was no longer considered overfished, although the 35th Stock Assessment Review Committee (SARC 35) indicated that the status of the stock with respect to overfishing could not be evaluated. Although the condition of the scup stock was improving, the stock had not yet been rebuilt, as required by the Magnuson-Stevens Act, to the B_{msy} proxy rebuilding target of 5.54 kg/tow.

In 2005, the NEFSC 3-year SSB index value decreased to 0.69 kg/tow, indicating that the stock was again below the minimum biomass threshold ($1/2 B_{msy}$) and considered overfished. NMFS formally notified the Council of the overfished status of the scup stock, thus initiating the Magnuson-Stevens Act requirement that the Council develop regulations or an amendment to the FMP to rebuild the scup stock to the B_{msy} proxy level. The rebuilding plan implemented by such regulations or amendment must achieve the rebuilding target within 10 years to comply with the Magnuson-Stevens Act. In response, the Council has developed, and submitted for Secretarial review, Amendment 14.

Proposed Scup Rebuilding Plan

Under Amendment 14, a constant fishing mortality rate (F) of 0.10 would be applied each year during a 7-year rebuilding time period. Under this approach, the NEFSC 3-year SSB index value for the rebuilding period ending December 31, 2014, is projected to be 5.96 kg/tow, approximately 8 percent above the B_{msy} proxy rebuilding target (5.54 kg/tow).

Applying a constant $F=0.10$ for 7 years is projected to achieve the required stock rebuilding to comply with the Magnuson-Stevens Act; however, because scup is a relatively data poor stock and uncertainty exists around estimates of fishing mortality, stock size, and discards, Amendment 14 contains additional criteria to be