Governmental Actions and Interference with Constitutional Protected Property Rights.

Executive Order 12988 (Civil Justice Reform)

This action meets applicable standards in Sections 3(a) and 3(b)(2) of E.0. 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Executive Order 13045 (Protection of Children)

We have analyzed this action under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and does not concern an environmental risk to health or safety that may disproportionately affect children.

List of Subjects in 49 CFR Part 390

Highway safety, Motor carriers, Motor vehicle identification and marking, Reporting and recordkeeping requirements

In consideration of the foregoing, the FMCSA amends title 49, Code of Federal Regulations, Chapter III, as follows:

PART 390—[AMENDED]

1. Revise the authority citation for part 390 to read as follows:

Authority: 49 U.S.C. 13301, 13902, 31132, 31133, 31136, 31502, 31504; sec. 204, Pub. L. 104–88, 109 Stat. 803, 941 (49 U.S.C. 701 note); sec. 217, Pub. L. 105–159, 113 Stat. 1748, 1767; and 49 CFR 1.73.

2. Amend § 390.19 by revising paragraph (a) and adding paragraph (g) to read as follows:

§ 390.19 Motor carrier identification report.

(a) Each motor carrier that conducts operations in interstate commerce must file a Motor Carrier Identification Report, Form MCS–150 at the following times:

(1) Before it begins operations; and

(2) Every 24 months, according to the following schedule:

USDOT Number ending in:	Must file by last day of:
1	January.
2	February.
3	March.
4	April.
5	May.
6	June.
7	July.
8	August.
9	September.
0	October.

(3) If the next-to-last digit of its USDOT number is odd, the motor carrier shall file its update in every odd-numbered calendar year. If the next-to-last digit of the USDOT number is even, the motor carrier shall file its update in every even-numbered calendar year.

(4) Notwithstanding the schedule set forth in paragraph (a)(2) of this section, a motor carrier that would be required to file the MCS–150 by the end of January or February, 2001 must file the form by the end of March, 2001.

* * * * *

(g) A motor carrier that registers its vehicles in a State that participates in the Performance and Registration Information Systems Management (PRISM) program (authorized under section 4004 of the Transportation Equity Act for the 21st Century [(Public Law 105–178, 112 Stat. 107]) is exempt from the requirements of this section, provided it files all the required information with the appropriate State office.

* * * * *

Issued on: November 16, 2000.

Clyde J. Hart, Jr.,

Acting Deputy Administrator.

[FR Doc. 00–30032 Filed 11–22–00; 8:45 am]

BILLING CODE 4910–EX–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 224

[Docket No. 001103310-0310-01; I.D. 061199B]

Endangered and Threatened Species: Puget Sound Populations of Pacific Hake, Pacific Cod, and Walleye Pollock

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

ACTION: Notice of determination.

SUMMARY: NMFS has completed an Endangered Species Act (ESA) status review for Pacific cod (*Gadus macrocephalus*), Pacific hake (*Merluccius productus*), and walleye pollock (*Theragra chalcogramma*) populations from the eastern North Pacific Ocean between Puget Sound, Washington, and southeast Alaska. After reviewing available scientific and commercial information, NMFS has determined that none of the petitioned populations in Puget Sound constitute ‘‘species’’ under the ESA. The agency concludes that these populations are part of larger distinct population segments (DPSs) that qualify as species under the ESA but do not warrant listing as threatened or endangered at this time. However, NMFS is adding the Georgia Basin Pacific hake DPS to the agency's list of candidate species because of remaining uncertainties about its stock structure and status.

DATES: Effective November 24, 2000.

ADDRESSES: Protected Resource Division, NMFS, 525 NE Oregon Street, Suite 500, Portland, OR 97232. Reference materials regarding this determination can be obtained via the Internet at www.nwr.noaa.gov/1salmon/salmesa/pubs.htm.

FOR FURTHER INFORMATION CONTACT: Garth Griffin, NMFS, Northwest Region (503) 231-2005, or Marta Nammack, NMFS, Office of Protected Resources (301) 713-1401.

SUPPLEMENTARY INFORMATION:

Petition Background

On February 8, 1999, the Secretary of Commerce received a petition from Sam Wright of Olympia, Washington to list and designate critical habitat for 18 species of marine fishes in Puget Sound, Washington, under the ESA. On June 21, 1999 (64 FR 33037), the agency accepted the petition for seven of these species, including three members of the family Gadidae (gadids): Pacific cod, Pacific hake, and walleye pollock (also referred to as cod, hake, and pollock). The petitioner requested listings for ‘‘species/populations or evolutionary [sic] significant units’’ in Puget Sound, Washington. Under the ESA, a listing determination can address a species, subspecies, or a distinct population segment (DPS) of a species (16 U.S.C. 1532 (15)). The term ‘‘evolutionarily significant unit’’ is currently defined only for Pacific salmonid DPSs (56 FR 58612, November 20, 1991). Therefore, for definitions of these petitioned species, NMFS relied on the DPS framework described in the joint NMFS/USFWS policy (61 FR 4722, February 7, 1996), see ‘‘Consideration as a ‘Species’ Under the ESA’’ section.

To ensure a comprehensive review, NMFS requested comments from any party having relevant information concerning (1) biological or other relevant data that may help identify gadid DPSs; (2) the range, distribution, and size of these species' populations in Puget Sound and coastal waters of Washington and British Columbia; (3) current or planned activities and their possible impact on these species; and (4) efforts being made to protect these species in Washington and British Columbia. NMFS also requested quantitative evaluations describing the quality and extent of estuarine and marine habitats for these species, as well as information on areas that may qualify as critical habitat in Washington. Although the status review focused on the petitioned populations in Puget Sound, NMFS also considered populations from the U.S. West Coast, British Columbia, and southeast Alaska because of their geographic proximity and potential relationship to gadid stocks in Puget Sound.

A NMFS Biological Review Team (BRT), comprising staff from NMFS' Northwest Fisheries Science Center and Alaska Fisheries Science Center, has completed a review of the best available scientific and commercial information pertaining to cod, hake, and pollock from Puget Sound to southeast Alaska (NMFS, 2000). This document summarizes the principal results of this status review. Copies of the entire BRT report and other documents pertaining to this review are available upon request (see **ADDRESSES**).

Biological Background

The following section describes briefly the general physical setting and biological attributes of cod, hake, and pollock. More detailed information can be obtained from the NMFS status review (NMFS, 2000) and species accounts contained in Miller and Lea (1972), Hart (1973), Eschmeyer *et al.* (1983), and Kessler (1985).

The petition focused on populations in Puget Sound, a fjord-like estuary located in northwest Washington State that covers an area of about 9,000 km2, including 3,700 km of coastline. It is subdivided into five basins or regions: (1) North Puget Sound, (2) Main Basin, (3) Whidbey Basin, (4) South Puget Sound, and (5) Hood Canal. The Georgia Basin is an international water body that encompasses the marine waters of Puget Sound, the Strait of Georgia, and the Strait of Juan de Fuca. The coastal drainage of the Georgia Basin is bounded to the west and south by the Olympic and Vancouver Island mountains, and to the north and east by the Cascade and Coast Ranges. The petition addressed only those stocks of hake and pollock in the Whidbey Basin, the Main Basin, the Hood Canal, and the South Puget Sound. The petitioner stated that fishery patterns, spawning locations, parasite markers, and tagging studies indicate the existence of three population groups within Puget Sound—one located in the Straits of Georgia and the area around Bellingham, one in eastern Strait of Juan de Fuca and Port Townsend Bay, and one in the area south of Admiralty Inlet that encompasses Hood Canal, Agate Passage, and Dalco Passage.

Pacific Hake

Hake range from Sanak Island in the western Gulf of Alaska to Magdalena Bay, Baja California, and are most abundant in the California Current System (Hart, 1973; Bailey, 1982; NOAA, 1990; Love, 1991). In addition to the abundant migratory population of Pacific hake that spawn offshore from Cape Mendocino, California to southern Baja California, several other stocks of Pacific hake have been identified, including at least two that spawn in Puget Sound, several in the Strait of Georgia, several in the west coast inlets of Vancouver Island, and a small-bodied (''dwarf hake'') off the west coast of southern Baja California (Nelson, 1969; Bailey *et al.*, 1982; Ermakov, 1982; Bailey and Yen, 1983; Beamish and McFarlane, 1985; Pedersen, 1985; Bollens *et al.*, 1992; Quirollo, 1992; Alados *et al.*, 1993; Methot and Dorn, 1995; Fox, 1997).

Hake may spawn more than once per season at depths between 130 and 500 m; spawning in Puget Sound occurs primarily from February through April and peaks in March (W. Palsson, Washington Department of Fish and Game (WDFW), pers. comm., 1999). Stocks in the Strait of Georgia and Puget Sound spawn adjacent to major sources of freshwater inflow, near the Frazer River in the Strait of Georgia and near the Skagit and Snohomish Rivers in Port Susan (McFarlane and Beamish, 1985; Pedersen, 1985). Eggs hatch in 4 to 6 days, depending on the water temperature. Larvae typically metamorphose into juveniles in 3 to 4 months (Hollowed, 1992). Juveniles reside in shallow coastal waters, bays, and estuaries (Dark, 1975; Bailey, 1981; Bailey *et al.*, 1982; NOAA, 1990; Dark and Wilkins, 1994; Dorn, 1995; Sakuma and Ralston, 1995; Smith, 1995) and move to deeper water as they get older (NOAA, 1990). Adult hake school at depths between 50 and 500 meters (m) during the day, then move to the surface and disband at night to feed (Sumida and Moser, 1980; McFarlane and Beamish, 1986; Tanasich *et al.*, 1991).

In Puget Sound and the Strait of Georgia, female hake mature at 4 to 5 years of age (McFarlane and Beamish, 1986) and growth ceases for both sexes at 10 to 13 years (Bailey et al., 1982). The maximum age for hake is about 20 years, but hake over age 12 are rare (Methot and Dorn, 1995). Absolute fecundity is difficult to determine because hake may spawn more than once per season. Coastal stocks have 180-232 eggs/g body weight, but Puget Sound and Strait of Georgia stocks have only 50-165 eggs/g body weight (Mason, 1986). Bailey (1982) estimated that a 28-cm female had 39,000 eggs, while a 60-cm female had 496,000 eggs.

Pacific Cod

Cod are found in continental shelf and upper continental slope waters of the North Pacific Ocean from Port Arthur, China, in the northern Yellow Sea, around the North Pacific Rim, into the Bering Sea as far north as the Chukchi Sea, and south along the North American coast to Santa Monica Bay, California (Pinkas, 1967; Hart, 1973; Bakkala *et al.*, 1984; Allen and Smith, 1988; Love, 1991; Stepanenko, 1995; Westrheim, 1996). Cod are also found off the east coast of Japan from Tokyo Bay to northern Hokkaido, on the west coast of Japan in the Sea of Japan, and off the coasts of the Sakhalin and Kurile Islands (Bakkala *et al.*, 1984; Fredin, 1985). Off North America, the southern limit of commercial cod fishing lies between Cape Flattery and Destruction Island on the Washington outer coast (Ketchen, 1961).

Cod are an important groundfish in shallow, soft-bottomed marine and estuarine habitats along the west coast (Garrison and Miller, 1982). Garrison and Miller (1982) reported that all cod life stages are found in various bays in Puget Sound and in the Strait of Juan de Fuca. Adults and large juveniles prefer mud, sand, and clay substrates, although Palsson (1990) and Garrison and Miller (1982) found adults associated with coarse sand and gravel substrates. Although cod are not considered a migratory species, individual adult cod have been found to move more than 1,000 km (NOAA, 1990; Shimada and Kimura, 1994).

Cod are single-batch spawners, releasing all ripe eggs in a single spawning event within a few minutes' time (Sakurai, 1989; Sakurai and Hattori, 1996). Spawning occurs from late fall to early spring in Puget Sound (Garrison and Miller, 1982). Cod eggs are demersal, weakly adhesive, and usually found associated with coarse sand and cobble bottoms (Phillips and Mason 1986). Eggs and larvae are found over the continental shelf between Washington and central California from winter through summer (Dunn and Matarese, 1987; Palsson, 1990). Small juveniles (between 60 and 150 mm in length) usually settle into intertidal/subtidal habitats, commonly associated with sand and eel grass, and gradually move into deeper water with increasing age (NOAA, 1990; Miller *et al.*, 1976).

In British Columbia waters, 50 percent of the male cod have been reported to be sexually mature at 41-53 cm, and 50 percent of the females have been reported to be mature at 47-56 cm (Westrheim, 1996). For cod spawning near Port Townsend, both sexes mature by 2 years and 45 cm (NOAA, 1990). In general, fecundity in cod has been estimated between 225,000 and 5 million eggs per spawning female (Forrester, 1969; Alderdice and Forrester, 1971; Hart, 1973; NOAA, 1990; Palsson, 1990).

Walleye Pollock

Pollock are found in the waters of the northeastern Pacific Ocean from the Sea of Japan, north to the Sea of Okhotsk, east to the Bering Sea and Gulf of Alaska, and south along the Canadian and U.S. West Coast to Carmel, California (Phillips, 1942 and 1943; Hart, 1973; Bailey *et al.*, 1999). Currents, eddies, and meso-scale physical coastal structures influence the distribution of their early life-history stages. The distributions of later life-history stages appear to be influenced by temperature, light, and prey abundance—variables that may change from year to year in a given area (Bailey, 1989; Swartzman *et al.*, 1994; Olla *et al.*, 1996; Sogard and Olla, 1996a,b; Brodeur *et al.*, 1997). Adult pollock inhabit the continental shelf and slope (Saunders *et al.*, 1989), though various life-history stages are capable of inhabiting nearshore areas, large estuaries (such as Puget Sound), coastal embayments, and open ocean basins, such as the Aleutian Basin of the Bering Sea (Bailey *et al.*, 1999). Adults have been found as deep as 366 m (Hart, 1973), but the vast majority range between 100 and 300 m. Larvae and small juveniles are generally found in the upper water column to depths of 60 m (Garrison and Miller, 1982; Bailey *et al.*, 1999), but have been found in a variety of habitat types, including eelgrass (over sand and mud), and over gravel and cobble substrates (Miller *et al.*, 1976). Pollock are not considered a migratory species, but pre-spawning adults do make relatively short journeys to regional spawning grounds (Muigwa, 1989).

During spawning, pollock apparently pair and spawn after a complex courtship (Sakurai, 1982; Baird and Olla, 1991). Females spawn several batches of eggs over a short period of time (Sakurai, 1982; Hinckley, 1987). Eggs are usually spawned in deep water and remain suspended in the water column at 100-400 m at most spawning localities (Kendall *et al.*, 1994), but can also be spawned in shallower waters in coastal bays. Larvae metamorphose into juveniles at a length of about 18 mm (Bailey, 1989; Grover, 1990; Merati and Brodeur, 1996). In the first year, juveniles grow about 1 mm per day, reaching 80-100 mm in length in 6 months and 120-140 mm by the end of the first year. The growth rates of juvenile and adult walleye pollock in the Georgia Basin appear to be retarded compared with pollock from coastal waters.

In western Gulf of Alaska waters, males have been reported to be sexually mature at age 3 and at a length of 29-32 cm; similarly, 3-year-old females (30-35 cm) were sexually mature (Garrison and Miller, 1982). A study by Saunders *et al.* (1989) reports that male pollock from coastal waters off of British Columbia reached a maximum length of approximately 50 cm by age 7, whereas male pollock from the Strait of Georgia reached a maximum length of 40 cm by age 5. Female pollock from these areas showed a similar trend, but their maximum length was a few cm longer. Fecundity estimates are not available for pollock in Puget Sound (Matthews, 1987), and it is difficult to compare fecundity between pollock from different regions because of the possibility of interannual variability within regions (Hinckley, 1987) and the lack of standardized methodology. However, some comparisons do reflect geographical differences in fecundity between the Bering Sea, Shelikof Strait, and Strait of Georgia (Miller *et al.*,1986).

Consideration as a ''Species'' Under the ESA

To qualify for listing as a threatened or endangered species, the petitioned populations of Puget Sound cod, hake, and pollock must be considered ''species'' under the ESA. Section 3(15) of the ESA defines a ''species'' to include any ''distinct population segment of any species of vertebrate which interbreeds when mature.'' On February 7, 1996, the U.S. Fish and Wildlife Service and NMFS adopted a policy to clarify their interpretation of the phrase ''distinct population segment of any species of vertebrate fish or wildlife'' for the purposes of listing, delisting, and reclassifying species under the ESA (51 FR 4722). The joint policy identifies two elements that must be considered when making DPS determinations: (1) the discreteness of the population segment in relation to the remainder of the species (or subspecies) to which it belongs; and (2) the significance of the population segment to the species or subspecies to which it belongs.

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

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

This is the first NMFS status review that attempts to apply the DPS criteria to marine fish species over a broad geographic area of the North Pacific Ocean and, as noted previously, the agency's assessment included gadid stocks from a larger range (i.e., U.S. West Coast, British Columbia and southeast Alaska) than that petitioned. NMFS considered several kinds of information in this status review to attempt to delineate DPSs of Pacific hake, Pacific cod, and walleye pollock in Puget Sound. The first kind of information was habitat characteristics that might indicate that the population segment occupies an unusual or unique ecological setting for the species as a whole. The second kind of information was to consider geographical variability in phenotypic and life-history traits that may reflect local adaptation. Such traits may have an underlying genetic basis, but are often strongly influenced by environmental factors from one locality to another. The third kind of information consisted of mark-recapture studies, which give insight into the physical movement of individuals between areas. The fourth kind of information consisted of traits that are inherited in a predictable way and remain unchanged throughout the life of an individual. Differences among populations in the frequencies of these genetically determined traits may reflect isolation between the populations. Based on the DPS criteria described above and after assessing the best available scientific and commercial information, NMFS has identified DPSs for each of the three gadid species. The information reviewed and the resultant DPS characterizations are summarized here.

Pacific Hake

There is considerable evidence indicating that Puget Sound and Strait of Georgia stocks (inshore stocks) represent a population that is distinct from coastal populations. Hake are most abundant in the California Current system (Hart, 1973; Bailey, 1982; NOAA, 1990; Love, 1991). Coastal stocks spawn off California in the winter, then mature adults begin moving northward and inshore, following the food supply and Davidson currents (NOAA, 1990). Hake reach as far north as southern British Columbia by fall, then by late fall they begin migrating to southern spawning grounds and more offshore areas (Bailey *et al.*, 1982; Stauffer, 1985; Dorn, 1995; Smith, 1995). The inshore stocks follow similar migration patterns but on a greatly reduced scale (McFarlane and Beamish, 1986; Shaw *et al.*, 1990). Hake that spawn in the Strait of Georgia, in Puget Sound at Port Susan and Dabob Bay, and in Nootka Sound, Barkley Sound, and Sydney Inlet on Vancouver Island are essentially resident stocks, although they may undertake relatively short spawning migrations (Ware and McFarlane, 1995). Puget Sound and Strait of Georgia stocks spend their entire lives in these estuaries (McFarlane and Beamish, 1986; Shaw *et al.*, 1990), indicating that little intermixing occurs between these populations and their coastal counterparts.

In addition, available data show that inshore stocks have substantially slower growth rates than the coastal hake (Alverson and Larkins, 1969; Nelson and Larkins, 1970). Studies also indicate that individuals in the inshore population are substantially smaller than those in the coastal population, further suggesting discreteness between the two populations (Nelson, 1969; Beamish, 1979; Pedersen, 1985). Puget Sound stocks appear to mature at a smaller size than stocks in the Strait of Georgia (Nelson, 1969; Beamish, 1979; Pedersen, 1985), but this difference may have been caused by an intense commercial hake fishery in Puget Sound (Pedersen, 1985).

NMFS also looked at otolith morphometrics to further evaluate population discreteness. Otoliths from coastal hake were compared with those from the Strait of Georgia hake and were found to be more elongate and less concave in section (McFarlane and Beamish, 1985), and an earlier study (Anonymous, 1968) reported that otoliths from Puget Sound hake varied from those found in offshore hake. Although there were no data to allow a comparison between Strait of Georgia and Puget Sound stocks, the available evidence appears to lend further support to the hypothesis that the coastal and inshore populations are distinct.

Parasitological data also suggest that inshore hake stocks do not substantially intermingle with the coastal migratory stocks. A species of protozoan parasite is present only in the coastal stock, indicating that the parasite infected the offshore stocks after the inshore stocks had been isolated in the Georgia Basin (Kabata and Whitaker, 1981 and 1985; McFarlane and Beamish, 1985). In contrast, there is not enough information on parasite incidences to show whether Puget Sound stocks are isolated from Strait of Georgia populations.

Genetic studies indicate that inshore hake stocks are reproductively isolated from the offshore population. Samples collected from fish in or near the spawning ground (Port Susan) and during spawning show that allozyme frequencies differ significantly between the inshore and the offshore populations (Utter, 1969; Utter and Hodgins, 1969 and 1971; Utter *et al.*, 1970). However, there are no similar data to evaluate the degree of reproductive isolation between Puget Sound and Strait of Georgia populations.

NMFS also reviewed available data to determine if hake in Puget Sound and the Strait of Georgia occupied a unique setting within the biological species as a whole. NMFS found that these are the only hake populations to inhabit fjord-like environments. These hake spawn in deep, inshore basins that receive large freshwater inputs, a much different environment from the coastal hake that spawn 60 to 1,655 km offshore (Saunders and McFarlane, 1997).

DPS Determination. NMFS concludes that the hake populations identified by the petitioner do not constitute a ''species'' under the ESA, but are part of a larger ''Georgia Basin Pacific hake DPS'' consisting of inshore resident hake from Puget Sound and the Strait of Georgia. This DPS encompasses at least five geographically discrete spawning aggregates that are found in Dabob Bay and Port Susan in Puget Sound and the south-central Strait of Georgia, Stuart Channel, and Montgomery Bank in the Strait of Georgia.

Although NMFS could not with any certainty identify multiple populations or DPSs of hake within the Georgia Basin, the agency acknowledges the possibility that significant structuring may exist within the proposed DPS and that such structure might be revealed by new information. The agency expects to receive some new information in the near future that will likely resolve many of the uncertainties about the status and relationship of hake stocks within the Georgia Basin DPS. When this information becomes available, and as resources permit, NMFS will re-assess the configuration of this DPS.

Pacific Cod

Cod in Puget Sound have been categorized into three components by the Washington Department of Fish and Wildlife: a North Sound component located in U.S. waters north of Deception Pass (including the San Juan Islands, Strait of Georgia, and Bellingham Bay), a West Sound component (located west of Admiralty Inlet and Whidbey Island, and in the U.S. section of the Strait of Juan de Fuca— including Port Townsend), and a South Sound component (located south of Admiralty Inlet).

To determine whether the petitioned Puget Sound populations are distinct from each other (or from coastal stocks), NMFS analyzed tagging studies to determine the amount of spawning fidelity within the stocks. Although limited tagging data from Puget Sound and Strait of Georgia spawning fish indicated some spawning fidelity, the same studies also showed movement of spawning cod into other known spawning areas, suggesting a larger stock structure. Tagging studies in the eastern Bering Sea and adjacent waters found ''sufficient migration to explain Grant *et al.*'s (1987) findings of genetic homogeneity in cod over broad areas of the North'' (Shimada and Kimura, 1994). These results support the hypothesis that Puget Sound populations are part of a larger population group.

There are very few data on genetically based population structures among Puget Sound cod. Genetic studies indicate that there is reproductive isolation between western (Asia) and eastern (North America including the Bering Sea) Pacific cod, but there is little evidence to indicate isolation among North American stocks (Grant *et al.*, 1987). NMFS concluded that the current genetic information suggests that Puget Sound cod are part of a larger distinct population; however, NMFS does not rule out the possibility that genetic studies of spawning fish may show a more substantial amount of genetic divergence between populations.

NMFS analyzed other available information regarding the reproductive isolation of Puget Sound cod but found no evidence to support a Puget Sound DPS. For example, cod in their southern range are relatively fast growing compared with other populations further north, but this may simply be a function of increased metabolic activity and longer growing seasons in warmer southern waters. Studies also suggest that southern populations are isolated from northern populations because they have higher size-specific fecundities than northern stocks. However, this could be recruitment compensation for southern populations that appear to grow and mature at faster rates and die at a younger age than do cod from northern areas (Ketchen, 1961; Thomson, 1962; Foucher and Tyler, 1990). There was very little parasitological information to show whether the cod population is structured on a finer scale.

NMFS also analyzed habitat characteristics for cod at the population level and determined that cod occupy and spawn in fjord-type marine habitats along the coasts of British Columbia and southeastern Alaska that are ecologically similar to those found in Puget Sound. Thus, the Puget Sound ecological setting is not unique to cod, nor is there geographical variability in the species phenotypic or life-history traits that show local adaptation to fjord-like marine habitats.

DPS Determination. NMFS concludes that the cod populations identified by the petitioner do not constitute a ''species'' under the ESA, but are part of a larger ''Pacific cod DPS'' consisting of cod populations from Puget Sound to at least as far north as Dixon Entrance (near the Queen Charlotte Islands, British Columbia). The agency considered several possible DPS configurations for cod in the northeastern Pacific Ocean in attempting to identify a ''discrete'' and ''significant'' segment of the biological species that incorporates Puget Sound cod populations. While there are very few data at present to identify the exact northern boundary of the DPS, the agency believes that the best available information supports identifying a DPS that is substantially larger than that identified by the petitioner.

Walleye Pollock

NMFS assessed information indicating persistent stock structure throughout the species' range, suggesting that pollock exhibit homing fidelity. However, though stock structure of pollock appears to be persistent, little evidence for a direct parent/offspring linkage exists. The broad area of spawning in the northeast Pacific Ocean and the broad distribution of pelagic eggs and larvae also raise questions about the level of isolation among local spawning populations. In addition, this species is considered to be an opportunistic colonizer, able to take advantage of ecological niches by rapid growth, early maturity, and high fecundity (Bailey *et al.*, 1999). This life history characteristic suggests that pollock are able to inhabit areas where they did not historically exist and to reoccupy areas that were once inhabited.

Pollock show a more or less continuous distribution of spawning sites from Puget Sound through southeast Alaska, and populations within this range spawn from March to early June in the same locations year after year. In contrast, Bering sea stocks spawn throughout a 10-month period from January to October (Bulatov, 1989) and, possibly, into November (Mulligan *et al.*, 1989). Hence, the homogeneity of reproductive traits among stocks from Puget Sound to southeast Alaska suggests a larger population structure than that identified by the petitioner. Unfortunately, there is not enough information from other sources—e.g., tagging, parasite incidence, fecundity, and local population genetics—to determine whether population structures should be defined on a smaller scale. For example, there is little evidence to show genetic differentiation of pollock populations at scales smaller than Asia versus North America. However, a recent microsatellite DNA study has shown statistically significant differences among pollock samples collected in Puget Sound (Port Townsend), the southeastern Bering Sea, and the Gulf of Alaska.

NMFS also analyzed habitat characteristics for pollock at the population level and determined that pollock, like cod, inhabit and spawn in marine habitats along the coasts of British Columbia and southern Alaska that are ecologically similar to those found in Puget Sound. These populations spawn in sea valleys, canyons, or indentations in the outer margin of the continental shelf. They are also known to spawn in fjords and deepwater bays whereas pollock in the Bering Sea and Gulf of Alaska spawn over deep water and the continental shelf. Thus, the Puget Sound ecological setting is not unique to pollock in the eastern North Pacific Ocean.

Studies indicate that pollock densities and abundance decrease markedly east of 140° W longitude (Dorn *et al.*, 1999a), and the pollock management boundary between the Gulf of Alaska and southeast Alaska has been set at this line of longitude. Also, zoogeographic zones of coastal marine fishes and invertebrates further suggest a pollock population structure that extends beyond Puget Sound but no farther north than southeast Alaska. Two zones have been identified within the lower boreal Eastern Pacific with a transition area found in the coastal region from Puget Sound to Sitka, Alaska (Briggs, 1974; Allen and Smith, 1988). In addition, many marine fish species common to the Bering Sea extend southward into the Gulf of Alaska but apparently no further south (Briggs, 1974). NMFS viewed this as further evidence that Puget Sound pollock stocks are likely part of a larger population that extends to southeast Alaska.

DPS Determination. NMFS concludes that the pollock populations identified by the petitioner do not constitute a ''species'' under the ESA, but are part of a larger ''Lower Boreal Eastern Pacific pollock DPS'' consisting of pollock populations from Puget Sound to southeast Alaska (i.e., at or near a boundary of 140° W longitude). The agency considered several possible DPS configurations for pollock in the northeastern Pacific Ocean in attempting to identify a ''discrete'' and ''significant'' segment of the biological species that incorporates Puget Sound populations. Some evidence suggests that multiple stocks exist within this DPS, but the agency believes that the evidence is insufficient to support a geographically smaller DPS.

Status of Hake, Cod, and Pollock DPSs

In considering whether these DPSs should be listed as threatened or endangered under the ESA, NMFS evaluated both qualitative and quantitative information. The qualitative evaluations included recent, published assessments by a variety of sources, while quantitative assessments were based on current and historical abundance information and time series data compiled principally by fisheries agencies in Washington and Canada.

Georgia Basin Pacific Hake DPS

The biomass of hake in Port Susan during the spawning period has declined by 85 percent over the past 15 years, and total abundance has dropped to less than 11 million fish in the year 2000. Size composition and size at maturity for females have also decreased substantially. In contrast, these changes are not evident among hake populations in the Canadian portion of the Strait of Georgia. Saunders and McFarlane (1999) indicated that a conservative estimate of hake biomass in the Canadian portion of the Strait of Georgia during the 1990s was about 50,000 to 60,000 metric tons (mt) and that biomass was stable during that decade. Biomass estimates for the Port Susan population ranged from 10,648 mt in 1990 to 2,365 mt in 1999. Using these estimates, the Port Susan hake population constituted between 3.8 and 17.6 percent of the combined Port Susan-Strait of Georgia population during the 1990s. Thus, if the Canadian portion of the Strait of Georgia population is maintained, loss of the Port Susan population does not appear to pose a serious extinction risk for the entire Georgia Basin DPS.

There is a great deal of uncertainty regarding the effects of potential risk factors on hake stocks within the Georgia Basin DPS. While there are data on some risk factors, others are not well documented or are only suspected to be factors for decline. Examples of the latter include habitat alterations in Puget Sound, resulting in the potential loss of eelgrass and kelp beds that contribute important hake food sources, and changes in river flow patterns and increased turbidity that could degrade habitat conditions. In contrast, NMFS was able to examine more quantitatively the possible effects of harvest and pinniped predation on hake in the Georgia Basin. Harvest rates by commercial fishers showed a precipitous decline from 8,986 mt in 1982 to 41 mt in 1990, and by 1991 the fishery was closed because of low abundances (W. Palsson, WDFW, pers. comm., 1999). NMFS (1997) estimated that California sea lions consumed 830 mt of Puget Sound hake per year (on average) between 1986 and 1994. This study also estimated that harbor seals consumed 3,209 mt in eastern bays and 1,649 mt in Puget Sound proper in 1993, and Saunders and McFarlane (1999) estimated that harbor seals consumed 11,000 mt of hake in the Strait of Georgia in 1996.

Changes in migratory behavior among the offshore hake populations appear to be related to environmental factors (Dorn, 1975). During warm years, the offshore hake population is found off Canada during the summer feeding season and, during the very warm period of the late 1990s, some hake apparently spawned off Washington and Canada (i.e., much further north than the typical spawning area off California and Mexico) (Dorn *et al.*, 1999a). The Port Susan population has apparently changed more than the Canadian portion of the DPS. It is possible that warm environmental conditions have caused the Port Susan area to be relatively less favorable for hake spawning than the Canadian portion of the Strait of Georgia. Some of the Port Susan population may have migrated to Canadian waters, or perhaps there has been less movement down from Canadian waters now than in previous years.

While some uncertainty remains regarding the geographic extent of this DPS and its overall level of risk, available evidence suggests that millions of hake are present in large parts of the DPS. Therefore, NMFS concludes that the Georgia Basin Pacific hake DPS is not presently in danger of extinction nor is it likely to become so in the foreseeable future. Resources permitting, NMFS will re-assess the status of this DPS when new information becomes available to resolve remaining uncertainties about its stock structure and status.

Pacific Cod DPS

Commercial landings of cod off the U.S. west coast peaked in 1988 at 3,343 mt and have steadily declined since that peak to an estimated 404 mt in 1998. The majority of these landings are reported from Washington State ports (Pacific Fishery Management Council, 1999). The cod stock off the U.S. west coast reportedly is more prone to recruitment failure than the northern stocks, suggesting that the environmental conditions necessary for successful spawning and larval success occur infrequently in this area (Dorn, 1993).

Status assessments for Puget Sound cod populations are based primarily on trends in fishery statistics since 1970 (Palsson, 1990; Palsson *et al.*, 1997). Catches since 1970 have shown alternating periods of good catch years with periods of poor catch years, fluctuating around a 900-mt level between the mid-1970s and mid-1980s. Catches peaked at 1,588 mt in 1980, then declined fairly steadily to low levels--about 13.6 mt in 1994 (Palsson *et al.*, 1997). Due to concerns over the species' decline, commercial fishing for cod was prohibited in Puget Sound south of Admiralty Inlet in 1987. Catch rates north of Admiralty Inlet followed similar declines.

The primary stock indicator for Puget Sound, north of Admiralty Inlet, was the catch rate from the commercial bottom trawl fishery (Palsson *et al.*, 1997). These catch rates generally declined between the 1970s and 1994. However, data since 1994 (W. Palsson, WDFW, pers. comm., 1999) indicate that catch rates in the bottom trawl fishery were somewhat higher than the low in 1994. The primary stock indicator for Puget Sound south of Admiralty Inlet was the catch rate from the recreational fishery, which has also declined fairly steadily since the late 1970s (Palsson, 1997). Recreational catches estimated from the National Marine Recreational Fisheries Statistical Survey in Puget Sound were 2,430 and 920 cod in 1996 and 1997, respectively (WDFW, 1998). Fishery statistics suggest that South Sound cod populations (including Townsend Bay and Agate Passage) have also declined (Palsson *et al.*, 1997), prompting several harvest restrictions after 1989 to protect these stocks.

Bottom trawl surveys have been conducted in Puget Sound intermittently since 1987 (W. Palsson, WDFW, pers. comm., 1999). Estimates for biomass and numbers of fish in 1987 were much higher than in other years, but there has been no apparent trend in the estimated abundance of cod in Puget Sound, both in number and weight, since the 1987 survey. In 1987, 1989, and 1991 when all Puget Sound management regions were surveyed, the estimated cod biomass exceeded 2,500 mt, and estimated cod numbers exceeded 4.7 million fish each year.

In British Columbia waters, four cod stocks are defined for management purposes: Strait of Georgia, west coast Vancouver Island, Queen Charlotte Sound, and Hecate Strait. The latter stock is the only one to be recently evaluated and it appears to be at low levels. Annual trawl fishery yields in Hecate Strait have varied between a high of 8,870 mt in 1987 to a low of 403 mt in 1996 (Canada Department of Fisheries and Oceans (DFO), 1999). The most recent assessment indicates that stock biomass was at historically low levels in 1994-96 (Haist and Fournier, 1998) and that there has been a slight increase in the past 2 years. Recruitment estimates are low, and year-class strength continues to be below-average. Projections for cod in Hecate Strait indicate that the stock will decline in the next 2 years (DFO, 1999). Catch data for the Strait of Georgia during 1970-1991 closely match those available for Puget Sound (Schmitt *et al.*, 1994). In both areas, catches synchronously ranged between 500 and 1,000 mt during the early 1970s, then rose to about 1,500 mt per year during the late 1970s and early 1980s. After a peak in 1981, catches fell to less than 100 mt by 1991. Catches in the Strait of Georgia continued to decline, reaching zero by 1999.

Information on the status of cod in southeast Alaska is limited and Gulf of Alaska assessments do not provide subarea estimates. However, trawl biomass estimates from 1984-1999 indicate that cod abundance in southeast Alaska fluctuated between 4,000 mt in 1984 and 11,000 mt in 1990; 1999 estimates indicate that cod stocks are near the highest level, about 10,000 mt (M. Martin, NMFS, pers. comm., 2000).

There are insufficient data to conduct quantitative analyses of cod extinction risks. However, Palsson (1990) discussed potential factors contributing to the decline of cod in Puget Sound through the 1980s. He concluded that the decrease in stock abundance corresponded to a change to a warmer oceanographic regime, and to an increase in the abundance of pinnipeds and in the fishing effort. Cod populations in Puget Sound have remained low, though fishing effort for cod dropped substantially during the 1980s and was extremely low during the 1990s. In addition to those factors, West (1997) also considered the degradation of nearshore nursery habitats to be a factor that may decrease juvenile cod survival. Small juveniles usually settle into intertidal/subtidal habitats that are commonly associated with sand and eel grass, and such habitats have declined in both extent and quality in Puget Sound.

Studies indicate that cod are not major components of pinniped diets (Schmitt *et al.*, 1995), but pinniped predation risks have not been evaluated quantitatively. Similarly, it is unclear how changes in the abundance of other fish species may affect cod populations in Puget Sound. For example, predation by salmonids is suspected since increased releases of yearling chinook salmon from hatcheries in Puget Sound appear to coincide with changes in cod abundance. Also, West (1997) suggested that declines in the abundance of two primary prey species—herring and pollock—may have contributed to cod declines in Puget Sound. The effects that contaminants or toxins from phytoplankton blooms (''red tides'') may have on cod abundance have also not been evaluated.

As noted previously, NMFS could not identify a definitive northern boundary for the Pacific cod DPS, but believes that it extends to at least Dixon Entrance. Hence, the agency's risk assessment included a greater number of cod stocks than those addressed in the petition. While declines are evident throughout the DPS' range, it is unclear whether they are attributable to natural phenomena that may be common over the species' history. Cod in this DPS are at the southern extreme of the species' range, and their current low abundance may represent a temporary range shrinkage in response to unfavorable environmental conditions. Still, it is apparent that cod persist throughout the range of this DPS and that their abundance, particularly in the northern portions of the DPS—does not suggest a detectable risk of endangerment. Therefore, NMFS concludes that the Pacific cod DPS is not presently in danger of extinction nor is it likely to become so in the foreseeable future.

Lower Boreal Eastern Pacific Walleye Pollock DPS

Walleye pollock in southern Puget Sound are on the extreme southern end of the species distribution, yet a sport fishery near Tacoma once made them the most common bottomfish harvested in Puget Sound recreational fisheries. Catches in southern Puget Sound exceeded 181 mt per year from 1977 to 1986, but catches subsequently dropped, causing the fishery to collapse (Palsson *et al.*, 1997). Due to concerns about the status of the population, the daily bag limit for pollock in the recreational fishery in Puget Sound was reduced from 15 fish to 5 fish in 1992, and from 5 fish per day to zero in 1997. Results of the Marine Recreational Fisheries Statistical Survey indicate no pollock were reportedly caught in recreational fisheries in Puget Sound during 1996 and 1997 (WDFW, 1998). North of Admiralty Inlet, trawl catch rates between 1970 and 1994 were generally low, and catches were usually less than 50 mt, except during the peak 1978-1981 period when catches usually exceeded 500 mt. Palsson *et al.* (1997) reported that it is unclear whether the stock is depressed, not targeted by the fishery, or was simply unavailable to the fishery during these years.

Bottom trawl surveys have been conducted in Puget Sound intermittently since 1987 (W. Palsson, WDFW, pers. comm., 1999). Estimates for biomass and numbers of fish in 1987 were much higher than in other years and the average sizes of pollock taken were usually smaller. This may not represent a change in fish abundance, but may be due to other factors. Otherwise, there was no apparent trend, except that pollock abundance in central Puget Sound in 1995 was much larger than in other years. In 1987, 1989, and 1991 when all Puget Sound management regions were surveyed, the estimated pollock biomass exceeded 975 mt, and abundance estimates exceeded 7 million fish each year.

In British Columbia waters, discrete pollock stocks are present in Dixon Entrance/Hecate Strait, Queen Charlotte Sound, west coast Vancouver Island, and the Strait of Georgia. Pollock in Dixon Entrance/Hecate Strait are thought to be part of a stock that includes the southern waters of southeast Alaska, but the relationship with large Gulf of Alaska stocks is unclear. It is possible that high abundance in the Gulf of Alaska results in movement into northern Canadian waters (Saunders and Andrews, 1998). During 1970-1991, when catch data were available for Puget Sound and the Strait of Georgia, catch patterns in the latter area closely matched those in Puget Sound until the late 1980s, when catch patterns began diverging (Schmitt *et al.*, 1994).

A formal stock assessment for the southeast Alaska portion of the Gulf of Alaska has not been conducted, and historically there has been very little directed fishing for pollock in southeast Alaska. However, commercial trawling is currently banned east of 140° W, and bottom trawl surveys indicated a substantial reduction in pollock abundance in this region (Dorn *et al.*, 1999b). Dorn *et al.* (1999b) noted that bottom trawl survey data from southeast Alaska are highly variable, partially as a result of differences in survey coverage among years. The 1996 and 1999 surveys had the most complete coverage of shallow strata in southeast Alaska and indicated that the stock size of pollock was about 30,000 - 50,000 mt (Dorn *et al.* 1999b).

As noted previously, NMFS believes that this pollock DPS consists of populations from Puget Sound to southeast Alaska, at or near a boundary of 140° W longitude. As with the Pacific cod DPS, pollock populations in this DPS occupy the southern extreme of the species' range and the agency's risk assessment included a greater number of stocks than those addressed in the petition. Data were insufficient to quantitatively assess the extinction risks for pollock, and the same list of potential factors affecting cod abundance were considered as potential risk factors for pollock. Unlike cod, British Columbia pollock populations do not appear to be declining or at low levels, although information on the status of these stocks is very limited. Consequently, pollock stock declines apparent in Puget Sound do not appear to be widespread throughout the DPS. Therefore, NMFS concludes that the Lower Boreal Eastern Pacific Walleye Pollock DPS is not presently in danger of extinction nor is it likely to become so in the foreseeable future.

Determination

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

After reviewing the best available scientific and commercial information for these three gadids, NMFS concludes that none of the petitioned populations in Puget Sound by themselves constitute ''species'' under the ESA. The agency determines that these populations represent the southernmost stocks of larger DPSs that qualify as species under the ESA: (1) a Georgia Basin Pacific hake DPS; (2) a Pacific cod DPS that includes stocks at least as far north as Dixon Entrance; and (3) a Lower Boreal Eastern Pacific walleye pollock DPS. After assessing the risk of extinction faced by each DPS, NMFS further determines that none of the DPSs warrant listing as threatened or endangered at this time. NMFS acknowledges that the DPS and risk assessments relied heavily upon the professional judgement of agency scientists since robust data sets were generally not available for any of the species. In particular, the agency believes that remaining uncertainties regarding the status and relationship of hake stocks in the Georgia Basin DPS warrant placing this DPS on the agency's list of candidate species. In the event that new information becomes available to resolve these uncertainties and as agency resources permit, NMFS will conduct a thorough re-evaluation of this DPS.

References

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

Authority: 16 U.S.C. 1531–1543 and 16 U.S.C. 1361 *et seq.*

Dated: November 17, 2000.

William T. Hogarth

Deputy Assistant Administrator for Fisheries, National Marine Fisheries Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 622

[I.D. 110900C]

Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Red Grouper; Overfished Fishery

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

ACTION: Determination of overfished fishery.

SUMMARY: NMFS has determined that the Gulf of Mexico red grouper fishery is overfished and has notified the Gulf of Mexico Fishery Management Council (Council) of related responsibilities under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

DATES: Effective November 24, 2000.

FOR FURTHER INFORMATION CONTACT: Phil Steele, telephone 727-570-5305, fax 727-570-5583, e-mail Phil.Steele@noaa.gov.

SUPPLEMENTARY INFORMATION: The Gulf of Mexico reef fish fishery is managed under the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (FMP). The FMP was prepared by the Council and approved and implemented by NMFS under the authority of the Magnuson-Stevens Fishery Conservation and Management Act. The FMP is implemented by regulations at 50 CFR part 622.

Determination of Overfished Fishery

NMFS' determination of the status of a stock relative to overfishing and an overfished condition is based on both the removal of fish from the stock through fishing (the exploitation rate) and the current stock size. When the exploitation rate jeopardizes the capacity of a stock to produce its maximum sustainable yield (MSY) on a continuing basis, overfishing is occurring. The exploitation rate (i.e., rate of removal of fish from a population by fishing) is usually expressed in terms of an instantaneous fishing mortality rate (F).

Another important factor for classifying the status of a resource is the current stock level. If a stock's biomass falls below its minimum stock size threshold, the capacity of the stock to produce MSY on a continuing basis is jeopardized and the stock is said to be in an overfished condition.

Commercial red grouper landings in the Gulf of Mexico are down approximately 55 percent from the high that the U.S. fishery reached in 1982. Recreational landings in 1997 were the lowest since 1981. At one of its meetings in 1999, the Council's Reef Fish Stock Assessment Panel (RFSAP) reviewed the 1999 scientific assessment of the red grouper stock conducted by the NMFS Southeast Fisheries Science Center (SEFSC). The RFSAP concurred with the assessment's findings that the stock is overfished and is undergoing overfishing. Subsequent SEFSC analyses of the stock confirm that it is overfished and undergoing overfishing as discussed below.

The stock assessment conducted by the RFSAP used two different scientific models (a surplus-production model and the Age Structured Assessment Program (ASAP)) to evaluate the current condition of the red grouper stock. Both models indicated that the red grouper stock is overfished and that overfishing is occurring. The surplus production model results showed that in 1997 the red grouper biomass was approximately 20 percent of the biomass expected at MSY, and that F in 1997 was approximately two times that needed to produce MSY. Absolute estimates of MSY were approximately 11 to 12 million lb (5.0 to 5.5 million kg). The ASAP model showed that the best estimate for MSY was 8.4 million lb (3.8 million kg), which is achieved at an F of 0.27 per year. The spawning stock biomass at MSY was estimated to be 563 million lb (255 million kg). The estimated F and spawning stock biomass in 1997 was 0.88 per year and 144 million lb (65 million kg), respectively. Thus, the 1997 estimated stock biomass was 26 percent of its estimated biomass at MSY.

Both models showed an increase in F in recent years. With decreased catch, this implies a reduced abundance of red grouper. Estimated F has doubled since the late 1970's and has increased from an average of 0.3 in 1986 to 0.5 in 1997. Estimates of spawning stock biomass and recruitment have declined since at least 1985. In all model simulations, the red grouper stock is overfished, and overfishing is still occurring.

At the RFSAP's August 2000 meeting, four additional sensitivity analyses of red grouper stock status were requested. The results of these analyses, conducted by the SEFSC, again confirmed the overfished status of the Gulf of Mexico red grouper stock.

Section 304(e) of the Magnuson-Stevens Fishery Conservation and Management Act requires that within 1 year of being notified of the