

**REQUEST FOR REEXAMINATION OF YOUR REJECTION DECISION
RELATIVE TO THE APRIL 2007 PETITION TO LIST FIVE SPECIES OF
PUGET SOUND ROCKFISH AS THREATENED OR ENDANGERED**

TO: SECRETARY OF COMMERCE, UNITED STATES DEPARTMENT OF
COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,
NATIONAL MARINE FISHERIES SERVICE (NMFS).

From: Sam Wright (Petitioner)

Subject: On October 1, 2007, NMFS rejected the following: Petition to list five species of rockfish in their Puget Sound Proper Distinct Population Segments as Endangered or Threatened under the Endangered Species Act (ESA). Intent of the narrative to follow is provision of additional information that will facilitate a reexamination of that decision.

Special Case for Bocaccio

The current situation for one species, bocaccio, is very different from the other four species covered in the Petition - at least they still probably exist in Puget Sound Proper. NMFS was provided with information demonstrating that published Washington Department of Fisheries (WDF) catch statistics showed that a total landed catch of 22,890 bocaccio was made in the 12 year period, 1975-1986. NMFS was also provided with information showing that this was only part of the actual total catch since catches by shore and pier anglers were excluded as well as the take by divers. In addition, many rockfish were not classified to species since WDF samplers encountered some "hybrids" in Puget Sound and many rockfish were reduced to fillets onboard vessels before catches were examined by samplers. In the Petition, it was estimated that at least 50,000 bocaccio were probably taken in this same period.

NMFS was also provided with information from a qualified expert, WDFW Biologist Greg Bargmann, that bocaccio have not been observed in Puget Sound Proper for the past 20 years. I am sure that he told you exactly the same thing when you interviewed him relative to content of the Petition. This type of information was incorrectly labeled as "anecdotal" and "weak" by NMFS and generally ignored. Zero is an unambiguous *quantitative* expression. Based on this information, I was sure that NMFS would, at a minimum, agree to conduct a status review of bocaccio. A fish population decline from 50,000 to zero should have been more than adequate proof of a legitimate problem. This status review would have included the bocaccio population in the adjacent waters of North Puget Sound. Due to the rockfish population isolation factors recognized by NMFS, these are the only fish that would have even a remote chance of providing progeny to Puget Sound Proper during the rare favorable recruitment event that is characteristic of rockfish populations.

I had envisioned the eventual establishment of one or more marine protected areas if any significant bocaccio populations were located in North Puget Sound, especially if they were relatively close to Puget Sound Proper. I had also envisioned the establishment of several marine protected areas in Puget Sound Proper to protect depleted rockfish populations from further exploitation. None of this will ever happen under management by the State of Washington.

The Puget Sound Proper Recreation Fishery for Rockfish, 1975-1986.

The primary reason that NMFS rejected the Petition at the policy level was their blanket refusal to use catch data in any manner as measures of population abundance, even though these were the only quantitative fish population data available, fishery-independent or otherwise. Further, no additional usable quantitative information is expected to become available in the foreseeable future. The populations are either gone, as is the case with bocaccio, or persist at very low numbers that cannot be quantified by any known resource assessment techniques. I am fully cognizant of the limitations in using catch data as measures of population abundance and the numerous resource management errors that this has caused in the past. However, the most common error, by far, is that of catch data causing a manager to overestimate population abundance. This is what happened in Puget Sound Proper.

During the 12 year period, 1975-1986, recreational fishery catches in Puget Sound Proper (as reported in published WDF statistics) were dominated by four species. The 12 year totals in order of importance were 406,718 copper rockfish, 354,466 quillback rockfish, 246,225 brown rockfish, and 86,550 black rockfish. None of these top four species showed a discernible trend in catch over time. Yellowtail rockfish ranked as 5th, with an 11 year total of 66,865 (WDF statistics did not have a 1980 entry for this species in the entire state). This species showed a moderate downward trend over time, but yellowtail rockfish are highly migratory and the decline could have been caused by movement out of Puget Sound Proper and/or a decline in population abundance.

The next five species were those addressed in the Petition: 23,738 redstripe rockfish, 22,890 bocaccio, 15,608 canary rockfish, 9,962 greenstriped rockfish, and 8,761 yelloweye rockfish. As noted in the Petition, bocaccio, redstripe rockfish, and greenstriped rockfish all showed pronounced downward trends in catch over time. All three are non-migratory so that there is no possible alternative explanation for a decline in abundance.

To present the complete statistics, there were 12 year totals for the following: 293 widow rockfish, 275 China rockfish, 108 silvergry rockfish, 39 redbanded rockfish, 19 blue rockfish, and 9 vermilion rockfish (Note: there was no Area 13 in 1975. It was part of Area 11 until 1976).

During the 12 year period, there were no significant regulation changes in the fishery that could have influenced levels of catches. However, there were a number of changes in the fishery itself and all of these should have produced increased catches, both singly and in aggregate. Prior to the Boldt Decision in 1974, the marine area fishery was primarily a salmon fishery, with marine species taken as bycatch and often discarded. After 1974, targeted fishing for marine species was heavily promoted as an alternative to salmon fishing and most of the catch was retained. In addition, the fishery evolved to the widespread use of electronic fish finders and down rigger gear. This allowed anglers to fish at much greater depths and to place their terminal gear at the same depths as the fish. It also allowed effective fishing throughout the tidal cycle instead of being limited to slack tide periods. Thus, large fish populations in deeper waters became available to anglers. These had been relatively immune to exploitation in the past simply because of the depths they occupied.

The changes described above should have produced a trend of increased catches over time and this seemed to be the case in the first few years of the fishery after 1974. However, the nine non-migratory species showed six stable catch trends over the 12 year period and three declining trends. The reason becomes obvious when the average rockfish catch per trip data over time is examined. These data were provided to NMFS in the 1999 Petition and showed a distinct downward trend over time (see Figure 1. Recreational catch rates of rockfish (catch per trip) of bottomfish anglers in North and South Puget from Palsson and Pacunski (1998). Note that the declining trend continued for over a decade after 1986.). The only possible interpretation is that the increased effectiveness of the fishery (including the elimination of discards by turning them into “catch statistics”) actually masked real population declines in the six species showing stable catch trends over time - including the canary rockfish and yelloweye rockfish included in the Petition. These two species simply could not sustain the same catch levels subsequent to 1986. The decline may have been largely in place by 1999 since the 1999 Petition stated (in the context of Greater Puget Sound) that “At the present time, only five species are commonly caught in the commercial and sport fisheries. The others have largely disappeared from catch samples and are rarely seen during fishery-independent stock assessments. The most noticeable declines have been with tiger, canary and yelloweye rockfish.”. This shows how these two species could easily go from apparently stable catch trends through 1986 to Greg Bargmann’s 2004 expert opinion of “virtually disappeared” in the relatively long time span from 1986 to 2004. It also means that there is no plausible alternative explanation for the three species in the Petition showing declining catches. The inferred severe declines were real. The “virtually disappeared” expression is not “anecdotal” and “weak” as described by NMFS. It is a valid *qualitative* statement by a qualified professional and the only type of assessment possible when fish populations become too small for quantitative assessment techniques. I am sure that he told NMFS exactly the same thing when they interviewed him on content of the Petition. Mr. Bargmann has worked with Puget Sound marine fish on a daily basis for many years. He is very familiar with every bit of information available for each species, including results from catch sampling and fishery-independent resource assessment surveys. “Virtually disappeared” ranks only slightly better than “have disappeared” (bocaccio) and should have been more than enough to merit a status review by NMFS.

The North Puget Sound Recreational Fishery (Areas 5, 6 and 7), 1975-1986

This fishery also had no significant regulation changes in the time period shown and had an increased use of electronic fish finders and down rigger fishing gear. However, it did not share the other changes described for Puget Sound Proper. There was a much better balance prior to 1974 between salmon fishing and targeted fishing for marine species. Discards were minimal, at least for rockfish. The salmon present in most of the area were predominately of Canadian origin, thus there was little pressure or interest in curtailing salmon fishing. Active promotion of fishing for marine species as an alternative to salmon fishing was minimal. North Puget Sound was much more of a seasonal fishery and had fewer population centers immediately adjacent to the fishing areas.

North Puget Sound has a much greater population of rockfish in terms of all species combined, a reflection of the 200 plus square kilometers of rocky reef habitat available (versus 14 in Puget Sound Proper). The multiple population isolating factors of Puget Sound Proper are absent. Total rockfish catch was less than that of Puget Sound Proper. Thus, the recreational fishery in North Puget Sound (at least minus divers) had a much lower exploitation rate on rockfish populations (Note: the catch per trip shows a declining trend but was consistently higher in North Puget Sound. See Figure 1 from Palsson and Pacunski (1998) in the 1999 Petition). However, the Puget Sound commercial trawl fishery has always been centered in North Puget Sound and continued in this area after trawling was banned in Puget Sound Proper. The relatively clear waters on the west side of San Juan Island were once famous for their “meat trips” by divers. Unfortunately, no one ever tried to estimate this harvest in Greater Puget Sound.

The following shows the 12 year total catches of rockfish by species in North Puget Sound, with the comparable Puget Sound Proper catches in parenthesis:

- 308,729 quillback rockfish (354,466) ranks 1st in NPS, 2nd in PSP
- 278,134 copper rockfish (406,718) ranks 2nd in NPS, 1st in PSP
- 160,075 black rockfish (86,550) moves up to 3rd in NPS due to less brown rockfish
- 25,211 yellowtail rockfish (66,865) 11 year totals for both areas, 1980 data missing
- 20,782 canary rockfish (15,608) ranked 3rd in Greater Puget Sound in 1960s
- 19,256 yelloweye rockfish (8,761)
- 7,796 China rockfish (275) present 11 of 12 years in NPS, only 4 of 12 in PSP
- 3,668 brown rockfish (246,225)
- 2,079 bocaccio (22,890) disappointing number in NPS but present 8 of 12 years
- 1,824 tiger rockfish (none) present 11 of 12 years in NPS
- 1,150 blue rockfish (19) present 8 of 12 years in NPS, only 2 of 12 in PSP
- 929 widow rockfish (293) present 8 of 12 years in NPS, 6 of 12 years in PSP
- 664 redstripe rockfish (23,738) low number in NPS isolates species in PSP
- 582 vermilion rockfish (9) present 8 of 12 years in NPS, only 1 of 12 in PSP
- 165 silverygrey rockfish (108) only present 2 of 12 years in NPS, 3 of 12 in PSP
- 128 greenstriped rockfish (9,962) Very low number in NPS isolates species in PSP
- 70 redbanded rockfish (39) only present 2 of 12 years in NPS, 1 of 12 years in PSP

There were four species that had a relatively persistent presence in North Puget Sound but only appeared infrequently or not at all in Puget Sound Proper catch data. These four were China rockfish, tiger rockfish, blue rockfish and vermilion rockfish. These four may have existed in substantial numbers in Puget Sound Proper in the recent past but were lost somewhere along the line during a century plus of heavy exploitation. The fact that they still exist in North Puget Sound in significant numbers means that they have a potential to introduce or reintroduce each of the four species into Puget Sound Proper during the rare favorable recruitment events characteristic of rockfish. Greg Bargmann has advised me that significant numbers of vermilion rockfish were recently observed in Puget Sound Proper (Hood Canal only) and this may be the beginning of just such an introduction or reintroduction event. The fact that this has not yet happened for the other three species (at least as fish big enough to be identified) is a powerful new confirmation of the net effect of population isolating factors prevailing in Puget Sound Proper for non-migratory rockfish species. As noted for bocaccio, there is a definite need

for marine protected areas in North Puget Sound to protect the remaining populations of these four additional species.

The most surprising revelation in the catch statistics was a complete lack of tiger rockfish in Puget Sound Proper. It had been widely assumed that the species was still present in this area. However, as noted previously, the 1999 Petition (in the context of Greater Puget Sound) did identify tiger rockfish, along with canary and yelloweye rockfish, as one of three species that had largely disappeared from catch samples and were rarely seen in fishery-independent stock assessments. The 1999 Petition also stated that “not much is known regarding the tiger rockfish, but they may be the most extreme example of small home ranges. They are extremely cryptic and only inhabit very rocky reefs.”. This means that their suitable habitat is limited to only a small fraction of the 14 square kilometers of rocky reef habitat. The specific problem that this poses for tiger rockfish is that anglers with good local knowledge often target the vertical walls or underwater “cliffs” that are characteristic of this type of habitat.

The annual catch records of each species in North Puget Sound were examined for possible trends over time but there were no obvious declining trends comparable to those provided in the Petition for bocaccio, greenstriped rockfish, and redstripe rockfish in Puget Sound Proper. The small catches shown for greenstriped rockfish and redstripe rockfish in North Puget Sound were also given in the Petition, confirming that both species are largely isolated from other members of the same species in Puget Sound Proper. Canary rockfish, which ranked 3rd in abundance for Greater Puget Sound during the 1960s, fell to 5th place in North Puget Sound and 8th place in Puget Sound Proper.

Special Case for Greenstriped Rockfish

Greenstriped rockfish are the only deep water species found in Puget Sound Proper in significant numbers and present some unique at-risk factors. It is surprising that they are even present in this enclosed body of water, especially since the species is almost completely absent from North Puget Sound. The species could not be reintroduced into Puget Sound Proper by a favorable recruitment event in some far distant deep water area. In addition, it is likely that the range occupied by the species is very restricted. There are only 14 square kilometers of rocky reef habitat in the entire area and only a small fraction of that is in deep water. The species was undoubtedly exploited by the commercial trawl fishery in the past since it has been encountered in recent research trawl surveys. However, some of the population may have been protected by being in rough bottom areas that could not be effectively fished by trawl gear. It was probably protected from most sport anglers until the widespread introduction of down rigger gear, and part of the population may still be too deep to be exploited. There are answers to the questions posed and these should be addressed in a NMFS status review. It is probable that the answers will justify the need for a marine protected area.