

important tool for the protection and recovery of threatened and endangered salmonid species in the Pacific Northwest. Attaining criteria and protecting existing cold temperatures for waters used by these salmonids will help maintain and improve their habitat and aid in their protection and recovery.

As mentioned above, EPA Region 10 undertook the Temperature Guidance project as a result of the commitments agreed to under the ESA Biological Opinion issued by the Services on Oregon's temperature water quality standards. EPA Region 10 also undertook this project because EPA's CWA section 304(a) national criteria recommendations for temperature found in "Quality Criteria for Water 1986," commonly known as the Gold Book, were established in 1977, and do not reflect the most current science regarding temperature in the Pacific Northwest. In general, the Gold Book temperature recommendations for salmonids and other fish consist of formulas to calculate the protective temperatures for short-term exposure and a maximum weekly average exposure based on the maximum weekly average temperature metric. Protective short-term temperature exposure is based on subtracting 2°C/4°F from the upper incipient lethal temperature. Protective weekly average temperature exposure is based on the optimal growth temperature plus one-third of the difference between the optimal growth temperature and the upper incipient lethal temperature. Using these formulas and EPA data for coho and sockeye salmon, the 1986 document calculates suggested temperature criteria for short-term exposure as 22°C/71.6°F (sockeye) and 24°C/75.2°F (coho) and a maximum weekly average exposure of 18°C/64°F for both species.

Based on extensive review of the most recent scientific studies, many of which were undertaken specifically for the Pacific Northwest, EPA and the Services believe that there are a variety of chronic (long-term) and sub-lethal effects (*i.e.*, effects other than death) that are likely to occur to Pacific Northwest salmonid species exposed to the maximum weekly average temperatures calculated using the CWA section 304(a) national recommended formulas. These chronic and sub-lethal effects include reduced juvenile growth, increased incidence of disease, reduced viability of gametes in adults prior to spawning, increased susceptibility to predation and competition, and suppressed or reversed smoltification. Healthy fish populations could possibly endure some of these chronic impacts with little

appreciable loss in population size. However, EPA and the Services are concerned that these chronic and sub-lethal effects can reduce the overall health and size of vulnerable fish populations, such as the endangered or threatened salmonids of the Pacific Northwest. Based on the new scientific studies developed specifically for the Pacific Northwest and the fact that the fish populations at issue are already vulnerable for reasons unrelated to temperature, EPA believes that the general assumptions upon which the national recommendations are based are inapplicable here. In particular, EPA is concerned that vulnerable coldwater salmonids in the Pacific Northwest would not be adequately protected at water temperatures selected between the optimal growth temperatures and the higher temperatures at which there would be incipient lethality. For these reasons, EPA is basing today's proposed rule on the more recent, site-specific information and analyses contained in the 2003 Temperature Guidance, rather than on the 1986 CWA section 304(a) national temperature criteria recommendations.

B. Federal Use Designations for Specific Water Body Segments

1. Background

Today, EPA is proposing to designate the same salmonid uses recommended in the Temperature Guidance with a few exceptions discussed in the preceeding paragraphs. Four of the five designated salmonid uses that EPA is proposing are based on the salmonid uses that occur during the period of summer maximum temperatures, which is generally during July and August. EPA believes it is appropriate to primarily base designated salmonid uses on summer salmonid use because: (1) human activities that increase summer water temperatures are a significant concern for salmonids in the Pacific Northwest, and (2) ensuring water temperatures are protective of salmonid uses during the summer will generally result in protective water temperatures for salmonids other times of the year due to the fact that waters will naturally be cooler during other months of the year. However, for some waters, attaining the criteria to protect for a summertime salmonid use may not result in protecting salmonid spawning and fry emergence that occurs in the spring to early summer or late summer to fall. Thus, in addition to the four summer salmonid designated uses, EPA is also proposing a use designation specifically for salmon and steelhead spawning through fry emergence, which typically occurs beginning in the fall

and continuing through the spring, but can also occur in early July for steelhead and late August for chinook.

Designating this use and associated water quality criteria provides an added degree of protection where meeting only the summer maximum temperature may be inadequate to ensure protection of this use during the other times of the year when spawning occurs.

In this document, EPA is proposing salmonid uses and associated temperature and IGDO water quality criteria for the waters identified. Water quality criteria often protect water bodies that have multiple and competing uses. Federally-owned or operated dams in certain waters may present a particular challenge in designating uses and establishing water quality criteria. In cases such as this, water quality standards should take into consideration the authorized purposes of Federally-owned or operated dams. EPA, therefore, will take into consideration the operational parameters and authorized purposes at these facilities when developing Federal water quality standards for the State of Oregon, to the extent time and availability of data permit. If data become available prior to promulgation of the final rule demonstrating that a proposed use is not attainable on a particular water body impacted by a Federally-owned or operated dam, EPA may promulgate a revised use that reflects the highest feasibly attainable use consistent with the operation of the dam. Designated uses should be deemed "feasible" if they can be implemented by a dam in a manner that allows the dam to perform its authorized purposes. Because these standards are being developed on an expedited schedule, and it may not be possible to fully consider data on attainability of uses for all water bodies potentially impacted by Federally-owned or operated dams, EPA is also proposing a process by which Federal agencies responsible for Federally-owned or operated dams may request that EPA modify the water quality standards described in this proposed rule. *See* section V.B.

For each of the uses proposed in section III.B.2, EPA requests comment on its methodology for designating waters for those uses, and on the specific use designations for waters identified on the maps available on the Internet at <http://www.epa.gov/r10earth/federaloregonwqs.htm>, or in hard copy at U.S. EPA Region 10's Oregon Operations Office, 811 SW. 6th Avenue, 3rd Floor, Portland, Oregon 97204.