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In Reply Refer to:
1-1-98-F-21

March 24, 2000

Ms. Felicia Marcus, Administrator
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, California 94105

Dear Ms. Marcus:

This responds to your December 16, 1999, request to conclude formal consultation with the Fish and Wildlife Service (Service) and the National Marine Fisheries Service (NMFS), herein collectively referred to as the Services, on the Environmental Protection Agency's (EPA) "Final Rule for the Promulgation of Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California" (CTR). This document represents the Services' final biological opinion on the effects of the final promulgation of the CTR on listed species and critical habitats in California in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.; Act). A list of the species and critical habitats considered in this biological opinion is included as Table 1. Your request to conclude formal consultation on the CTR was received in the Sacramento Fish and Wildlife Service Office on December 30, 1999. Your initial October 27, 1997, request for formal consultation was received on October 30, 1997.

This document also includes a conference opinion, prepared pursuant to 50 **CFR** § 402.10, that addresses the effects of the final CTR on the following proposed threatened (PT) and proposed endangered (PE) species: Northern California ESU (Evolutionarily Significant Unit) of the steelhead trout(PT), Santa Ana sucker (*Catostomus santaanae*) (PT), the Southern California Distinct Population Segment of the Mountain Yellow-legged Frog (*Rana muscosa*)(PE), and the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*)(PE) . Critical habitat has been proposed the Tidewater goby. If any of these species or critical habitats become listed, this conference opinion can be converted to a biological opinion for those species/critical habitats, provided EPA formally requests such a conversion and the reinitiation criteria at 50 **CFR** § 402.16 do not apply.

The Services have reviewed EPA's biological evaluation for the proposed CTR and the effects of that action on the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), endangered least Bell's vireo (*Vireo belli pusillus*) and its critical habitat, endangered southwestern willow flycatcher (*Empidonax trailii extimus*) and its critical habitat, and the endangered San Joaquin kit fox (*Vulpes macrotis mutica*). The Services concur with EPA's determination that the CTR is not likely to adversely affect these species and critical habitats. Species the Services considered not likely to be adversely affected by the final CTR are listed in

Table 2. Therefore, unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary for the species listed above.

This biological and conference opinion is based on information provided in EPA's October 27, 1997, biological evaluation, the proposed CTR, correspondence that has occurred since the issuance of the Services' April 10, 1998, draft jeopardy biological opinion, supporting information contained within the Services' files, a review of the relevant published literature, discussions with specialists familiar with species ecology and toxicological issues presented in the CTR, numerous meetings and telephone conversations between our staffs, and EPA's December 16, 1999, proposed modifications to the CTR. The Services have prepared this biological and conference opinion in the absence of site-specific information on where numeric criteria will be applicable (areas not superseded by the promulgation of the proposed rule), and the lack of site-specific data on elements such as pH, water hardness, water effects ratios, and conversion factors. In the absence of these data we have used the ecologically most conservative estimate of effects for species and critical habitats considered in this opinion. Species and critical habitats the Services have determined likely to be adversely affected by the final CTR are listed in Table 3. A complete administrative record of this consultation is on file at the Service's Sacramento Fish and Wildlife Office.

CONSULTATION HISTORY

Informal consultation with EPA began on February 9, 1994, when the Service received EPA's request for a species list and a brief description of the draft CTR. On April 6 and 21, 1994, the Service and NMFS met with staff from EPA to discuss the CTR and begin informal discussions on the effects of the proposed numeric criteria on listed species and their critical habitats.

On May 31, 1994, the Service transmitted a species list to EPA for their consideration in the preparation of their biological evaluation. On June 26, 1997, the Service sent EPA an electronic update of the species list for the State of California.

On February 9, 1995, the Service participated in a teleconference call with EPA to discuss and categorize issues that were identified during internal strategy meetings between the Service and EPA. A list of issues was developed and categorized based on EPA's December 11, 1996, matrix of effects of the proposed criteria on listed species or their closely related surrogates. In addition, the Service provided EPA with a list of issues and concerns regarding the matrix and how to best address the effects of the proposed rule. During this meeting, the Service and EPA worked together to develop a table of issues and to identify the level to which these issues could be resolved.

On March 20, 1997, the Service and EPA met at EPA's request to re-initiate informal consultation. During this meeting, Service staff provided EPA with updated information on

newly listed species and discussed key issues identified in previous meetings.

On June 19, 1997, the Service met with EPA to discuss outstanding issues regarding the proposed criteria for mercury, selenium, pentachlorophenol, the formula-based criteria for metals, and EPA's progress toward publishing a proposed rule. During this meeting, EPA indicated that the proposed CTR would likely be published, as drafted, in July of 1997, and would acknowledge the outstanding issues between the Service and EPA. During this meeting, the Service and EPA also discussed each of the following six issues: (1) the use of formula-based metals criteria; (2) the effects of copper on fish eggs, embryos, and non-gill breathing organisms; (3) the lack of analysis of the effects of pentachlorophenol on early life stages of fish species; (4) the lack of an aquatic criteria for Aroclor; (5) the threat of bioaccumulation to listed species by the promulgation of solely aquatic life criteria; and (6) the proposed selenium standard and its effects on listed species and aquatic ecosystems. At this time the Service indicated that it would prefer to resolve the disparity between the effects of proposed criteria and published scientific literature prior to publication of the proposed rule. Staff from EPA indicated that the Service would have numerous opportunities to resolve outstanding issues in the State's adoption of the CTR, and EPA's subsequent approval of the adoption and forthcoming basin plans. Time lines for completion of the draft CTR were discussed.

On July 25, 1997, the Service and EPA participated in a conference call to discuss the Service's concerns with the effects of the action on non-aquatic species, the proposed criteria for pentachlorophenol, and the formula-based metals criteria. Specifically, the Service discussed with EPA the draft biological evaluation and the lack of consideration of the bioaccumulative and interactive effects of the proposed criteria necessary to adequately assess the effects of the action on listed semi-aquatic and terrestrial wildlife species and their habitats. At this time the Service informed EPA that it could not concur with a "not likely to adversely affect" determination on the draft proposed rule and unless these issues were resolved, formal consultation under the Act would be necessary. Further, Service staff detailed the findings of published information which indicated that the proposed numeric criteria would have adverse effects on early life stages of salmonids at concentrations below the proposed numeric criteria for pentachlorophenol. Service staff also presented information regarding the use of formula-based criteria for metals considered in the CTR, and the potential for aquatic organisms to be adversely affected by the particulate fraction metals that would, in effect, be unregulated if EPA used the proposed formulae. No resolution of these issues was reached during this meeting; EPA provided the Service with an updated time line on the publication of the proposed rule.

On August 5, 1997, EPA published the proposed rule for the CTR (62 **FR** 42159).

On August 13, 1997, EPA and Service staff participated in a teleconference call to discuss the Service's ongoing concerns regarding the proposed promulgation of formula-based metals criteria. At this time staff from EPA suggested that the Service, in the absence of site-specific information necessary to calculate the criteria for each of eleven metals (Arsenic, Cadmium, Chromium (+3&+6), Copper, Lead, Silver, Selenium (+4&+6), Mercury, Nickel and Zinc), use a

standard number for water hardness of 40. Service staff countered that hardness alone does not provide sufficient information to calculate a criterion (a conversion factor and water effect ratio are necessary in order to calculate criteria that are site-specific), and therefore, does not provide the Service with adequate information to consider the effects of the proposed formulae on listed species and critical habitat.

On September 25, 1997, Service staff provided written comments on the proposed CTR, reminding the EPA of their responsibilities to conserve listed species pursuant to sections 7(a)(1) and 7(a)(2) of the Act, and requested that EPA prepare a biological assessment on the effects of the proposed rule on listed species and critical habitats.

On October 30, 1997, the Service received EPA's biological evaluation for the CTR requesting concurrence with a finding that the proposed CTR was not likely to adversely affect listed species. On November 28, 1997, the Service issued a letter of non-concurrence, and acknowledged EPA's request to initiate formal consultation.

On December 10, 1997, the Service received a letter from EPA asking the Service to dispose of all previous drafts (including all drafts of the CTR issued between 1994 and August 1997) of the proposed numeric criteria in the CTR.

On January 8, 1998, staff from EPA, and the Services met to discuss the outstanding issues in the CTR, and the Service's progress on the biological opinion. At this time the Services presented their findings on the deficiency of the numeric criteria for mercury, selenium, pentachlorophenol, and dissolved metals. No agreements were made between the agencies on any changes to the proposed numeric criteria. This meeting's primary objective was to review the issues and the Services concerns regarding the proposed criteria, the apparent data gaps in the CTR, and the promulgation of the numeric criteria. The Services agreed to provide EPA with written documentation on the information they had reviewed on the proposed criteria and their failure to protect listed species. On January 29, 1998, the Services sent EPA a letter documenting their review of available information on the toxicity of pentachlorophenol on salmonids.

On April 10, 1998, the Services issued a draft jeopardy biological opinion (draft opinion) on the proposed CTR. In that opinion the Services concluded the CTR as proposed on August 5, 1997, was likely to jeopardize the continued existence of 25 listed species, and result in the adverse modification of 11 critical habitat units (see table 4). Since that time, staff from EPA Region IX and the Services have been discussing reasonable and prudent alternatives issued in the draft opinion. Those discussions have resulted in modifications to the proposed action by EPA and the Services subsequent revision of the April 10, 1998, and April 9, 1999, biological opinions.

For the purposes of our April 10, 1998, draft biological opinion and this opinion, findings of "no effect" were made for species which are not at any point in their development or foraging ecology dependent on the aquatic ecosystem. An example of a species that would not be affected by the proposed CTR is the desert slender salamander which is not dependent at any life stage on the

aquatic ecosystem.

Findings of “not likely to adversely affect” were made for those species that may utilize the aquatic ecosystem, but whose foraging ecology or range results in a low likelihood of being exposed to problematic concentrations at or below proposed criteria concentrations. Examples of species not likely to be adversely affected are the Warner sucker, with a range that includes California but whose watershed boundaries are primarily outside of the State; and the least Bell’s vireo, which is dependent on the aquatic/riparian ecosystem but its foraging ecology is not primarily dependent on the aquatic ecosystem.

The Services define jeopardy as an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. The Services concluded that a determination of “may affect, not likely to jeopardize the continued existence of the species” was appropriate when the potential exists for toxic effects to occur at or below the proposed numeric criteria concentrations of a pollutant considered in the CTR and one or more of the following conditions or combination of conditions were met: (1) the existing environmental conditions are currently not near or not likely to approach the proposed criteria concentrations; (2) the species is widely distributed, either within the State or within multiple states and proposed numeric criteria are likely to impact few individuals or an insignificant number of individuals within a population; (3) the foraging ecology of the species is not primarily dependent on the aquatic ecosystem, and dietary habits offer dilution by terrestrial food resources, significantly reducing adverse impacts associated with elevated levels of contaminants acquired while foraging in aquatic ecosystems; and (4) the species is migratory, and/or prolonged exposures to elevated concentrations of contaminants is not likely (dietary diversity).

Previously in the Services’ April 10, 1998, and April 9, 1999, revised draft opinions we concluded that a determination of “may affect, likely to jeopardize the continued existence of a species” was appropriate when the species is primarily dependent upon the aquatic ecosystem for its foraging ecology, reproduction and survival, toxicity occurs at or below proposed criteria concentrations in water, and water concentrations within the habitat occupied by the species has a high probability of approaching or reaching a problematic concentration at or below criteria concentrations proposed in the CTR. Additional factors considered for a species or their critical habitat unit were: (1) whether the species is non-migratory and thus vulnerable to local contamination; (2) whether exposure to toxic concentrations at or below the proposed numeric criteria is likely to occur during the breeding season, a sensitive life stage, or during its entire life cycle; (3) whether exposures to toxic concentrations results in significant interactions with other stressors affecting the species such as susceptibility to disease, avoidance of introduced predators, etc.; and (4) the proposed numeric criteria are likely to significantly impair one or more primary constituent elements of a species’ critical habitat. However, since EPA has modified the proposed action as presented in the “Description of the Proposed Action” section of this document, the Services are able to conclude that the action as modified is not likely to jeopardize

the continued existence of these species, nor result in the adverse modification of their critical habitat. Species for which the Services previously concluded were likely to be jeopardized or their critical habitats adversely modified are presented in Table 4.

On April 27, 1998, the Services met with EPA staff to discuss the draft and EPA's concerns regarding the precedence of a jeopardy biological opinion on threatened and endangered species on their water quality criteria rule making process and their capacity to respond to the reasonable and prudent alternatives presented in the draft opinion.

On October 29, 1998, EPA Region IX staff, in cooperation with the Office of Science and Technology in Washington D.C., submitted a proposal to the Services to modify the CTR as proposed. Included in this proposal were draft agreements to change the scope of the CTR for criteria for mercury, selenium, and pentachlorophenol. As proposed these commitments made significant progress towards ameliorating the effects of the CTR. However, only the Administrator of EPA has the authority to make modifications to proposed rule making. Therefore, proposed modifications have yet to be completed.

Between October 1998 and March 17, 1999, EPA and Services' staff worked together to resolve issues and develop agreeable timelines and procedures to amend the proposed action as proposed in the August 5, 1997, version of the proposed CTR. On April 7, 1999, EPA sent the Services a letter documenting the proposed modifications. Services' staff utilized these draft agreements to formulate revised reasonable and prudent alternatives that were presented to EPA in a revised draft jeopardy biological opinion, informally transmitted to EPA on April 9, 1999.

Between April and August 2, 1999, and after review of the revised reasonable and prudent alternatives, EPA and the Services met on August 2, 1999, to discuss what further modifications to the proposed action were necessary to remove the jeopardizing effects of the CTR. On September 14, 1999, EPA transmitted a draft facsimile copy of their proposed modifications to the CTR for Services review.

Between August and December 16, 1999, EPA and Services' staff continued to refine the proposed modifications to the CTR. After numerous discussions between EPA and Services' staff regarding these modifications, EPA re-submitted their final proposed modifications on December 16, 1999. The Services have based this final opinion on those modifications. The final modifications to the proposed action are incorporated herein by reference in the following "Description of the Proposed Action", and "Conclusions" sections of this biological opinion.

DESCRIPTION OF THE PROPOSED ACTION

EPA is issuing a final rule on the CTR. This rule will promulgate legally enforceable water quality criteria for the state of California for inland surface waters, enclosed bays and estuaries, for all programs and purposes under the CWA. When completed these criteria are available to the State for immediate adoption and subsequent use by the State and Regional Water Quality