



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2004/00559

June 15, 2004

Mr. Mitchell Nelson
USDA APHIS
Airport Business Center
6135 NE 80th Avenue
Suite A-5
Portland, Oregon 97218-4033

Re: Endangered Species Act Section 7 Informal Consultation, Informal Conference, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Proposed 2004 through 2007 Rangeland Grasshopper and Mormon Cricket Suppression Program for Eighteen Counties in Central and Eastern Oregon

Dear Mr. Nelson:

This correspondence is in response to your request for consultation and conference under the Endangered Species Act (ESA). Additionally, this letter serves to meet the requirements for consultation under the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

ENDANGERED SPECIES ACT

The United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) proposes to suppress possible outbreaks of grasshoppers and Mormon crickets on Federal, state, or privately-owned rangelands in eighteen counties of central and eastern Oregon (Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Lake, Klamath, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler). Malathion, carbaryl, and diflubenzuron pesticides will be used. The program is intended to reduce the economic impact of infestations of grasshoppers and Mormon crickets on rangeland.

On May 11, 2004, NOAA's National Marine Fisheries Service (NOAA Fisheries) received a biological assessment (BA) and other project information from APHIS and a written request for concurrence with a finding that the proposed action is "not likely to adversely affect" (NLAA) Lower Columbia River (LCR) steelhead (*Oncorhynchus mykiss*), Middle Columbia River (MCR) steelhead, Snake River (SR) steelhead, LCR Chinook salmon (*O. tshawytscha*), SR spring/summer Chinook salmon, SR fall Chinook salmon, Columbia River (CR) chum salmon (*O. keta*), and SR sockeye salmon (*O. nerka*) or any designated critical habitat within the project area. APHIS also requested informal conferencing on Lower Columbia River/Southwest



Washington (LCR/SW) coho salmon (*O. kisutch*), a species proposed for listing. This consultation is undertaken pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR 402.

On May 15, 2003, NOAA Fisheries completed the consultation for the 2003 grasshopper suppression activities (NOAA Fisheries No.: 2003/00248). The 2003 consultation expired on May 1, 2004. When preparing for the 2004 activities, APHIS suggested using smaller buffer widths and increasing the scope of the consultation to cover multiple years. APHIS indicated that the smaller buffer widths would allow them to better implement suppression activities, if needed. The extended time frame was proposed in anticipation that the national consultation may not be complete in the near future. After discussing various proposals, NOAA and APHIS staff agreed to adjusted buffer widths, and to a multi-year time frame. Therefore, this consultation will cover APHIS' grasshopper suppression efforts from 2004 through 2007.

In response to a recent lawsuit against the Environmental Protection Agency (EPA), the United States District Court for the Western District of Washington ordered an injunction that established buffers for pesticide application beside "salmon-supporting waters" in Washington, Oregon, and California.¹ On February 5, 2004, the court ordered buffers of 100 yards for aerial application and 20 yards for ground application of certain pesticides. Carbaryl, malathion, and diflubenzuron are included in the list, however, APHIS has proposed buffers that are a minimum of four times that of the court order (1/4 mile aerial and 500 feet for closest ground application).

The eighteen central and eastern Oregon counties covered by this consultation are surveyed yearly to help predict where outbreaks of grasshoppers or Mormon crickets may occur. Treatments will only occur when these areas have infestations of grasshoppers or Mormon crickets at a level that it is economically prudent to suppress with treatment. Since 1995, APHIS has not been actively treating outbreaks of grasshoppers or Mormon crickets in Oregon because of funding constraints and other considerations. The Plant Protection Act (PPA) of 2000 now mandates APHIS to treat economically damaging infestations of grasshoppers and Mormon crickets to protect rangeland if funding is available.

APHIS did not implement any suppression activities in 2003, however, favorable weather conditions in the past few years have increased the likelihood that some suppression efforts will be requested where infestations occur in 2004 and subsequent years. The primary focus of these suppression efforts is expected to be in Klamath and Lake Counties. APHIS may also take action if economically damaging outbreaks occur in other counties in Oregon. This informal consultation and conference will cover APHIS' proposed grasshopper and Mormon cricket suppression activities in the event that treatment is needed. Annual suppression activities may start as early as May 1, and continue through the grasshopper season which ends by July 31 of the

¹ Washington Toxics Coalition , et al. v. EPA. Information and final ruling available at <http://www.epa.gov/oppfead1/endoranger/wtc/>

same year. This consultation and conference covers the suppression activities described by APHIS beginning on May 1, 2004, and will expire September 30, 2007.

APHIS proposes to suppress economically damaging infestations of grasshoppers and Mormon crickets using conventional rates of application of malathion, carbaryl, and diflubenzuron; reduced agent area treatments (RAAT) with these pesticides; or by not treating the area at all. Three methods of pesticide dispersal are proposed by APHIS: (1) An ultra-low volume (ULV) liquid spray which will be applied aerially; (2) applying carbaryl bait (a bran product impregnated with carbaryl) aerially; and (3) applying carbaryl bait by all-terrain vehicles (ATVs) with a vehicle-mounted spreader. All applicable Federal, state, tribal, and local environmental laws and regulations will be followed during suppression activities.

For conventional rates of application, APHIS proposes to use malathion at 0.62 lbs/acre of active ingredient for ULV spray, carbaryl at 0.5 lbs/acre of active ingredient for ULV spray, carbaryl at 0.5 lbs/acre of active ingredient for bait applications, and diflubenzuron at 0.016 lbs/acre of active ingredient for ULV spray.

The RAAT method would use malathion application at 0.31 lbs/acre of active ingredient for ULV spray, carbaryl at 0.25 lbs/acre of active ingredient for ULV spray, carbaryl at 0.20 lbs/acre of active ingredient for bait application, and diflubenzuron at 0.012 lbs/acre of active ingredient for ULV spray. In addition to the reduced concentrations, the RAAT method also affects a smaller area. The area of pesticide application will vary from 20% to 67% of the total treatment area. Reducing the area of application is typically accomplished by applying pesticide to swaths which alternate between treatment and non treatment. The RAAT method is expected to have less impact on non-target organisms that may be in the treatment area because the swaths that do not receive pesticide application provide some refuge for those non-target species. All ULV sprays will be applied aerially, and carbaryl bait may be applied aerially or by an ATV with a spreader.

The potential effects of malathion, carbaryl, and diflubenzuron on ESA-listed salmon and steelhead are not well known. Available information shows these chemicals can be lethal to fish, and that sublethal effects, such as reduced reproductive fitness, behavioral modifications, immunologic dysfunction, and others may also occur.^{2,3} For example, pesticides may interact with other substances in synergistic, additive, or antagonistic ways. The degradates, trade secret additives, and surfactants of pesticides may be toxic themselves or interact with other substances and become harmful to fish. It is difficult to estimate the effects of pesticides on aquatic invertebrate populations that serve as prey for ESA-listed salmon and steelhead. Because of this

² Environmental Protection Agency. November 2000. Revised Risk Assessment Malathion Reregistration Eligibility Document Environmental Fate and Effects Chapter. (available at <http://www.epa.gov/oppsrrd1/op/malathion.htm>)

³ Oregon Pesticide Education Network. 1999. Returns: Salmon Decline and Pesticides. (available at <http://www.pond.net/~fishlif/salpest.pdf>)

inherent uncertainty regarding the effects of pesticides on ESA-listed salmon and steelhead, APHIS has proposed buffers of sufficient width to prevent pesticides from entering any surface waters within the range of ESA-listed salmon and steelhead.

Although APHIS is consulting on all possible application scenarios available, the preferred application will be diflubenzuron using the RAAT method. Of the three pesticides, diflubenzuron is the least toxic to fish, and has been used as an additive in commercial fish feeds for control of copepods in fish farms in Norway and Chile. Tolerance studies on Atlantic salmon suggest that ingestion of up to 1030 mg/kg of diflubenzuron per day for 21 days will not result in detectable effects in mortality, behavior, or histopathology.⁴ The BA does indicate that diflubenzuron is highly toxic to aquatic invertebrates which may be food items for salmonids. As stated above, APHIS has proposed buffers of sufficient width to prevent pesticides from entering any surface waters within the range of ESA-listed salmon and steelhead, and the RAAT application method further reduces that risk.

Based on information provided by APHIS, NOAA Fisheries concurs with APHIS' determination that the Proposed Rangeland Grasshopper and Mormon Cricket Suppression Program is NLAA ESA-listed salmon and steelhead or their designated critical habitats for the following reasons:

1. Aerial ULV spray applications of malathion, carbaryl, or diflubenzuron will not occur within 0.25 miles of any flowing water which contains ESA-listed salmon and steelhead at any time (including migratory reaches), or any water that flows into these waters.
2. Carbaryl bait will not be applied within 500 feet of any flowing water which contains ESA-listed salmon and steelhead at any time (including migratory reaches), or any water that flows into these waters.
3. APHIS will notify NOAA Fisheries before any application of pesticides within watersheds within the range of ESA-listed salmon and steelhead to confirm that all pertinent waters are buffered.
4. Aerial application of pesticides will not occur when winds exceed 10 miles per hour.
5. To reduce or avoid drift, volatilization, and runoff, aerial application of pesticides will not occur when it is raining or rain is imminent, when foliage is wet, when it is foggy, when temperature exceeds 80° F, when there is air turbulence, or when a temperature inversion exists.
6. Planes used in aerial applications will be equipped with APHIS-approved Differentially Corrected Global Positioning systems that guide pilots along desired flight paths with an accuracy of plus or minus three feet. Free flying will not be allowed. The boundaries will always be clearly marked with ground flagging or markers.
7. Pesticides will not be applied in areas known to have a high water table, or where leaching or surface run off is likely.

⁴ Committee for Veterinary Medicinal Products, Diflubenzuron Summary Report (2). Available online at www.emea.eu.int/pdfs/vet/mrls/062199en.pdf (As of June 9, 2004)

8. All mixing and loading will occur in approved areas where any spills cannot enter any body of water.
9. All pesticide tanks will be leak proof and constructed of corrosion resistant materials.
10. Aircraft used in aerial application will be equipped with systems that prevent dribble from nozzles when the spray mechanism is disabled and emergency shutoff valves to minimize pesticide loss in the event of broken lines, or other system malfunctions.
11. For aerial application of bait or ULV spray, aircraft will fly at a mean altitude of 1.0 to 1.5 times the wingspan of the aircraft whenever possible if it is safe to do so.
12. For ULV spray applications, all equipment and specifications related to nozzle types, spray pressure, and nozzle orientation will adhere to the 2003 prospectus.⁵

The buffers proposed by APHIS as well as the methods for applying malathion, carbaryl, and diflubenzuron are expected to keep these pesticides out of waters within the range of ESA-listed salmon and steelhead. Therefore, the proposed project will not cause take of ESA-listed salmon and steelhead.

Informal conference was also requested for the LCR/SW coho salmon ESU, a species proposed for listing. Although not required by the ESA, the Services encourage informal conference on proposed species to conserve species which may warrant further protection under the ESA. Here, the effects of the proposed action on LCR/SW coho will be similar to the effects on species already listed in the action area. Because protective measures included in the project description are adequate to avoid adverse effects to listed species, NOAA Fisheries concludes they will also be adequate to protect this proposed species. This completes the informal conference on LCR/SW coho for this action. Please note, that if LCR/SW coho are listed before the action is completed, APHIS must decide whether further consultation is necessary.

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NOAA Fisheries believes the following conservation recommendation is consistent with these obligations, and therefore should be carried out by APHIS:

Prepare for future ESA and MSA consultations by continuing to carefully monitor deposition, storage, and transport of pesticides inside the buffer designated around every economically damaging infestation area that is suppressed as part of this action, and in waters downstream of these buffers. Data and analyses of application technique, application rate, weather conditions, timing in relation to precipitation, buffer size, soil type, soil moisture, and vegetation type (for treatment and buffer) would all be useful to

⁵ United States Department of Agriculture Animal and Plant Health Inspection Service Prospectus No. 023-M-APHIS-03 For Aerial Application. March 2003.

better understand the direct and indirect effects of using pesticides on rangelands. APHIS should choose a monitoring scheme that is able to describe the movements of these pesticides through aerial drift, surface runoff, subsurface leaching, organism transport, and bioaccumulation.

NOAA Fisheries requests notification of the implementation of any such conservation program.

MAGNUSON-STEVENSON FISHERIES CONSERVATION AND MANAGEMENT ACT

Federal agencies are required under §305(b)(2) of the MSA and its implementing regulations (50 CFR 600.905), to consult with NOAA Fisheries regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect essential fish habitat (EFH). The MSA (§3) defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” If an action would adversely affect EFH, NOAA Fisheries is required to provide the Federal action agency with EFH conservation recommendations (MSA §305(b)(4)(A)). This consultation is based, in part, on information provided by the Federal action agency and descriptions of EFH for Pacific salmon contained in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan*⁶ developed by the Pacific Fishery Management Council.

The proposed action and action area are described in the BA. The project area includes habitat which has been designated as EFH for various life stages of Chinook salmon (*O. tshawytscha*) and coho salmon (*O. kisutch*).

Because the habitat requirements for the MSA-managed species in the project area are similar to that of the ESA listed species, and because the conservation measures that APHIS included as part of the proposed action to address ESA concerns are also adequate to avoid, minimize, or otherwise offset potential adverse effects to designated EFH, conservation recommendations pursuant to MSA (§305(b)(4)(A)) are not necessary. Since NOAA Fisheries is not providing conservation recommendations at this time, no 30-day response from APHIS is required (MSA §305(b)(B)).

This concludes consultation under the MSA. If the proposed action is modified in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations, APHIS must reinitiate EFH consultation with NOAA Fisheries in accordance with NOAA Fisheries implementing regulations for EFH at 50 CFR 600.920(k).

⁶ PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon. Portland, Oregon.

Please direct questions regarding this letter to Brett Farman of my staff in the Eastern Oregon Habitat Branch of the Oregon State Habitat Office at 541.975.1835, ext. 228.

Sincerely,



for D. Robert Lohn
Regional Administrator

cc: Jeff Blackwood, USFS
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