

Endangered Species Act -Section 7
Consultation

BIOLOGICAL OPINION

Formal Section 7 Consultation on the Boulder, Donegan, Rumble/Irish and Upland
Road-Related Restoration Projects, the Dumont Creek Instream and Riparian Restoration Project, and
Renewal of the North Umpqua Watercraft Operations and Fishing Guide Permits,
Umpqua National Forest, Oregon

Agency: Umpqua National Forest

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TABLE OF CONTENTS

I. BACKGROUND	1
II. PROPOSED ACTIONS	1
III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT	5
IV. EVALUATING PROPOSED ACTIONS	6
A. Biological Requirements	7
B. Environmental Baseline	8
V. ANALYSIS OF EFFECTS	9
A. Effects of Proposed Actions	9
B. Cumulative Effects	15
VI. CONCLUSION	15
VII. CONSERVATION RECOMMENDATIONS	17
VIII. REINITIATION OF CONSULTATION	17
IX. REFERENCES	17
X. INCIDENTAL TAKE STATEMENT	18

I. BACKGROUND

The Umpqua National Forest (UNF) submitted June 3, 1999, January 14, 2000, and April 14, 2000 letters requesting consultation for a number of proposed activities that were determined likely to adversely affect Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*). Biological assessments (BAs) addressing the potential effects to these species accompanied the letters. The BAs describe the environmental baseline and effects of proposed actions on OC coho salmon and its critical habitat and this biological opinion (Opinion) analyzes the proposed actions described in the BAs. The proposed actions would have short-term adverse effects on OC coho salmon and its habitat, but are expected to provide long-term beneficial effects.

The OC coho salmon evolutionarily significant unit (ESU) was listed by the National Marine Fisheries Service (NMFS) as threatened under the Endangered Species Act (ESA) on August 10, 1998 (63 FR 42587). Critical habitat for this species was designated on February 16, 2000 (65 FR 7764).

The UNF made the effects determinations in the BAs following procedures described in NMFS (1996). The short-term effects of the actions proposed in the BAs were evaluated by UNF biologists at the site scale using criteria based upon the biological requirements of OC coho salmon and other potentially affected anadromous salmonids. Compliance with the Aquatic Conservation Strategy (ACS) objectives of the Northwest Forest Plan (NFP) (USDA and USDI 1994) was also analyzed for those activities which would result in substantial effects to riparian or aquatic habitat. UNF biologists also evaluated the likely effects of the proposed actions on the watershed scale, and in the long term, in the context of watershed processes. The Level 1 streamlined consultation team for the UNF has defined *long term* for ESA consultation purposes as about a decade, while short-term effects would occur over a shorter duration, most typically a few months to a few years. The Level 1 streamlined consultation team members for the UNF and NMFS reviewed the UNF's effect determinations and documentation of ACS consistency for the subject actions at several meetings in 1999 and 2000. The team members concurred on the UNF's effect determinations and ACS consistency analyses.

This document serves as NMFS's biological opinion for OC coho salmon. The objective of this Opinion is to determine whether the proposed actions are likely to jeopardize the continued existence of OC coho salmon or destroy or adversely modify designated critical habitat for OC coho salmon. This consultation is undertaken pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402.

II. PROPOSED ACTIONS

The proposed actions analyzed in this Opinion include the Road 2827-500 Upland and the Boulder Emergency Repair of Federally-Owned (ERFO) road-related restoration projects (proposed in the June 3, 1999 letter from the UNF), the North Umpqua River watercraft and fishing guide special operations permit renewals (proposed in the January 14, 2000 letter), and the Dumont Creek instream and riparian restoration project and the Donegan and Rumble/Irish Outyear road-related restoration

projects (proposed in the April 14, 2000 letter). While the UNF made *likely to adversely affect* (LAA) determinations for OC coho salmon and/or its designated critical habitat for these projects, NMFS emphasizes that it believes that all of these projects would be beneficial to OC coho salmon and its habitat in the long term.

In the South Umpqua River drainage, the Road 2827-500 Upland road-related restoration (Upland) project, the Boulder ERFO project, and the Dumont Creek instream and riparian restoration (Dumont) project would occur in the Upper Middle South Umpqua River watershed (identified by the UNF as the Middle South Umpqua watershed), while the Donegan road-related restoration (Donegan) project would occur within the Jackson Creek watershed. The Middle South Umpqua River and Jackson Creek watersheds are part of the Upper South Umpqua Tier 1 Key Watershed. In the North Umpqua River drainage, the actions associated with the North Umpqua River watercraft and fishing guide special operations permit renewals would occur chiefly in the Middle North Umpqua River watershed, while the Rumble/Irish Outyear road restoration (Outyear) project would occur in the Middle North Umpqua and Little River watersheds. The Middle North Umpqua and the Little River watersheds are not Key Watersheds under the NFP. Environmental assessments (EAs) and/or other documentation were appended to the UNF's BAs and have detailed information on the proposed actions, but brief summaries are provided below.

Road 2827-500 Upland road-related restoration project. In the Upland project, the UNF proposes to remove two Humboldt channel crossings on old skid roads, to install hardened outlet control structures at the outlets of two wetlands, and to rip up to 5,000 feet of compacted skid road in Late Successional Reserve (LSR) in the Straight Creek subwatershed. In addition, the UNF proposes to excavate several channels to redirect runoff into historic creek channels, to place or alter the position of large woody material to increase roughness of stream channels or to redirect surface runoff, and to place cross-drain culverts to reduce concentrated overland water flow. These actions (at eight sites) should restore natural drainage patterns, reduce gully erosion and the resulting fine sediment input to streams, and restore two wetlands. Up to 50 trees on a road prism would be felled to provide access for heavy equipment to one site, but the trees would be placed within a stream channel to increase roughness. The stream channels that would be worked in are non-fishbearing and do not flow during the dry season, when most of the activities would occur. Areas of disturbed soil would be protected from erosion with mulch, matting, or slash and would be seeded with native grasses. All heavy equipment would access the project sites on existing roads.

Boulder ERFO. Storm events in 1996 and 1997 caused damage to several roads in the Lower Boulder, Middle Boulder, Last Creek, Slick Creek, and Ash Creek subwatersheds. The UNF proposes to repair this storm damage by removing the existing damaged roads from the UNF road system. Nearly 12 miles of road would be obliterated (decommissioned) in the Boulder ERFO project, including the removal of surface aggregate, culverts, bridges, and signs and the recontouring and/or pullback of ditches and fill material. The obliteration should remove the sedimentation and hydrologic effects of the existing road and would essentially restore about 127 acres of land. The road to be obliterated accesses primarily LSR land, but in order to maintain access to 1,140 acres of matrix land, the UNF also proposes to construct 0.53 miles of new road connecting two existing roads. The new

road segment would be constructed on a low ridge and cross an unnamed, intermittent, and non-fishbearing tributary to Ash Creek (UT) over a culvert sized to accommodate a 100-year flood event. Although most of the new road segment would be routed through a regeneration harvest unit (about 0.5 acres of mature trees would be felled during construction), these trees would be placed in proximity to the road to provide large woody material as wildlife habitat or would be stockpiled and later used in instream restoration projects. A Humboldt crossing (which appears to be adversely affecting the UT) on a non-system road in the vicinity of the proposed new UT road crossing would also be removed as a part of this action. In-channel work would occur during the dry season, and the UNF would take appropriate mitigation measures (which are described in the BA) to minimize or eliminate the likelihood of erosion, sedimentation, turbidity, and contaminant introduction associated with the proposed activities.

North Umpqua River watercraft operations permit renewal. The UNF has permitted outfitter guides to operate whitewater boating businesses on the North Umpqua River from Soda Springs Dam to the confluence of Rock Creek for more than two decades. An average of about 1,900 guided trips occurred annually on the UNF-managed portion of the North Umpqua River from 1994-1998, which was about 35% of the total number of boating trips on that river reach. The proposed action is the renewal of 13 active priority use permits and two temporary permits for the 2001-2006 seasons. Activities associated with boating include put in and take out and stops for lunch and wading, swimming, camping, *etc.* The UNF has proposed potential restrictions on the location and timing of activities associated with commercial boating and would require training of the guides and clients in an effort to minimize impacts on anadromous salmonid spawning and incubation areas. Another activity of the UNF that is taken in response to the popularity of commercial and non-commercial boating on the North Umpqua River is the management of large woody material (LWM, *i.e.*, logs) in the river. Although this material can be an important component of instream aquatic habitat, it is often a safety hazard for boaters. As a part of this action, the UNF has proposed procedures for determining which logs are substantial safety hazards, the disposition of hazard logs, and mitigation for the removal of logs from the active channel.

North Umpqua River fishing guide special operations permit renewal. The UNF proposes to renew eight temporary one-year permits for sportfishing guides to operate on the North Umpqua River from Soda Springs Dam to the confluence of Rock Creek. Additionally, two one-year permits would be issued to fishing guides who would potentially operate anywhere within the UNF. Most guided anglers pursue summer and winter steelhead, although the greatest portion of commercially-guided anglers fish for summer steelhead from June through early November. Approximately 300 guided trips have occurred annually in recent years and involve wading or boating and wading. As a part of this action, the UNF has proposed monitoring of the impact of angling on avian species and educational activities to ensure that guides and clients do not tread on or otherwise disturb salmonid redds and actively spawning fish.

Dumont Creek instream and riparian restoration project. The UNF proposes to improve short-term and long-term LWM abundance along about three miles of lower Dumont Creek. The UNF proposes to place between 168 and 250 logs, rootwads, and/or whole trees into the active channel via

helicopter. Logs would range in size from 20 inches in diameter and a minimum of 50 feet in length to more than 50 inches in diameter and a minimum of 40 feet in length. Most of the LWM for the project would be obtained from 26 acres of a 58-acre blowdown site on UNF-managed LSR, but NFP standards for down LWM would be maintained or exceed at the site. The LWM would be one-end skidded from the blowdown site with a large excavator, or other equipment capable of one-end suspension, in order to minimize yarding-related soil disturbance. The LWM salvage operation would occur from a site which is nearly flat and which is remote from riparian reserves and streams, while skid trails would be rehabilitated immediately after use. The remainder of the LWM for the project would be supplied by private project cooperators from a cull log deck. Both the UNF and private-supplied LWM would be loaded onto log trucks at their location of origin and transported to several stockpile sites along UNF road 2813, which parallels lower Dumont Creek. The LWM pieces would then be lifted by helicopter from the stockpile sites to specific sites on Dumont Creek during the summer low flow period. A helicopter service landing site would be located in a rockpit in the Dumont Creek watershed. Monitoring associated with the instream portion of the project would include smolt trapping, invertebrate sampling, and tracking of the stability of LWM.

In addition to placement of LWM in the Dumont Creek channel, the UNF proposes to thin within 12 acres of second-growth riparian forest and to plant existing tree-deficient openings in the riparian zone of lower Dumont Creek in order to enhance the quality and quantity of future LWM supply. The non-commercial thinning (*i.e.*, felled trees would be left on site) would occur around about 100 specific leave trees selected for species, form, vigor, and location. The thinning (which involves cutting trees smaller than 5.9 inches diameter at breast height (dbh) in a 15-foot radius around individual leave trees) would promote crown development and growth of the leave trees by providing maximum light, water, *etc.*. Thinning would not occur within 30 feet of the creek channel. Plantings would include various species of conifers, hardwoods, and shrubs in locations which would re-establish shade in both the long and short term, in addition to enhancing the supply of future LWM.

Donegan road-related restoration project. The UNF proposes to decommission about 4.5 miles of road in the headwaters of Squaw Creek. The decommissioning of the 6800-900 road system would re-connect a large block of LSR and would help to restore and preserve the relatively pristine water and stream channel quality of the Squaw Creek subwatershed. The UNF would remove 14 stream crossing culverts and fill, pull back other road fill, fill ditches and create cross-ditches, remove gravel road surfacing and rip the remaining road surface. These actions should fully restore the hydrologic and sediment regimes of the affected areas. An additional 0.9 miles of the 6800-900 system are currently in the process of passive decommissioning through the growth of vegetation on the road prisms and do not appear to affect hydrologic and sedimentation regimes of the subwatershed. Therefore, active restoration measures are not proposed for these spur roads. The 6800-900 road system currently provides access to an area known as the Huckleberry Patch to members of the Cow Creek Band of Umpqua Tribe (Tribe) of Indians. Because of the religious significance of the Huckleberry Patch to the Tribe, the UNF has proposed to construct and maintain a trail on the footprint of the main 6800-900 road from the 6800 road west for 2.1 miles and then to construct another 2.0 miles of trail from the end of the 6800-900 road to the 2950 road, with an additional 0.4 mile spur trail originating near the 2950 road so that the Tribe's traditional access to the area is maintained. The trail would be located to

minimally affect stream channels, riparian reserves (RR) and LSR and would be open only to non-motorized use. In-channel work associated with the road decommissioning and trail construction would occur during the dry season, and the UNF would take appropriate mitigation measures to minimize or eliminate the likelihood of erosion, sedimentation, turbidity, and contaminant introduction associated with the proposed activities.

Rumble/Irish Outyear road-related restoration project. The UNF proposes to conduct several road-related restoration activities in the Black Creek and Clover Creek subwatersheds of the Little River watershed and the Wright Creek, Thunder Creek, and Fox Facial subwatersheds of the Middle North Umpqua watershed. In the preferred alternative for this action, the UNF identified 9 sites where existing water routing threatens slope stability or should be redirected back into the original channel, 30 sites where clogging potential should be reduced, 27 sites where drainage should be improved to better disperse road runoff, 7 sites where potential sediment delivery to streams should be abated, and 7 road segments (totaling 3.2 miles) which would be decommissioned. Proposed roadwork includes the replacement of culverts; installation of culverts, culvert inlet structures, low-water fords, and drain dips; the armoring of culvert outlets; and maintenance of drainage structures. Road decommissioning would be as described above for the Donegan project, although 1.3 miles of the 3.2 miles of decommissioning would be passive in nature. In-channel work associated with the road decommissioning and trail construction would occur during the dry season, and the UNF would take appropriate mitigation measures to minimize or eliminate the likelihood of erosion, sedimentation, turbidity, and contaminant introduction associated with the proposed activities. Funding for the proposed actions has not yet been secured, so the timing or ultimate completion of the project is currently speculative.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The biological requirements, including the elements of critical habitat, of each of the ESUs are discussed in the LRMP/RMP Opinion (NMFS 1997) and in NMFS (1999). Environmental baseline conditions in the Umpqua Basin are discussed in Johnson *et al.* (1994), and pages 13-14 of the LRMP/RMP Opinion. Cumulative effects as defined under 50 CFR 402.02 are discussed for the Umpqua Basin on pages 40-43 of the NMFS LRMP/RMP Opinion. These analyses are incorporated herein by this reference. The NMFS is not aware of any new information that would materially change these previous analyses of biological requirements, environmental baseline, or cumulative effects for the purpose of this Opinion. Some general biological information is provided below.

The OC coho salmon is an anadromous species whose individuals typically have a three-year life-cycle. OC coho salmon occur in each of the four subject watersheds. Adult OC coho salmon spawn in the late fall and winter, with fry emergence occurring the following spring. Juvenile coho salmon rear for about a year in natal streams and then outmigrate to the ocean as smolts in the spring. Some male coho return to freshwater to spawn the fall and winter of the same year as their smolt migration, but the majority of adult OC coho salmon do not return to spawn until after having spent roughly 18 months in the ocean. Thus, an active OC coho salmon stream would be used for some life-stage—as rearing, feeding, spawning, and incubation habitat—year-round.

Although general information about the populations of anadromous fish within the Umpqua River basin is available (e.g., those streams likely inhabited) specific information on the size and health of anadromous fish populations in the basin is often lacking or incomplete. For example, the UNF's Watershed Analyses (WAs) for the watersheds at issue in this consultation generally do not provide specific information on fish populations size, trends, or stream mileage inhabited by anadromous fish or resident fish, but often do document that scores of miles of habitat are available in each watershed for anadromous and resident salmonids. Because of the general paucity of the type of knowledge which would allow the UNF and NMFS to assess the relative health of anadromous salmonid populations on a stream or watershed scale, and the fact that all fish species, populations, and individuals depend on adequate habitat, the NMFS primarily applies a habitat-based system in ESA consultation on land-management activities (NMFS 1999). The NMFS has applied the concept of properly functioning habitat condition to assess the quality of the habitat that fish need to survive and recover. This concept is discussed in the next section.

Site-level environmental baseline descriptions and effects determinations are typically made by UNF personnel for proposed actions. The baseline descriptions and effects determination are displayed in the project-level Matrices of Pathways and Indicators (MPIs) which were included in the BAs. In addition, watershed-level information on anadromous salmonid habitat is provided in the fifth field MPIs also included in the BAs. The NMFS concurred with these project and watershed-scale environmental baseline descriptions and effect determinations in the streamlined consultation process and NMFS considered them in addition to the broad-scale analysis conducted for the LRMP/RMP Opinion described above.

IV. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by the consultation regulations (50 CFR 402). NMFS (1999) describes how NMFS applies the ESA jeopardy and destruction/adverse modification of critical habitat standards to Section 7 consultations, including those for Federal land management actions in the Umpqua River basin. While land management actions typically have the potential to modify salmonid habitat, some actions also or instead have the potential to affect the behavior and/or survival of individual salmonids apart from effects on habitat. Such actions can adversely affect individual fish through harassment or direct contact by people or their equipment.

As described in NMFS (1999), the first steps in applying the ESA jeopardy standards for habitat are to define the biological requirements of ESA-listed species and to describe the species' current status as reflected by the environmental baseline. In the next steps, NMFS' jeopardy analysis considers how proposed actions are expected to directly and indirectly affect specific environmental factors that define properly functioning aquatic habitat essential for the survival and recovery of the species. This analysis is set within the dual context of the species' biological requirements and the existing conditions under the environmental baseline (defined in NMFS 1999). An analysis of more direct (*i.e.*, non-habitat) effects on individuals of the species of interest is also made. The jeopardy analysis takes into consideration an

overall picture of the beneficial and detrimental activities taking place within the action area, which is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). If the net effect of the activities is found to jeopardize the listed species, then NMFS must identify any reasonable and prudent alternatives to the proposed action.

A. Biological Requirements

For this consultation, NMFS finds that the biological requirements of OC coho salmon are best expressed in terms of current population status and environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the species. The NMFS defines this "properly functioning" condition as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meets the biological requirements of the fish species of interest. Individual, measurable habitat factors (or indicators) have been identified (e.g., water temperature, substrate), and the properly functioning values for these indicators have been determined, using the best information available. These indicators, when considered together, provide a summary of the conditions necessary to ensure the long-term survival of aquatic species.

The NMFS has assembled a set of these indicators in a form called the Matrix of Pathways and Indicators (MPI) (NMFS 1996 and 1999). The MPI is a table that lists several categories or *pathways* of essential salmonid habitat, such as water quality, instream habitat elements, and flow/hydrology. Under these pathways are quantitative habitat indicators for which ranges of values are identified that correspond to a *properly functioning* condition, an *at risk* condition, and a *not properly functioning* condition. Because these habitat measurements are more readily available than quantitative measurements of biological variables such as incubation success, standing crop, and growth rate, NMFS and the UNF are able to assess the health of stream reaches or watersheds based on the condition of their component indicators. Such an assessment provides a baseline description of the health of the stream/watershed, and also allows the effects of an action (e.g., a culvert replacement) on the watershed to be evaluated.

Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of the listed species. It follows, then, that NMFS has determined that an action which would cause the habitat indicators of a watershed to move to a degraded condition, or one which significantly degrades a not properly functioning watershed, is also likely to jeopardize the continued existence of the listed species.

In addition to the use of the MPI at the watershed level to assist in making jeopardy determinations in Section 7 consultations, the NMFS also uses the MPI at the site or project scale. Assuming that a Federal agency determines that an action is a *may affect*, either informal or formal consultation is required. To assist in this determination, the action agency prepares a project-level MPI. If no *degrades* occur at this scale, then the action is probably not likely to adversely affect individuals of a listed species, and an informal Section 7 consultation is appropriate. If the proposed action degrades any of the indicators at this smaller scale (often the sixth or seventh field HUC), then

the action is generally considered to be a *likely to adversely affect*, and formal consultation must occur.

B. Environmental Baseline

Current range-wide status of listed species under environmental baseline. NMFS described the current population status of OC coho salmon in a status review (Weitkamp *et al.* 1995), and in the final listing rule (August 10, 1998, 63 FR 42587). Critical habitat for this ESU was designated on February 16, 2000 (65 FR 7764).

Current status of listed species under environmental baseline within the action areas. As noted above, the action area includes all areas directly or indirectly affected by the proposed action. The general action areas for this Opinion can be defined as all four watersheds in which the proposed actions would occur.

As also noted above, OC coho salmon use the action areas as rearing, feeding, spawning, and incubation habitat, and as a migration corridor. The environmental baseline of the action areas are dominated by conditions rated largely as not properly functioning or at risk (see watershed MPIs in BAs). These conditions are likely primarily the result of past forest management and agricultural practices, in particular, timber harvest/clearing within riparian zones, large-scale clear-cut timber harvest, road construction (especially within riparian zones), and timber yarding in riparian zones and streams.

Indicators particularly at issue in this consultation are those which would potentially be degraded by the proposed actions at the project scale, although the NMFS has also reviewed the UNF's *maintain* and *restore* effects determinations. For the projects reviewed in this Opinion, *sediment/turbidity* indicator was determined to be degraded in the short term and at the project scale by a few of the actions, while *substrate* was also determined to be degraded at the project scale for one proposed project.

Based on the best information available on the current status of OC coho salmon, NMFS assumptions given the information available regarding population status, population trends, and genetics, and the relatively poor environmental baseline conditions within the action areas (see MPIs in BAs and the OC coho salmon final listing rule), NMFS finds that the environmental baseline does not currently meet all of the biological requirements for the survival and recovery of the listed species within the action area. Actions that do not retard attainment of properly functioning aquatic conditions, when added to the environmental baseline, are necessary to meet the needs of the species for survival and recovery.

V. ANALYSIS OF EFFECTS

The effects determinations in this Opinion were made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting the effects of the actions on them. This process is described in NMFS (1996) and NMFS (1999). This assessment method, in which MPIs are

assembled by action agency biologists, was designed for the purpose of providing information in a tabular form for NMFS to determine the effects of actions subject to consultation.

The UNF uses the MPI to make project-level effects determinations on actions which have the potential to modify salmonid habitat, i.e., whether an action is NLAA or LAA the ESA-listed species (in this case, OC coho salmon). If any indicator is thought to be degraded at the project level by the action, the action is determined LAA. In addition, if harassment or other forms of non-habitat related adverse effects are more than negligibly likely to occur due to the proposed actions, the UNF notes the type, duration, and likely severity of such effects in the BAs. The NMFS must then determine whether such adverse effects are significant enough to jeopardize the continued survival of the listed species.

A. Effects of Proposed Actions

Project-Level Effects. The UNF-provided MPIs for the effects of actions are expressed in terms of the expected effect—restore, maintain, or degrade—on aquatic habitat factors in the project area for a subwatershed (or other project-level spatial scale) affected by the proposed actions. Some of the project-level MPIs represent more than one subwatershed, but still represent the effects of the action in those subwatersheds at the site scale. The results of the completed checklist for the proposed action provide a basis for determining the effects of the action on the environmental baseline in the project area. The UNF determined that the actions would almost invariably not degrade indicators at the project level chiefly because many of the activities would occur out of the stream channel during the dry season and because effective mitigation methods and Best Management Practices (BMPs) that minimize the potential adverse effects of the proposed actions will be included as part of the action.

Road 2827-500 Upland road restoration project. The UNF marked the *sediment/turbidity* indicator as degraded in the project-level MPI due to the proposed action and determined that all other indicators would be maintained. The UNF attributes the *degrade* checkmark to a transitory increase in stream sedimentation caused by work in and near stream channels, but emphasized that erosion control measures should limit the amount and duration of this sedimentation. In addition, the activities would occur only in the nonfish-bearing reaches of tributaries to Straight Creek, so the effect of any sediment transmitted to fish-bearing reaches of Straight Creek or Dumont Creek would be substantially attenuated in effect. The UNF also believes that this project may briefly cause an increase in turbidity at some sites, but would not measurably increase sediment levels in the affected streams, would not impede recovery of the streams' historic sediment regimes and should actually reduce stream sedimentation in the long term. The UNF also marked several indicators as being *restored* by the proposed action. The NMFS believes that the proposed action is restorative, but will not fully *restore* these indicators at the subwatershed scale of the MPI.

Because on the *degrade* checkmarks at the project scale, the UNF determined that some aspects of the Upland project are likely to adversely affect OC coho salmon. The NMFS concurs with the UNF on the project-level effects determination for this category, and also concurs that the project would likely provide a net benefit at the subwatershed scale.

Boulder ERFO. The UNF marked the *sediment/turbidity* indicator as degraded in one project-level MPI for the Boulder Creek subwatersheds due to the proposed action and determined that all other indicators would be maintained. The UNF attributes the *degrade* checkmark to a transitory increase in stream sedimentation caused by work in and near stream channels, but emphasized that erosion control measures should limit the amount and duration of this sedimentation. The UNF also believes that this project may briefly cause an increase in turbidity at some sites, but would not measurably increase sediment levels in the affected streams, would not impede recovery of the streams' historic sediment regimes and should actually reduce stream sedimentation in the long term. In addition, the UNF noted that the proposed project would slightly increase road mileage in the Ash Creek subwatershed (by 0.3 miles), but because this is less than a 1% change in road density for the subwatershed, it was considered to have maintained the relevant indicators at the subwatershed scale. The UNF also marked several indicators as being *restored* by the proposed action. The NMFS believes that the proposed action is restorative, but will not fully *restore* these indicators at the subwatershed scale of the MPI. The cumulative road density of the four Boulder Creek subwatersheds combined will decrease from 2.32 to 1.94 miles per square mile, a substantial 20% reduction in road density.

Because on the *degrade* checkmarks at the project scale, the UNF determined that some aspects the Boulder ERFO project are likely to adversely affect OC coho salmon. The NMFS concurs with the UNF on the project-level effects determination for this category, and also concurs that the project would likely provide a net benefit at the subwatershed scale.

North Umpqua River watercraft operations permit renewal. The UNF determined that all of the MPI indicators would be maintained by the proposed action. Human safety may require that some LWM be removed from or moved within the active channel of the North Umpqua River, whether the subject permits are renewed or not. In addition, the UNF will initiate a large wood management program which should reduce and minimize the adverse effects of safety-related LWM modifications on LWM abundance and function.

Although no *degrade* checkmarks occurred at the project scale, the UNF determined that the renewal of the North Umpqua River watercraft operations permits has some potential for adverse effect to OC coho salmon through harassment of adult or juvenile coho salmon and trampling of redds. On the other hand, the abundance of spawning OC coho salmon in the mainstem of the North Umpqua River is low and spawning and incubation would occur during a period when float trips are likely to be infrequent (November through April). The UNF will monitor and restrict access to redd locations, and train permittees to reduce their interaction with anadromous fish. Nevertheless, the NMFS concurs with the UNF on the project-level effects determination and LAA determination for this action, and also concurs that the LWD management program aspect of this project would likely provide a net benefit at the North Umpqua River reach scale.

North Umpqua River fishing guide special operations permit renewal. The UNF determined that all of the MPI indicators would be maintained by the proposed action. Although no *degrade* checkmarks occurred at the project scale, the UNF determined that the renewal of the North Umpqua River fishing guide special operations permits has some potential for adverse effect to OC coho salmon

through harassment of adult or juvenile coho salmon and trampling of redds. On the other hand, the abundance of spawning OC coho salmon in the mainstem of the North Umpqua River is low, the UNF would monitor and restrict access to redd locations, and would also train permittees to reduce their interaction with anadromous fish spawning areas and spawners. In addition, the impact of guided fishing trips is small compared to that of unguided trips which the UNF does not regulate. Nevertheless, the NMFS concurs with the UNF on the project-level effects determination and LAA determination for this action, and also concurs that the educational component of this project would likely provide a net benefit at the North Umpqua River reach scale.

Dumont Creek instream and riparian restoration project. The UNF marked the *sediment/turbidity* indicator as degraded in the Dumont Creek subwatershed project-level MPI due to the proposed action and determined that all other indicators would be maintained. The UNF attributes the *degrade* checkmark to a transitory increase in stream turbidity caused by work in and near the Dumont Creek stream channel, in particular from soil adhering to LWM components that would be transmitted to the wetted channel. However, the UNF emphasized that the amount and duration of this sedimentation/turbidity would be minor and would not measurably increase sediment levels in Dumont Creek or impede recovery of the stream's historic sediment regime. There is also the potential for harm or harassment to individual juvenile OC coho salmon during LWM placement, but the UNF believes that the likelihood of serious injury to any individual fish is low. The proposed monitoring plan associated with the restoration project also has some potential for direct harm to individual OC coho salmon. The proposed smolt trapping, in particular, would likely cause direct harm, at least through harassment. To the extent that elements of the monitoring plan would involve direct and intentional take of OC coho salmon, the UNF will be required to comply with applicable ESA regulations governing direct take, but any incidental (*i.e.*, Section 7-related) adverse effects should be minimal.

The UNF also noted that the LWM is likely to cause some localized streambank erosion due to changes in stream hydraulics, but that this erosion would not be significant enough to trigger a *degrade* checkmark. In addition, while the proposed action includes the felling of trees within riparian areas, the UNF does not believe that these activities (because of the project characteristics such as tree size, location, and disposition) would reduce stream shading, LWM recruitment, or bank stability. Further, the UNF believes that the yarding and hauling of LWM for the project would not affect OC coho salmon habitat because of methodology and location. While the UNF marked several indicators as being *restored* by the proposed action, and the NMFS believes that the proposed action is substantially restorative, the action would not fully *restore* these indicators at the subwatershed scale.

Because on the *degrade* checkmark at the project scale and the potential for direct harassment and/or injury, the UNF determined that some aspects of the Dumont project are likely to adversely affect OC coho salmon. The NMFS concurs with the UNF on the project-level effects determination for this proposed action, and also concurs that the project would likely provide a net long-term benefit at the subwatershed scale.

Donegan road-related restoration project. The UNF marked the *sediment/turbidity* and *substrate* indicators as degraded in the project-level MPI due to the proposed action and determined that all

other indicators would be maintained. The UNF attributes the *degrade* checkmark to a transitory increase in stream sedimentation caused by work in and near stream channels, but emphasized that erosion control measures should limit the amount and duration of this sedimentation. In addition, the activities would occur only in the nonfish-bearing reaches of tributaries to Squaw Creek, so the effect of any sediment transmitted to fish-bearing reaches of Donegan, Squaw, or Jackson creeks would be substantially attenuated in effect. The UNF also believes that this project may also briefly cause an increase in turbidity at some sites, but would not measurably increase sediment levels in the affected streams, would not impede recovery of the streams' historic sediment regimes and should actually reduce stream sedimentation in the long term. Although the trail construction would involve several stream crossings, most of these would be in the footprint of the decommissioned road. The new crossings would involve minimal riparian zone disturbance. The UNF also marked several indicators as being *restored* by the proposed action at the drainage scale. The NMFS believes that the proposed action is restorative, it will not fully *restore* these indicators at the subwatershed scale of the MPI. On the other hand, the *road density and location* indicator could arguably have been designated as *restored*, in that the road density for the Squaw Creek subwatershed would drop by about 14% to less than 2 miles per square mile.

Because on the *degrade* checkmarks at the project scale, the UNF determined that some aspects of the Donegan project are likely to adversely affect OC coho salmon. The NMFS concurs with the UNF on the project-level effects determination for this category, and also concurs that the project would likely provide a net benefit at the subwatershed scale.

Rumble/Irish Outyear road-related restoration project. The UNF marked the *sediment/turbidity* indicator as degraded in four of the five project-level MPIs due to the proposed action and determined that all other indicators would be maintained. The UNF attributes the *degrade* checkmarks to a transitory increase in stream sedimentation caused by work in and near stream channels, but emphasized that erosion control measures should limit the amount and duration of this sedimentation. In addition, the activities would occur only in the nonfish-bearing reaches of Wright, Thunder, Fox, and Black creeks and their tributaries, so the effect of any sediment transmitted to fish-bearing reaches of these creeks or the North Umpqua or Little rivers would be substantially attenuated in effect. The UNF also believes that this project may cause a brief increase in turbidity at some sites, but would not measurably increase sediment levels in the affected streams, would not impede recovery of the streams' historic sediment regimes and should actually reduce stream sedimentation in the long term. The UNF also marked several indicators as being *restored* by the proposed action. The NMFS believes that the proposed action is restorative, it will not fully *restore* these indicators at the subwatershed scale of the MPI.

Because of the *degrade* checkmarks at the project scale, the UNF determined that some aspects of the Outyear project are likely to adversely affect OC coho salmon. The NMFS concurs with the UNF on the project-level effects determination for this category, and also concurs that the project will likely provide a net long-term benefit at the subwatershed scale.

Watershed-Level Effects. In the BAs, the UNF provided watershed-scale MPIs and ACS

consistency reviews for the Upper Middle South Umpqua, Jackson Creek, Middle North Umpqua, and Little River watersheds that evaluated the proposed actions. The watershed-scale MPIs evaluate the effects of the proposed action on habitat indicators in the fifth field HUC relative to the long-term environmental baseline. While many actions, including those that may be beneficial in the long term, have short-term, small-scale adverse effects, only those actions with adverse effects which are significant at the watershed scale over a long period would receive a *degrade* checkmark. It is important to realize that both active and passive restoration activities contribute to the environmental baseline. In particular, the passive restoration that will occur over the long term (at least a decade, see above), especially in RRs, is a principal component of the watershed recovery aspect of the NFP. The role of RRs, LSRs, *etc.*, in restoration of watersheds is described in the NFP ROD (USDA and USDI 1994) and in the LRMP/RMP Opinion (1997).

The ACS consistency reviews included a description of how the proposed projects compared to the applicable NFP standards and guidelines (S&Gs) for the listed ESUs and how the proposed projects complied with the nine ACS objectives for those ESUs. Because there is strong correspondence between the habitat indicators of the MPI and the ACS objectives, it is likely that if none of the habitat indicators in the watershed level MPI are degraded by an action, then compliance with ACS objectives relevant to the ESUs is also achieved. In the description below, only those MPI habitat indicators which were determined to degrade at the project scale are discussed.

As noted above under Project-Level Effects, only a few components of the proposed activities were thought to be likely to cause project or site-level MPI indicator *degrades*. The NMFS believes that the use of the *degrade* checkmark for *sediment/turbidity* and *substrate* for the road-related actions (the ERFO and restoration projects) that would occur in and near non-fishbearing stream reaches is a conservative finding in that most of the sediment mobilized will not be transmitted to salmonid habitat. In the few situations in which any sediment would be transmitted and/or suspended in fish-bearing streams due to these activities, the UNF believes, and the NMFS concurs, that these effects would likely be highly localized and of short duration. The NMFS believes that in the long term and on the watershed scale, any *degrades* for the proposed activities would be inconsequential, because the relatively small amount of sediment that is likely to enter watercourses as a result of the proposed activities would likely not be distinguishable from background natural sedimentation and sedimentation from previous human activities.

Stream sedimentation occurs under pristine watershed conditions, and is usually harmful to the persistence of salmonid populations only when it occurs outside of the natural range of variability on a large spatial scale for long periods. Proper road drainage upgrades, culvert replacements, *etc.*, are likely to diminish the potential adverse effects of roads, including turbidity, sedimentation, and channel extension, by allowing the drainage design features to work properly and erosion to be minimized. Road obliteration and decommissioning should be even more beneficial than road and culvert upgrades in that all or nearly all of the hydrologic and sediment regime effects of the roads would be removed. The adverse effects of the small amount of road construction associated with the Boulder ERFO project and the trail construction associated with the Donegan project should be inconsequential in comparison with the beneficial effects of the restorative activities and appear to be necessary and

reasonable components of the projects. Similarly, because properly designed instream habitat projects are likely to improve aquatic habitat in the long term, the *sediment/turbidity* indicator that was marked as degraded by the UNF for the Dumont project should be of little consequence in the long term, and should lessen the effects of future sedimentation from natural and human-induced sources. This is because the presence of LWM should alter stream hydraulics in a manner that would allow for the retention and sequestration of substantial amounts of suspended sediment and bedload (including fines) in pools.

Based on S&G discussions and the ACS objective consistency reviews in the BAs for the proposed actions, all relevant S&Gs and all ACS objectives will be complied with by the UNF. In particular, all RR S&Gs are satisfied for the construction of 0.53 miles of road in the Ash Creek subwatershed for the Boulder ERFO project; the silvicultural aspects of the Dumont project conform with the RR S&Gs, and the UNF provides considerable documentation of compliance of the project with S&G WR-1; the construction of trails within LSR/RR for the Donegan project appears to conform with the applicable S&Gs for both of these land use designations; and S&Gs RM-1 and RM-2 specifically provide for the continued recreational use of RR as long as compliance with ACS objectives is not retarded. Compliance with the fifth ACS objective, “maintain and restore the sediment regime...” is discussed in the previous paragraphs, while the remainder of the ACS objectives are not likely to be adversely affected by the proposed actions. The UNF has also described in detail how the proposed activities are consistent with WA recommendations, direction for Key Watersheds, and watershed restoration planning. The NMFS concurs with the UNF’s interpretation of these guidelines.

B. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as those effects of “future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.” Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities will be reviewed through separate section 7 consultation processes. Therefore, future federal actions are not considered cumulative to the proposed action.

The NMFS is not aware of any new information that would materially change the effects analyses. Substantial portions of all of the watersheds discussed in this Opinion are privately-owned. The NMFS assumes that the cumulative effects of non-Federal land management practices will continue at similar intensities as in recent years (LRMP/RMP Opinion, pages 41-42).

VI. CONCLUSION

NMFS has considered the applicability of these analyses to each of the proposed actions identified in the BAs and in this letter. The NMFS is not aware of any other special characteristics of the particular actions that would cause greater or materially different effects on OC coho salmon and their habitat than is discussed in these references.

The effects of the proposed activities on OC coho salmon and its habitat are presented in the BAs prepared by the UNF, specifically in the project and watershed-level MPIs, ACS objective consistency reviews, EAs, and WAs. NMFS finds those descriptions to be adequate for this analysis. Based on this information, the NMFS does not consider these actions to be likely to result in different or greater effects than were described and considered in the LRMP/RMP Opinion. In particular, the UNF determined, and the NMFS concurred, that relevant NFP S&Gs would be followed, and that ACS objectives would be met at the watershed scale and in the long term when the effects of the proposed actions are combined with the environmental baseline. This ACS consistency determination was made because the UNF showed that, despite the short-term adverse effects of their proposed actions, watershed habitat indicators would be maintained over the long term and each of the proposed actions will contribute toward long-term recovery of watershed processes.

The NMFS expects that ACS objectives which may be affected by the subject actions will be met for the following reasons: (1) Potential sediment input from proposed road-related activities (including decommissioning/renovation, culvert replacement, *etc.*) will be minimized by implementation of appropriate mitigation measures and implementation of appropriate BMPs, and the long-term effects of these actions should be beneficial because of lessened sediment and hydrologic effects from existing roads and enhanced upstream passage; (2) potential sediment input from the proposed instream placement of large woody material will be minimized by implementation of appropriate mitigation measures and implementation of appropriate BMPs, and the long-term effects of these actions should be beneficial because instream habitat quality would be improved without substantial effect on riparian habitat; (3) the noncommercial hand-removal of about 100 small trees in RR should accelerate attainment of large trees to serve as a future source of LWM, and shade and bank stability will not be significantly affected in the short term; and (4) construction activities associated with the roads and trails described will result in minor adverse impacts to non-fishbearing stream channels and riparian zones and are integral to the larger and substantially restorative aspects of their respective projects. Despite potential minor short-term adverse effects—most or all of which would be insignificant even on the site scale—these actions maintain or restore essential habitat functions and will not impede recovery of salmonid habitat, a long-term goal of the NFP. Furthermore, although some harassment of individual OC coho salmon may occur due to the proposed activities, no long-term injury to these individuals is expected because of the implementation of BMPs and mitigation plans and because the activities would typically be of low intensity and short duration and would usually occur outside of fishbearing streams.

The NMFS concludes that, when the effects of these proposed site specific actions are added to the environmental baseline and cumulative effects occurring in the relevant action areas, they are not likely to jeopardize the continued existence of OC coho salmon. Additionally, NMFS concludes that the proposed actions would not cause adverse modification or destruction of OC coho salmon designated critical habitat. This is because our conclusion is largely based on the effects of the actions on salmonid habitat and because the adverse modification or destruction of habitat standard is defined similarly to the *jeopardy* standard. Because we have determined that the actions would not jeopardize the continued existence of OC coho salmon, it follows that critical habitat for this species would not be adversely modified or destroyed. In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BAs and documents incorporated by

reference.

VII. CONSERVATION RECOMMENDATIONS

Section 7 (a)(1) of the ESA directs Federal agencies to utilize 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. NMFS has no conservation recommendations regarding the proposed actions addressed in this Opinion.

VIII. REINITIATION OF CONSULTATION

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the biological assessment and this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 C.F.R. 402.16).

IX. REFERENCES

- Johnson, F.W., R.S. Waples, T.C. Wainwright, K.G. Needy, F. W. Waknitz, and L. T. Parker. 1994. Status review of Oregon's Umpqua River sea-run cutthroat trout. National Marine Fisheries Service, Coastal Zone and Estuaries Studies Division, Seattle, Washington
- National Marine Fisheries Service (NMFS). 1996. Making Endangered Species Act determinations of effect for individual or grouped actions at the watershed scale. NMFS, Northwest Region, Seattle, Washington. August 1996.
- National Marine Fisheries Service (NMFS). 1997. Endangered Species Act - Section 7 Consultation Biological Opinion and Conference Opinion: Implementation of Land and Resource Management Plans (USFS) and Resource Management Plans (BLM); USDA Forest Service: Rogue River, Siskiyou, Siuslaw, Umpqua, and Winema National Forests; USDI Bureau of Land Management: Coos Bay, Eugene, Medford, Roseburg, and Salem Districts. NMFS, Northwest Region, Seattle, Washington. March 18, 1997.
- National Marine Fisheries Service (NMFS). 1999. The Habitat Approach: Implementation of Section 7 of the Endangered Species Act for Actions Affecting the Habitat of Pacific Anadromous Salmonids. NMFS, Northwest Region, Seattle, Washington. August 1999.

United States Department of Agriculture and United States Department of the Interior (USDA and USDI). 1994. Record of Decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl. Washington, D.C. April 13, 1994.

Weitkamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milder, D.J. Tell, R.G. Hope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington.

X. INCIDENTAL TAKE STATEMENT

Harassment of individual OC coho salmon resulting from activities within and adjacent to stream channels and possible short-term and transient increases in turbidity and sedimentation are expected to be the only sources of incidental take associated with the proposed actions covered by this Opinion. Because of the implementation of appropriate mitigation measures and BMPs for the proposed ground-disturbing activities, sediment impacts are expected to be minimized. Harassment of individual OC coho salmon is expected to be brief and minor, and would also be minimized by the use of appropriate mitigation measures and BMPs. The NMFS expects that the incidental take associated with the other effects of the proposed actions will also be minimal or non-existent.

Adverse effects of management actions such as these are largely unquantifiable in the short-term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though the NMFS expects some low level of incidental take to occur due to these actions, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species themselves. The adverse effects of the actions, however, should be confined to the sub-watersheds in which the actions are proposed to occur.

The incidental take statement in the LRMP/RMP Opinion provided reasonable and prudent measures and terms and conditions to avoid or minimize the take of listed salmonids from actions which would be beneficial in the long term (pages 64-65 and 70) that may be applied to site specific actions if appropriate. NMFS hereby applies the findings, reasonable and prudent measures, and terms and conditions set forth in the Incidental Take Statement of the programmatic LRMP/RMP Opinion to the site specific proposed actions, and authorizes such minimal incidental take, provided the UNF complies with those measures, terms, and conditions.

