

Endangered Species Act - Section 7
Consultation

Biological Opinion

Morse Brothers Habitat Restoration Project

Agency: Army Corps of Engineers, Portland District

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: November 3, 2000

Refer to: OSB2000-0268

TABLE OF CONTENTS

I. BACKGROUND	1
II. PROPOSED ACTION	1
III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT	2
IV. EVALUATING PROPOSED ACTIONS	2
A. Biological Requirements	3
B. Environmental Baseline	4
V. ANALYSIS OF EFFECTS	4
A. Effects of Proposed Actions	4
B. Effects on Critical Habitat	5
C. Cumulative Effects	5
VI. CONCLUSION	5
VII. REINITIATION OF CONSULTATION	6
VIII. REFERENCES	6
IX. INCIDENTAL TAKE STATEMENT	6
A. Amount or Extent of the Take	7
B. Reasonable and Prudent Measures	7
C. Terms and Conditions	8
X. ESSENTIAL FISH HABITAT CONSULTATION	9
A. Conservation Measures	9
B. Conclusion	10

I. BACKGROUND

On October 16, 2000, the National Marine Fisheries Service (NMFS) received a request from Portland District Army Corps of Engineers (COE) for Endangered Species Act (ESA) section 7 consultation for issuance of a Corps permit to Morse Brothers (Corps No. 2000-00844) for a habitat restoration project that will connect an abandoned gravel mining pit and pond with the Willamette River near Harrisburg, Linn County, Oregon. In the October 16, 2000 letter, the COE determined that the Upper Willamette River (UWR) chinook salmon (*Oncorhynchus tshawytscha*) may occur within the project area and that this species may be affected by the proposed project. Because the proposed action would provide seasonal access to a floodplain pond and back water slough that may entrap, or take, the indicated listed fish, the COE determined that the proposed action may adversely affect these species and requested formal consultation. The NMFS was contacted by Jeff Steyaert, Morse Brothers, and Dr. Peter Bayley, Oregon State University who is conducting a research project related to the proposed activity. Mr. Steyaert and Dr. Bayley provided detailed information regarding the proposed action and the ongoing research. The baseline conditions for the Willamette River in the action area, the immediate location of the proposed action, have been generally described and understood from previous study and analysis. References to this work were noted in the documents provided.

The objective of this Opinion is to determine whether the action to restore habitat by modifying the floodplain pond and constructing a channel to connect the pond with the Willamette River is likely to jeopardize the continued existence of UWR or destroy or adversely modify critical habitat.

II. PROPOSED ACTION

Morse Brothers has proposed to construct stream channel habitat within the Willamette River flood plain to interconnect an abandon gravel mining pond and the river. The purpose of this proposed action is to restore fish habitat and facilitate research on the reclamation of gravel ponds to benefit listed salmon. The proposed action will create a seasonal connection between the river and gravel pond to provide access into and out of the pond by salmon. The channel is designed to be dry between June and October.

The proposed action involves placement of 60 cubic yards of riprap and fill and the excavation of 1,400 cubic yards of gravel and other material to construct a floodplain channel between the existing floodplain pond and the Willamette River. The proposed action is associated with a research study which is independently funded. The channel will be approximately 300 feet long with a trapezoidal shape resulting in a 25-foot width at the top of bank and a 4-foot wide bed. This channel will incorporate a road crossing to provide access to all portions of the property. The road crossing will include a 4 by 6 feet by 40 feet long arch culvert. The work will require heavy equipment to shape and modify the existing pond, to excavate material to create the new channel, and to place the culvert and the rock riprap at the road crossing. The work will occur during proposed action will incorporate conservation measures, including the conducting work during the Oregon Department of Fish and Wildlife's (ODFW) in-water work period, or as otherwise agreed to by ODFW. All work will be

isolated from the actively flowing stream.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

Based on migratory timing, NMFS expects that only a few of the indicated fish species, adult or rearing juveniles, would be present during the proposed in-water work period. Monitoring of these fish species will occur in the area after construction is completed. The proposed action would occur within designated critical habitat (Table 1).

The action area is defined by NMFS regulations (50 CFR 402) as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” The action area includes designated critical habitat affected by the proposed action within the Willamette River. This area serves as a migratory corridor for both adult and juvenile life stages of UWR chinook salmon. Essential features of the adult and juvenile migratory corridor for the species are: (1) Substrate; (2) water quality; (3) water quantity; (4) water temperature; (5) water velocity; (6) cover/shelter; (7) food (juvenile only); (8) riparian vegetation; (9) space; and (10) safe passage conditions (50 CFR 226). The essential features this proposed project may affect are water quality, as a result of construction activities, and safe passage conditions, as a result possible entrapment of indicated listed outmigrating juvenile fish.

Table 1. References to Federal Register Notices containing additional information concerning listing status, biological information, and critical habitat designations for listed and proposed species considered in this Opinion.

<i>Species (Biological References)</i>	<i>Listing Status Reference</i>	<i>Species (Biological References)</i>
Upper Willamette River chinook salmon (Myers et. al. 1998)	Upper Willamette River chinook salmon were listed as threatened under the ESA by NMFS (March 24, 1999, 64 FR 14308).	Critical habitat was designated for the Upper Willamette River chinook salmon on February 16, 2000 (65 FR 7764) and includes the current fresh water range within the Willamette River basin and downstream along the Columbia River.

IV. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by 50 CFR 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of: (1) Defining the biological requirements of the listed species; and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1)

Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential feature of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat, it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for migration, spawning, and rearing of the listed and proposed species under the existing environmental baseline.

A. Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for the subject species to survive and recover to a naturally reproducing population level at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance its capacity to adapt to various environmental conditions, and allow it to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of the indicated fish species, based upon their risk of extinction, has not significantly improved since the species were listed.

B. Environmental Baseline

The biological requirements of the indicated fish species are currently not being met under the environmental baseline. Their status is such that there must be a significant improvement in the environmental conditions they experience over those currently available under the environmental baseline. Any further degradation of these conditions would have a significant impact due to the amount of risk they presently face under the environmental baseline.

The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream, based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. For the purposes of this Opinion, the action area is defined as the applicant's property and stream and riparian areas adjacent to the work area.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Actions

The NMFS expects that the effects of the proposed project will tend to maintain or improve the habitat elements at this site over the long term (greater than one year). In the short term, temporary increases of sediment and turbidity, and disturbance of riparian habitat are expected.

In the long term, the project is intended to improve backwater riparian habitat and reduce the likelihood that the indicated listed fish will become entrapped or otherwise harmed. The resulting access channel and the associated plantings that will occur will create rearing habitat for the subject species, providing food and shelter during winter months. The type and location of the channel will be similar to habitats that have been lost in the past. Opening the gravel pond to the Willamette River through the channel will allow an exit for any outmigrating listed fish that may have become carried into the pond through periodic seasonal over topping of the natural levees. The potential net effect from of the proposed action, including mitigation, is expected to maintain or improve properly functioning stream conditions within the action area.

Summary of Specific Effects:

1. In-water work within the Willamette River and adjacent sloughs may result in the disturbance of the subject species. Juvenile fish that may be rearing in the vicinity of the action area would most likely be displaced, although warm summer temperatures generally preclude fish presence during the in-water work period. There is a low probability of direct mortality. In-water work would last several days.
2. Approximately 300 linear feet of rearing habitat (stream bank and associated vegetation) will be created or enhanced as a result of the action. Native riparian species will be planted in the project area.
3. Short-term increases in turbidity and sedimentation resulting from construction will be limited to the local vicinity. The work will be set back from the main channel of the Willamette River and conducted in a backwater channel with minimum flow velocities. These conditions will help to localize turbidity and fine sediment distribution. The amount and duration of any increase in turbidity will be limited because of the short time frame to complete the project and the small

amount of work necessary to connect the new channel with the existing slough. The newly excavated channel will have some time to settle before it will contain seasonal high water.

B. Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has been designated for the indicated fish species. For the proposed action, NMFS expects that the effects will tend to maintain properly functioning conditions in the watershed under current baseline conditions over the longterm. The newly created channel and access to the gravel pond will allow juvenile salmonids and other fish to utilize the habitat for food and shelter. In addition, trees within the project area will be saved and new plantings will be undertaken through the associated research project. This is expected to improve the quality of the habitat and stream functions in the immediate area.

C. 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." For the purposes of this analysis, the general action area is the applicant's property. Other activities within the watershed have the potential to impact fish and habitat within the action area. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes.

NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

VI. CONCLUSION

NMFS has determined, based on the available information, that the proposed action is expected to maintain or restore properly functioning stream conditions within the action area. Consequently, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of the indicated fish species or adversely modify proposed critical habitat. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS believes that the proposed action would cause a minor, short-term degradation of anadromous salmonid habitat due to sediment impacts and in-water construction. The long-term effect will be habitat enhancement. Although direct mortality from this project could occur during the in-water work, it is not expected, and the level of mortality would be minimal and would not result in jeopardy.

VII. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: The amount or extent of taking specified in the incidental take statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, the COE must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

VIII. REFERENCES

- NMFS 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.
- Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Liehr, T.C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R.S. Waples. 1998. Status review of chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-35, 443 p.

IX. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of the indicated fish species because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, 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. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to the project area.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of the above species.

1. To minimize the amount and extent of incidental take from construction activities, measures shall be taken to limit the duration of in-water work; to time such work to occur when listed fish are absent; and to implement effective pollution control measures to minimize the movement of soils and sediment both into and within the stream channel.
2. To minimize the amount and extent of take from loss of habitat, and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian vegetation, or where impacts are unavoidable, to replace lost riparian habitat functions.
3. To minimize long term potential take from modification to habitat and proper stream function, the channel and pond habitat shall be monitored to assess effectiveness of the indicated listed fish to move into and out of the channel and pond, and the plantings along the channel and pond shall be monitored to assess survival and effectiveness in maintaining the riparian system.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the COE must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure No. 1, above, the COE shall ensure that:

- a. All work below the ordinary high water line will be completed within ODFW's in-water work period or as modified by ODFW and in agreement with NMFS.
 - b. All equipment that is used for instream work will be cleaned prior to entering the job site. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment. Areas for fuel storage and servicing of construction equipment and vehicles will be located at least 150 feet away from any water body.
 - c. The channel excavation shall be conducted in the dry or outside of the actively flowing stream.
 - d. Breeching the connection between the newly constructed channel and the existing backwater slough shall be completed after the channel and road crossing have been completed.
2. To implement reasonable and prudent measure No. 2, above, the COE shall ensure that native trees and shrubs shall be planted in the action area along the channel and around the pond in accordance with the scheduled on-going research being conducted by OSU.
3. To implement reasonable and prudent measure No. 3, above, the COE shall ensure that:
- a. Monitoring of the newly constructed channel and gravel pond shall be conducted in accordance with the scheduled on-going research being conducted by OSU to assess the use of the habitat and movement into and out of the channel and pond by the indicated listed fish.
 - b. The evaluation of the access channel connecting the gravel pond to the Willamette River shall be designed to allow fish passage through May 31 to effectively reduce the likelihood of entrapment of indicated listed juvenile fish as demonstrated by monitoring study results.
 - c. Monitoring of the plantings adjacent to the channel and pond shall be conducted in accordance with the scheduled on-going research being conducted by OSU and replanted as necessary to achieve proposed quality and quantity of riparian area.

X. ESSENTIAL FISH HABITAT CONSULTATION

The Pacific Fisheries Management Council (PFMC) is one of eight regional fishery management councils established under the Magnuson-Stevens Act. PFMC develops and carries out fisheries management plans for salmon, groundfish and coastal pelagic species off the coasts of Washington, Oregon and California, and recommends Pacific halibut harvest regulations to the International Pacific Halibut Commission.

As required by the Magnuson-Stevens Act, PFMC described and identified Essential Fish Habitat (EFH) in each of its fisheries management plans. EFH includes "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity." All streams, lakes, ponds, wetlands,

and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California are proposed for designation as EFH for chinook salmon and coho salmon.¹

The Magnuson-Stevens Act also established an EFH consultation process. Federal agencies are required to consult with NMFS on all actions that may adversely affect EFH. The NMFS interprets the scope of these consultations to include actions by Federal agencies that occur outside designated EFH, such as upstream or up slope, but nonetheless may have an adverse effect on habitat conditions necessary for the long-term survival of the species within EFH. The NMFS must provide conservation recommendations for any Federal or State activity that may adversely affect EFH. Within 30 days of receiving EFH conservation recommendations from the NMFS, Federal agencies must conclude EFH consultation by responding to NMFS with a written description of conservation measures the agency will use to avoid, mitigate or offset the impact of its action on EFH. If the Federal agency selects conservation measures that are inconsistent with the conservation recommendations of NMFS, the Federal agency must explain in writing its reasons for not following NMFS' recommendations.

A. Conservation Measures

The project area for the proposed project occurs within the area designed as EFH for chinook salmon. Information submitted by the COE in its biological assessment is sufficient to conclude that the effects of this project on EFH is likely to be within the range of effects considered in the ESA consultation above. Based on that analysis, the NMFS finds that the Morse Brothers Habitat Restoration Project will enhance and create habitat and is unlikely to adversely affect EFH proposed for chinook salmon. Because the proposed project is not likely to adversely affect EFH, the NMFS has no conservation recommendations to make at this time.

B. Conclusion

This concludes EFH consultation for the Morse Brothers Habitat Restoration Project. The COE must reinitiate consultation if: 1) New information reveals effects of the agency action that may affect listed species or designated EFH in a manner or to an extent not considered in this consultation; 2) the agency action is subsequently modified in a manner that causes an effect to listed species or designated EFH not considered in this consultation; or, 3) new species are listed or EFH is designated that may be affected by the action.

¹ Pacific Fishery Management Council, 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 (1999).

