BIOLOGICAL AND CONFERENCE OPINIONS
FOR THE
PROGRAMMATIC IDAHO TRANSPORTATION DEPARTMENT
STATEWIDE FEDERAL AID, STATE, AND MAINTENANCE ACTIONS

14420-2010-F-0287

July 2010

FISH AND WILDLIFE SERVICE
IDAHO FISH AND WILDLIFE OFFICE
BOISE, IDAHO

Table of Contents

1. BACKGROUND AND INFORMAL CONSULTATION 1
1.1 Introduction 1
1.2 Consultation History 2
1.3 Informal Consultations 3
1.3.1 Kootenai River White Sturgeon and Critical Habitat 3
1.3.2 Banbury Springs lanx 3
1.3.3 Bruneau hot springsnail 3
1.3.4 Grizzly Bear 4
1.3.5 Canada Lynx and Critical Habitat 4
1.3.6 MacFarlane's four-o'clock 4
1.3.7 Water Howellia 5
1.3.8 Ute ladies'- tresses 5
1.3.9 Spalding's catchfly 5
1.3.10 Slickspot peppergrass 6
BIOLOGICAL OPINION 7
2. DESCRIPTION OF THE PROPOSED ACTION 7
2.1 Action Area 7
2.2 Proposed Action 9
2.2.1 Program Procedures 9
2.2.2 Program Actions 11
2.2.3 Best Management Practices (BMPs) and Mitigations Common to all Program Activities 13
2.2.4 BMPs Associated with the Preservation and Retention of Existing Vegetation 14
3. ANALYTICAL FRAMEWORK FOR THE JEOPARDY AND ADVERSE MODIFICATION DETERMINATIONS 15
3.1 Jeopardy Determination 15
3.2 Adverse Modification Determination 15
4. BULL TROUT 16
4.1 Status of the Species and Designated/Proposed Critical Habitat 16
4.1.1 Listing Status 16

4.1.2 Reasons for Listing 17
4.1.3 Species Description 17
4.1.4 Life History 17
4.1.5 Population Dynamics 19
4.1.6 Status and Distribution 20
4.1.7 Previous Consultations and Conservation Efforts 23
4.1.8 Conservation Needs 25
4.1.9 Critical Habitat 26
4.2 Environmental Baseline of the Action Area 29
4.2.1 Status of the Bull Trout in the Action Area 30
4.2.2 Factors Affecting the Bull Trout and Critical Habitat in the Action Area 33
4.3 Effects of the Proposed Action 35
4.3.1 Direct and Indirect Effects of the Proposed Action 35
4.3.2 Effects to Critical Habitat 40
4.3.3 Effects of Interrelated or Interdependent Actions 44
4.4 Cumulative Effects 44
4.5 Conclusion 45
4.6 Incidental Take Statement 46
4.6.1 Amount or Extent of Take Anticipated 46
4.6.2 Effect of the Take 47
4.6.3 Reasonable and Prudent Measures 47
4.6.4 Terms and Conditions 48
4.6.5 Reporting and Monitoring Requirement 48
4.7 Conservation Recommendations 48
5. UTAH VALVATA SNAIL 49
5.1 Status of the Species 49
5.1.1 Listing Status 49
5.1.2 Reasons for Listing 49
5.1.3 Species Description 50
5.1.4 Life History 50
5.1.5 Population Dynamics 51
5.1.6 Status and Distribution 52

5.1.7 Conservation Needs 53
5.1.8 Critical Habitat 53
5.2 Environmental Baseline of the Action Area 53
5.2.1 Status of the Utah Valvata 53
5.2.2 Factors Affecting the Utah Valvata in the Action Area 53
5.3 Effects of the Proposed Action 53
5.3.1 Direct and Indirect Effects of the Proposed Action 54
5.3.2 Effects of Interrelated or Interdependent Actions 54
5.4 Cumulative Effects 54
5.5 Conclusion 55
5.6 Incidental Take Statement 55
5.6.1 Amount or Extent of Take Anticipated 56
5.6.2 Effect of the Take 56
5.6.3 Reasonable and Prudent Measures 57
5.6.4 Terms and Conditions 57
5.6.5 Reporting and Monitoring Requirement 57
5.7 Conservation Recommendations 57
6. SNAKE RIVER PHYSA SNAIL 58
6.1 Status of the Species 58
6.1.1 Listing Status 58
6.1.2 Reasons for Listing 58
6.1.3 Species Description 58
6.1.4 Life History 58
6.1.5 Population Dynamics 59
6.1.6 Status and Distribution 59
6.1.7 Conservation Needs 60
6.1.8 Critical Habitat 60
6.2 Environmental Baseline of the Action Area 60
6.2.1 Status of the Snake River physa 60
6.2.2 Factors Affecting the Snake River physa in the Action Area 60
6.3 Effects of the Proposed Action 61
6.3.1 Direct and Indirect Effects of the Proposed Action 61

6.3.2 Effects of Interrelated or Interdependent Actions 61
6.4 Cumulative Effects 61
6.5 Conclusion 62
6.6 Incidental Take Statement 62
6.6.1 Amount or Extent of Take Anticipated 63
6.6.2 Effect of the Take 63
6.6.3 Reasonable and Prudent Measures 64
6.6.4 Terms and Conditions 64
6.6.5 Reporting and Monitoring Requirement 64
6.7 Conservation Recommendations 65
7. BLISS RAPIDS SNAIL 65
7.1 Status of the Species 65
7.1.1 Listing Status 65
7.1.2 Reasons for Listing 65
7.1.3 Species Description 66
7.1.4 Life History 66
7.1.5 Population Dynamics 66
7.1.6 Status and Distribution 67
7.1.7 Conservation Needs 68
7.1.8 Critical Habitat 69
7.2 Environmental Baseline of the Action Area 69
7.2.1 Status of the Bliss Rapids Snail in the Action Area 69
7.2.2 Factors Affecting the Bliss Rapids Snail in the Action Area 69
7.3 Effects of the Proposed Action 70
7.3.1 Direct and Indirect Effects of the Proposed Action 70
7.3.2 Effects of Interrelated or Interdependent Actions 70
7.4 Cumulative Effects 70
7.5 Conclusion 72
7.6 Incidental Take Statement 72
7.6.1 Amount or Extent of Take Anticipated 72
7.6.2 Effect of the Take 73
7.6.3 Reasonable and Prudent Measures 73

7.6.4 Terms and Conditions 74
7.6.5 Reporting and Monitoring Requirement 74
7.7 Conservation Recommendations 74
8. NORTHERN IDAHO GROUND SQUIRREL 75
8.1 Status of the Species 75
8.1.1 Listing Status 75
8.1.2 Reasons for Listing 75
8.1.3 Species Description 75
8.1.4 Life History 76
8.1.5 Population Dynamics 76
8.1.6 Status and Distribution 77
8.1.7 Previous Consultations and Conservation Efforts 78
8.1.8 Conservation Needs 78
8.1.9 Critical Habitat 79
8.2 Environmental Baseline of the Action Area 79
8.2.1 Status of the NIDGS in the Action Area 79
8.2.2 Factors Affecting the NIDGS in the Action Area 79
8.3 Effects of the Proposed Action 79
8.3.1 Direct and Indirect Effects of the Proposed Action 80
8.3.2 Effects of Interrelated or Interdependent Actions 81
8.4 Cumulative Effects 81
8.5 Conclusion 82
8.6 Incidental Take Statement 82
8.6.1 Amount or Extent of Take Anticipated 83
8.6.2 Effect of the Take 83
8.6.3 Reasonable and Prudent Measures 84
8.6.4 Terms and Conditions 84
8.6.5 Reporting and Monitoring Requirement 84
8.7 Conservation Recommendations 85
9. REINITIATION-CLOSING STATEMENT 85
10. LITERATURE CITED 86

List of Tables

Table 1. Fourth Level Hydrologic Units (HUCs) comprising the Program action area. 8

Table 2. Program activities grouped by effect determinations for listed species. 12

Table 3. Bull Trout Habitat Condition and Extirpation Risk by Core Area [adapted from Table 3 in the Service's Bull Trout Core Area Conservation Status Assessment (Service 2005)]. 31

Table 4. Matrix of Pathways and Indicators showing baseline condition for selected habitat indicators and the effects to those indicators from implementing Program activities (from the Assessment). Note: The matrix only includes baseline condition for those indicators that may be affected by implementation of Program actions. 35

Table 5. The PCEs of designated critical habitat, associated MPI habitat indicators affected by the Program, and indicators degraded by implementing Program actions for each PCE. 41

Table 6. The PCEs of proposed critical habitat, associated MPI habitat indicators affected by the Program, and indicators degraded by implementing Program actions for each PCE. 43

1. BACKGROUND AND INFORMAL CONSULTATION

1.1 Introduction

The Fish and Wildlife Service (Service) has prepared this Biological and Conference Opinions (Opinion) on the effects of the Programmatic Idaho Transportation Department Statewide Federal Aid, State, and Maintenance Actions (Program[1]) on the bull trout (*Salvelinus confluentus*) and its proposed and designated critical habitat, Utah valvata snail (*Valvata utahensis*), Snake River physa snail (*Haitia* (*Physa*) *natricina*), Bliss Rapids snail (*Taylorconcha serpenticola*), and the northern Idaho ground squirrel (*Spermophilus brunneus brunneus*). In a letter dated March 22, 2010, and received by the Service on March 25, the Federal Highways Administration (FHWA) and the Army Corps of Engineers (COE) (Agencies) jointly requested formal consultation with the Service under section 7 of the Endangered Species Act (Act) on the effects to listed species from actions carried out under the Program.

As lead agency for federal aid project actions involving highway projects, the FHWA is responsible for compliance with section 7 of the Act. The FHWA has delegated authority to the Idaho Transportation Department (Department) for preparation of biological evaluations and biological assessments, and to conduct informal consultation with the Service and the National Marine Fisheries Service (NMFS) – referred to collectively as the Services.

The COE is responsible for ensuring compliance with section 7 of the Act for projects that require Department of the Army permits under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899. The COE is the lead federal agency for state-funded projects that require a Department of the Army (DA) permit. The COE has also designated the Department as a non-federal representative for section 7 consultation on actions covered under the Program.

The Department, in cooperation with the FHWA, the COE, the NMFS and the Service, developed this Programmatic Biological Assessment (Assessment) to document projects and consult, on a statewide level, under section 7 of the Act, on the Department actions described herein.

The Department determined that the proposed action is likely to adversely affect the species listed above. As described in this Opinion, and based on the Biological Assessment (Assessment) developed by the Department and other information, the Service has concluded that the action, as proposed, is not likely to jeopardize the continued existence of these species or result in any adverse modification of designated or proposed critical habitat.

The Department has also determined the Program is not likely to adversely affect the Kootenai River white sturgeon (*Acipenser transmontanus*) and its critical habitat, the Banbury Springs lanx (*Lanx* sp.), the Bruneau hot spring snail (*Pyrgulopsis bruneausensis*), the Selkirk Mountain caribou (*Rangifer tarandus caribou*), the grizzly bear (*Ursus arctos horribilis*), the Canada lynx (*Lynx canadensis*) and its critical habitat, MacFarlane's four-o'clock (*Mirabilis macfarlanei*), the water howellia (*Howellia aquatilis*), the Ute ladies'-tresses (*Spiranthes diluvialis*), the Spalding's

[1]"Program" refers to all maintenance activities, processes, and best management practices addressed in the Programmatic Assessment and will be used throughout this Opinion to refer to these components.

catchfly (*Silene spaldingii*), and the splickspot peppergrass (*Lepidium papilliferum*). In this document, the Service is providing concurrence with those determinations.

The Agencies are consulting separately with the NMFS on the effects of the proposed Program on the sockeye salmon (*Oncorhynchus nerka*), spring/summer Chinook salmon (*Oncorhynchus tshawytscha*), fall Chinook salmon (*Oncorhynchus tshawytscha*), and steelhead (*Oncorhynchus mykiss*).

1.2 Consultation History

July 22-29, 2008	The Service received an e-mail from the Department requesting suggestions on how to structure the Assessment for the Program. We provided an example of a programmatic assessment to the Department via e-mail.
August 14, 2008	The Service participated in a conference call with the Department and the NMFS to discuss some of the various types of maintenance projects to be included in the Assessment as well as how to structure the Assessment.
August 21, 2008- November 2, 2009	The Service received an e-mail from the Department with the draft Assessment attached. We reviewed several iterations of the draft Assessment, attended four interagency meetings to discuss the draft Assessment, and provided comments on the draft Assessment.
November 3, 2009	The Service sent the Department comments on critical habitat for the Canada lynx via e-mail.
December 3, 2009	The Service attended a meeting with the Department, FHWA, the COE, and NMFS to discuss the draft Assessment.
December 7, 2009	The Service sent the Department via e-mail information on when the Federal Register notice for proposed bull trout critical habitat would be published and the information would be available for inclusion in the Assessment.
January 14, 2010	The Service sent the Department, via e-mail, information on proposed bull trout critical habitat for inclusion in the Assessment.
February 11, 2010	The Service sent the Department, via e-mail, language on designated bull trout critical habitat for incusion in the Assessment.
February 16, 2010	The Service sent the Department an e-mail with comments on a table on listed species by river basin for inclusion in the Assessment.
February 22, 2010	The Service sent an e-mail response to the Department approving the inclusion of small structure repair as an additional work type in the Assessment.
February 24, 2010	The Service received an e-mail from the Department indicating that the final Assessment was transmitted to the Department Headquarters (HQ).

	The e-mail stated that HQ would submit the Assessment to FHWA and the COE for final submittal to the Services.
February 25, 2010	The Service sent an e-mail to the Department stating errors in the final Assessment.
March 19, 2010	The Service sent an e-mail to the Department providing language on candidate species for inclusion in the Assessment.
June 29, 2010	The Service sent a draft version of this Opinion via e-mail to the Agencies for review.

1.3 Informal Consultations

1.3.1 Kootenai River White Sturgeon and Critical Habitat

Service concurrence that the proposed Program is not likely to adversely affect the Kootenai white sturgeon and its critical habitat is based on the following rationales presented in the Assessment.

1. No in-water maintenance actions are proposed in occupied sturgeon habitat or designated critical habitat. Erosion control measures such as coir logs and sediment fences are expected to reduce sediment effects from out-of-water activities to an insignificant level.
2. The US Highway 95 bridge over the Kootenai River is the only location where Department roads are located adjacent to sturgeon habitat. All other maintenance locations will be greater than 400 yards from sturgeon habitat. Best Management Practices (BMPs) will reduce the effects from any bridge repair or maintenance activities to an insignificant level.
3. In-water work in tributaries to the Kootenai River may produce sediment with the potential to reach the river. However, sediment effects from these actions are expected to be insignificant due to the distance of these locations from the river.

1.3.2 Banbury Springs lanx

Service concurrence that the proposed Program is not likely to adversely affect the Banbury Springs lanx is based on the following rationales presented in the Assessment.

Effects to the Banbury Springs lanx from any Program actions are expected to be discountable because populations of the lanx are not likely to be located in proximity to any Department roads.

1.3.3 Bruneau hot springsnail

Service concurrence that the proposed Program is not likely to adversely affect the Brunneau hot spring snail is based on the following rationales presented in the Assessment.

Effects to the Bruneau hot springsnail from any Program actions are expected to be discountable because populations of the hot springsnail are not likely to be located in proximity to any Department roads.

1.3.4 Grizzly Bear

Service concurrence that the proposed Program is not likely to adversely affect the grizzly bear is based on the following rationales presented in the Assessment.

1. The Program will not result in any increase in roadways within grizzly bear habitat.
2. The Program will not affect any key food resources for the grizzly bear.
3. Although Program maintenance activities may disturb grizzly bears when conducted in bear habitat, all of the proposed actions are limited in scope and duration. As such, any effects to grizzly bears are expected to be insignificant.
4. Program actions will not result in any significant changes in habitat that would impact the grizzly bear.
5. Program actions will not have any effects on grizzly bear denning habitat.
6. All projects will be subject to existing BMPs designed to avoid or minimize adverse effects. In addition, all Program actions that occur within or adjacent to US Forest Service administered lands will be required to consult with the Forest Service concerning appropriate conservation measures that need to be administered during project construction activities in order to minimize impacts to grizzly bears.

1.3.5 Canada Lynx and Critical Habitat

Service concurrence that the proposed Program is not likely to adversely affect the Canada lynx and its critical habitat is based on the following rationales presented in the Assessment.

1. Because it is unlikely that lynx will occur in the immediate vicinity of any maintenance action, effects are expected to be discountable. In addition, adjacent suitable habitat is available for lynx to use to avoid any disturbance caused by project implementation.
2. If any lynx are present in the vicinity of maintenance actions, any effects are expected to be insignificant because the proposed actions will be spatially limited and of short duration.
3. Program actions are not expected to alter any lynx foraging or denning habitat or result in changes to lynx prey densities.
4. Designated lynx critical habitat does not exist in Idaho near any state or federal highways so construction, maintenance, and use of roads will not occur near critical habitat. Therefore, the Program will have no effect on critical habitat.

1.3.6 MacFarlane's four-o'clock

Service concurrence that the proposed Program is not likely to adversely affect MacFarlane's four-o'clock is based on the following rationales presented in the Assessment.

1. All Program activities will be evaluated by the Service.
2. Because MacFarlane's four-o'clock is associated with open, steep canyon grasslands (away from Department administered roadways) the risk of direct impacts from proposed

maintenance actions to the known MacFarlane's four-o'clock sites and its habitat is discountable.

3. When Program actions take place within suitable Macfarlane's four-o'clock habitat, species surveys will be conducted. The Department will avoid adverse effects to Macfarlane's four-o clock, or will initiate formal consultation separately for the specific action.

1.3.7 Water Howellia

Service concurrence that the proposed Program is not likely to adversely affect the water howellia is based on the following rationales presented in the Assessment.

1. All Program activities will be evaluated by the Service.
2. Water howellia is only known to occur in a few locations in Latah County. Known occurrences are on private land and are adequately buffered from adjacent state highway routes.
3. When activities take place within suitable habitat, species surveys will be conducted. Adverse effects to water howellia from highway construction or maintenance activities will be avoided.
4. Because water howellia habitat is coincident with wetlands and/or waters of the United States, road construction and maintenance would not be considered a primary threat to the species.

1.3.8 Ute ladies'- tresses

Service concurrence that the proposed Program is not likely to adversely affect the Ute ladies'-tresses is based on the following rationales presented in the Assessment.

1. All Program activities will be evaluated by the Service.
2. Virtually all known occurrences within Idaho are, or at one time were, associated with the Snake River floodplain in early to mid-seral riparian habitats not adjacent to Department administered roads. The risk of direct impacts from proposed maintenance actions to the known Utes ladies'-tresses sites and its habitat is discountable.
3. When activities take place within suitable habitat, species surveys will be conducted. The Department will avoid adverse effects to Ute ladies'-tresses, or will initiate formal consultation separately for the specific action.

1.3.9 Spalding's catchfly

Service concurrence that the proposed Program is not likely to adversely affect the Spalding's catchfly is based on the following rationales presented in the Assessment.

1. All Program activities will be evaluated by the Service.
2. The Department will use adaptive management practices for weed management along highway rights of way to avoid impacting Spalding's catchfly.

3. When activities take place within suitable habitat, species surveys will be conducted. The The Department will avoid adverse effects to Spalding's catchfly, or will initiate formal consultation separately for the specific action.

1.3.10 Slickspot peppergrass

Service concurrence that the proposed Program is not likely to adversely affect the slickspot peppergrass is based on the following rationales presented in the Assessment.

1. All Program activities will be evaluated by the Service.
2. The Department will use adaptive management practices for weed management along highway rights-of-way to avoid impacting the slickspot peppergrass.
3. When activities take place within suitable habitat, species surveys will be conducted. The Department will avoid adverse effects to Slickspot peppergrass, or will initiate formal consultation separately for the specific action.

BIOLOGICAL OPINION

2. DESCRIPTION OF THE PROPOSED ACTION

This section describes the proposed Federal action, including any measures that may avoid, minimize, or mitigate adverse effects to listed species or critical habitat, and the extent of the geographic area affected by the action (i.e., the action area). The term "action" is defined in the implementing regulations for section 7 as "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas." The term "action area" is defined in the regulations as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."

2.1 Action Area

Description of the Action Area

The action area identified in the Assessment includes 71 subbasins (fourth-level hydrological units) that encompass all areas potentially affected directly or indirectly by the Program (Table 1).

Table 1. Fourth Level Hydrologic Units (HUCs) comprising the Program action area.

HUC. (4th level)	□ubbasin Name	HUC (4th level)	Subbasin Name
Kootenai		Snake River Basin (continued)	
17010101	Upper Kootenai	17040105	Salt
17010104	Lower Kootenai	17040201	Idaho Falls
17010105	Moyie	17040202	Upper Henry's
Pend Oreille		17040203	Lower Henry's
17010213	Lower Clark Fork	17040204	Teton
17010214	Pend Oreille Lake	17040205	Willow
17010215	Priest	17040206	American Falls
17010216	Pend Oreille	17040207	Blackfoot
Coeur d'Alene		17040208	Portneuf
17010301	Upper Coeur d'Alene	17040209	Lake Walcott
17010302	South Fork Coeur d'Alene	17040210	Raft River
17010303	Coeur d'Alene Lake	17040211	Goose Creek
17010304	St. Joe	17040212	Billingsley Creek
17010305	Upper Spokane	17040213	Salmon Falls Creek
17010306	Hangman	17040214	Beaver-Camas
17010308	Little Spokane	17040215	Medicine Lodge
Clearwater Basin		17040216	Birch
17060301	Upper Selway	17040217	Little Lost
17060302	Lower Selway	17040218	Big Lost
17060303	Lochsa	17040212 /	Middle Snake River
17060304	Middle Fork Clearwater	17040213	
17060305	South Fork Clearwater	17040219	Big Wood River
17060306	Clearwater	17040220	Camas Creek
Salmon River Basin		17040221	Little Wood River
17060201	Upper Salmon	17040212	Upper Snake Rock
17060202	Pahsimeroi	17050101	King Hill to C.J. Strike Reservoir
17060203	Middle Salmon-Panther	17050102	Bruneau River
17060204	Lemhi	17050103	Mid Snake River
17060205	Upper Middle Fork Salmon	17060101/	Snake River – Hells Canyon
17060206	Lower Middle Fork Salmon	17050103/	
17060207	Middle Salmon-Chamberlain	17050115/	
17060208	South Fork Salmon River	17050201	
17060209	Lower Salmon	17050124	Weiser River
17060210	Little Salmon River	17050114	Lower Boise River
17060101	Hells Canyon	17050122	Payette River
17060103	Lower Snake River	17050123	Payette River-North Fork
Snake River Basin		17050120	Payette River-South Fork
17040104	Palisades	17050112	Boise-Mores Creek

2.2 Proposed Action

2.2.1 Program Procedures

The proposed Program includes routine actions performed by the six Department Districts within the state of Idaho via a federal nexus with the FHWA and/or the COE. Please note however that during the first year of implementation, only Districts 2, 4, and 6 will use the Program on a test basis. If use of the Program by these three Districts is successful, use of the Program will be extended to all six Department Districts for the remainder of the five-year implementation period.

The federal nexus may result from either federal funding of the project through the FHWA or from a federal permit action undertaken by the COE.

As lead agency for federal aid project actions involving highway projects, the FHWA is responsible for compliance with section 7 of the Act. In accordance with implementing these regulations, including 50 CFR 402.08, the FHWA has delegated authority to the Department for preparation of biological evaluations and biological assessments, and to conduct informal consultation with the Services. The delegation of this authority was established via a separate Memorandum of Understanding (MOU), "Procedures Relating to Section 7 of the Endangered Species Act and Transportation Projects in Idaho," between the ITD, FHWA, and the Services dated Feb. 28, 2003 (see appendix of Assessment).

The COE is responsible for ensuring compliance with section 7 of the Act for projects that require Department of the Army permits under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899. The COE is the lead federal agency for state-funded projects that require a Department of the Army (DA) permit. The COE has also designated the Department as a non-federal representative for section 7 actions covered under this Program.

The process and procedures established under the 2003 MOU for formal and informal consultation and for "no effect" documentation remain in effect, and shall be implemented with this Program. When there is no federal nexus, either as a result of use of federal funds, federal permits or other means, this Program does not apply.

Program activities described in the Assessment are constructed by state forces or federal aid project contractors and subcontractors on a recurring basis. In most cases, what is described is a typical sequence for conducting the action. Any project deviation with effects measurably different from those evaluated in this document will not be covered under the Program. Multiple types of projects may be approved as components of one proposed action. For example, a passing-lane construction project might also include bank stabilization and a culvert replacement. In these cases, the most restrictive best management practices (BMPs) from any one of the individual project types shall apply to the proposed action in its entirety.

PROCESS

The process the Department will follow while using the Program includes the following (excerpted from the Assessment with minor changes added for clarification and/or consistency).

Confirm Listed Species

The Department will confirm that each action authorized or carried out under the Program will occur within the present or historical range of a listed species, designated or proposed critical habitat, or designated essential fish habitat.

Department Review

The Department will individually review each action to ensure that all effects to listed species and their proposed or designated critical habitats are within the range of effects considered in the Assessment. The Department will determine if the action has a FHWA or COE federal nexus; if so, the Department will follow the process outlined in the Assessment.

NMFS/FWS/COE/FHWA Review

The Department will ensure that all actions described within the Assessment will be individually reviewed and confirmed by the Services that the actions meet Program requirements. In addition:

- The COE will receive project Pre-notification forms for all actions requiring a DA permit.
- FHWA will receive project Pre-notification forms for all federal aid actions.

Notification

a. The Department will initiate the Services' review of all Not Likely to Adversely Affect (NLAA) Program projects by submitting the Project Pre-Notification Form to the Services with sufficient detail about the action design and construction to ensure the proposed action is consistent with all provisions of the Program. The Services will notify the Department within 30 calendar days either confirming that the action meets the provisions of the Program or is disqualified.

b. The FHWA or the COE will initiate the Services' review of all Likely to Adversely Affect (LAA) projects by submitting the action notification form to the Services with sufficient detail about the action design and construction to ensure the proposed action is consistent with all provisions of the Program. The Services will notify FHWA/COE within 30 calendar days either confirming that the project meets the provisions of the Program or is disqualified. Notifications of NLAA and LAA project effects and responses to those by the Services may be made by electronic submission.

Site Access

The Department will retain the right of access to sites on which authorized actions will be implemented in order to monitor the use and effectiveness of permit conditions. The Services will be allowed access to project sites as requested.

Salvage Notice

If a sick, injured or dead specimen of a threatened or endangered species is found, the Department must notify NMFS (208-321-2956) or the Service (208-378-5333) Office of Law Enforcement. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility for

carrying out instructions provided by the Office of Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

Project Monitoring Forms

Within 45 days of project completion, the Department will send the appropriate post-project monitoring forms to the Services.

Annual Coordination Meeting

The Department will coordinate and host an annual meeting to review the projects conducted under the Program during the previous year.

Failure to Provide Reporting May Trigger Reinitiation

If the Department fails to provide notification of actions for the Services' review, project monitoring reports, or fails to organize the annual coordination meeting, the Services may assume the action has been modified in a way that constitutes a modification of the proposed action in a manner and to an extent not previously considered, and may recommend reinitiation of this consultation.

Audits

The Department, the Services, FHWA and the COE may conduct periodic reviews or audits on the use of the Program. As referenced above, the Department shall allow the Services, FHWA, or the COE the opportunity to review any actions while in progress or after completion. The purpose of this review is to ensure clearance of appropriate project types and Best Management Practices (BMPs) effectiveness.

Training

The Department HQ office will provide an annual training opportunity for districts that wish to use this Program.

Reinitiation

If the Department chooses to continue programmatic coverage under this document, the Department will reinitiate consultation within 5 years of the date of issuance.

2.2.2 Program Actions

Table 2 shows the types of maintenance actions covered under the Program and the expected effects determinations on applicable listed species. Refer to the Assessment for details on each of these activities, including activity-specific BMPs.

Table 2. Program activities grouped by effect determinations for listed species.

Not Likely to Adversely Affect Projects	Likely to Adversely Affect Projects
Seal Coats, Tack Coat, Prime Coat	2-Lane Bridge Construction – (Over Water)
Plant Mix Overlay	Bank Stabilization (Riprap) – Stream Channel
CRABS (Cement Recycled Asphalt Base Stailization)	Bank Stabilization (Gabion Basket) – Stream Channel
CIR (Cold In-Place Recycle)	Culvert Installation – Perennial Stream
Bridge Deck Hydro-Demolition	
Silica Fume and Latex Modified Concrete Overly	Culvert Maintenance – Perennial Stream
High Molecular Weight Methacrylate Seal (HMWM)	Culvert Extension – Perennial Stream
Concrete Waterproof Systems (Membrane Type A,B,C and D)	Geotechnical Drilling
Bridge Deck Epoxy Seal	Small Structure Repair
2-Lane Bridge Construction (Upland)	Note: For aquatic species all LAA projects assume in-water work and issuance of COE, IDWR and DEQ permits. For the northern Idaho ground squirrel (NIDGS) any of the Program actions may have adverse effects if conducted in occupied NIDGS habitat.
Excavation and Embankment for Roadway Construction (Earthwork)	
Rock Scaling	
Passing Lanes, Turnbays and Slow Moving Vehicle Turnouts (Wide Shoulder Notch)	
Pavement Widening (Sliver Shoulder Notch)	
Bank Stabilization (Riprap) – Upland	
Bank Stabilization (Gabion Basket) – Upland	
Mechanically Stabilized Earth Embankment (MSE Wall)	
Ditch Cleaning	
Culvert Installation – Seasonal Stream	
Culvert Extension – Seasonal Stream	
Culvert Maintenance – Seasonal Stream	
Guardrail Installation	
Striping (methl methacrylate or paint)	

2.2.3 Best Management Practices (BMPs) and Mitigations Common to all Program Activities

The following BMPs will be used to minimize resource impacts during implementation of Program activities.

- All associated permit conditions (e.g., from the Idaho Department of Water Resources, or COE 404, etc.) will be met during construction operations.
- Idaho State Water Quality Standards will be met during construction operations.
- The Idaho Department of Fish and Game (IDFG) will be consulted for appropriate fish windows on a project-by-project basis and prior to all in-water work. IDFG fish windows will be adhered to during project implementation.
- Fiber wattles and/or silt fence will be placed adjacent to or below disturbance areas to prevent/minimize sediment transport into any waterway.
- Equipment used shall not have damaged hoses, fittings, lines, or tanks that have the potential to release pollutants into any waterway.
- Cofferdams or other isolation methods will be used when practicable to dewater the project area during in-water work.
- To minimize the potential for direct impacts to listed fish, when possible, all work will be completed from the existing bridge or roadway shoulder and equipment and/or heavy machinery will not enter the river channel.
- To minimize the potential for introducing hazardous material to the aquatic system, a spill prevention and control countermeasures plan will be prepared by the construction contractor and approved by the Department prior to Project implementation. All staging, fueling, and storage areas will be located away and adequately buffered from riparian zones and aquatic areas.
- When appropriate, the Department will monitor turbidity. Water quality samples will be collected and NTU measurements will be recorded on the Construction Monitoring form. Measurements will be taken 100 feet above and below discharge points, or as directed by appropriate resource agency or Department personnel.
- No bridge rehabilitation activities will occur during wet weather conditions.
- Disturbed areas within riparian zones will be reclaimed with riparian vegetation similar to the existing plant communities. (The Service assumes that this refers to existing native plant communities only.)
- Spill kits and cleanup materials shall be available at all locations during operations.
- Equipment that is used adjacent to or over water bodies shall be kept leak-free.
- Park equipment over plastic sheeting or equivalent where possible. Plastic is not a substitute for drip pans or absorbent pads.
- When not in use, construction equipment will be stored away from concentrated flows of stormwater, drainage courses, and inlets.
- Hydraulic equipment will be protected from runon and runoff by placing them on plywood and covering them with plastic or a comparable material prior to the onset of rain.

- Borrow and fill areas shall be located outside of the 100 year floodplain or greater than 300 feet from fish-bearing streams.
- To reduce the potential for the invasion and/or expansion of noxious weeds, all earth-disturbing equipment used on projects with contracts administered by the Department shall be cleaned of all plant materials, dirt and material that may carry noxious weed seeds prior to use on the project.
- Construction equipment shall be washed and treated to remove seeds, plants, and plant fragments. Use of a high pressure washing system is recommended in order to remove all seeds, plants, plant fragments dirt, and debris from the construction equipment taking care to wash the sides, tops, and undercarriages. (The Service assumes that equipment cleaning will occur at an approved site located away from the construction site.)
- The Contractor shall provide the Engineer with an opportunity to inspect the equipment prior to unloading the equipment at the construction site. If upon inspection, dirt, debris, and seeds are visible, the equipment shall be immediately removed and rewashed. The equipment shall then be re-inspected at the site to ensure the equipment is clean.

2.2.4 BMPs Associated with the Preservation and Retention of Existing Vegetation

GENERAL DESCRIPTION
Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs and/or grasses that serve as erosion controls.

APPLICATIONS
These techniques are applicable to all types of sites. Areas where preserving vegetation can be particularly beneficial are floodplains, wetlands, stream banks, steep slopes, and other areas where erosion controls would be difficult to establish, install, or maintain.

INSTALLATION/APPLICATION CRITERIA
- Clearly mark, flag or fence vegetation or areas where vegetation should be preserved.
- Prepare landscaping plans which include as much existing vegetation as possible and state proper care during and after construction.
- Using berms, fencing, signs, etc., define and protect a setback area from vegetation to be preserved.
- Propose landscaping plans which include and utilize native plant species that minimize competition with the existing vegetation.
- Do not locate construction staging areas, waste areas, etc. where significant adverse impact on existing vegetation may occur.
- Establish appropriate buffer zones to protect riparian corridors and natural drainage paths; maintain and protect dense vegetation in these areas and retain vegetated buffers in their natural state wherever possible
- Minimize the number and width of stream crossings and cross at direct, rather than oblique, angles.

- Maximize undisturbed area within project boundaries whenever possible to retain vegetation for erosion control purposes.
- Preserve native site vegetation and plant communities when practicable. Choose native vegetation when applicable for revegetation efforts.

3. ANALYTICAL FRAMEWORK FOR THE JEOPARDY AND ADVERSE MODIFICATION DETERMINATIONS

3.1 Jeopardy Determination

In accordance with policy and regulation, the jeopardy analysis in this Biological Opinion relies on four components: (1) the *Status of the Species*, which evaluates a listed species' rangewide condition, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of a species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The jeopardy analysis in this Biological Opinion places an emphasis on consideration of the rangewide survival and recovery needs of the species and the role of the action area in the survival and recovery of the species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

3.2 Adverse Modification Determination

This Biological Opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this Biological Opinion relies on four components: (1) the *Status of Critical Habitat*, which evaluates the rangewide condition of designated critical habitat for the species in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the PCEs and how that will influence the recovery

role of affected critical habitat units; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on the species' critical habitat are evaluated in the context of the rangewide condition of the critical habitat, taking into account any cumulative effects, to determine if the critical habitat rangewide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the species.

The analysis in this Biological Opinion places an emphasis on using the intended rangewide recovery function of the species' critical habitat and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

4. BULL TROUT

4.1 Status of the Species and Designated/Proposed Critical Habitat

This section presents information about the regulatory, biological and ecological status of the species that provides context for evaluating the significance of probable effects caused by the proposed action.

4.1.1 Listing Status

The coterminous United States population of the bull trout was listed as threatened on November 1, 1999 (64 FR 58910). The threatened bull trout occurs in the Klamath River Basin of south-central Oregon, the Jarbidge River in Nevada, north to various coastal rivers of Washington to the Puget Sound, east throughout major rivers within the Columbia River Basin to the St. Mary-Belly River, and east of the Continental Divide in northwestern Montana (Cavender 1978, pp. 165-166; Bond 1992, p. 4; Brewin and Brewin 1997, pp. 209-216; Leary and Allendorf 1997, pp. 715-720). The Service completed a 5-year Review in 2008 and concluded that the bull trout should remain listed as threatened (Fish and Wildlife Service 2008, p. 53).

The bull trout was initially listed as three Distinct Population Segments (DPSs) (63 FR 31647, 64 FR 17110). The preamble to the final listing rule for the United States coterminous population of the bull trout discusses the consolidation of these DPSs, plus two other population segments, into one listed taxon and the application of the jeopardy standard under section 7 of the Act relative to this species (64 FR 58930):

"Although this rule consolidates the five bull trout DPSs into one listed taxon, based on conformance with the DPS policy for purposes of consultation under section 7 of the Act, we intend to retain recognition of each DPS in light of available scientific information relating to their uniqueness and significance. Under this approach, these DPSs will be treated as interim recovery units with respect to application of the jeopardy standard until an approved recovery plan is developed. Formal establishment of bull trout recovery units will occur during the recovery planning process."

Please note that consideration of the above recovery units for purposes of the jeopardy analysis is done within the context of making the jeopardy determination at the scale of the entire listed species in accordance with Service policy (Fish and Wildlife Service 2006, pp. 1-2).

4.1.2 Reasons for Listing

Though wide ranging in parts of Oregon, Washington, Idaho, and Montana, bull trout in the interior Columbia River basin presently occur in only about 45 percent of the historical range (Quigley and Arbelbide 1997, p. 1177; Rieman et al. 1997, p. 1119). Declining trends due to the combined effects of habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, angler harvest and poaching, entrainment into diversion channels and dams, and introduced non-native species (e.g., brook trout, *Salvelinus fontinalis*) have resulted in declines in range-wide bull trout distribution and abundance (Bond 1992, p. 4; Schill 1992, p. 40; Thomas 1992, pp. 9-12; Ziller 1992, p. 28; Rieman and McIntyre 1993, pp. 1-18; Newton and Pribyl 1994, pp. 2, 4, 8-9; Idaho Department of Fish and Game in litt. 1995, pp. 1-3). Several local extirpations have been reported, beginning in the 1950s (Rode 1990, p. 1; Ratliff and Howell 1992, pp. 12-14; Donald and Alger 1993, p. 245; Goetz 1994, p. 1; Newton and Pribyl 1994, p. 2; Berg and Priest 1995, pp. 1-45; Light et al. 1996, pp. 20-38; Buchanan and Gregory 1997, p. 120).

Land and water management activities such as dams and other diversion structures, forest management practices, livestock grazing, agriculture, road construction and maintenance, mining, and urban and rural development continue to degrade bull trout habitat and depress bull trout populations (Fish and Wildlife Service 2002a, p. 13).

4.1.3 Species Description

Bull trout (*Salvelinus confluentus*), member of the family Salmonidae, are char native to the Pacific Northwest and western Canada. The bull trout and the closely related Dolly Varden (*Salvelinus malma*) were not officially recognized as separate species until 1980 (Robins et al. 1980, p. 19). Bull trout historically occurred in major river drainages in the Pacific Northwest from the southern limits in the McCloud River in northern California (now extirpated), Klamath River basin of south central Oregon, and the Jarbidge River in Nevada to the headwaters of the Yukon River in the Northwest Territories, Canada (Cavender 1978, p. 165-169; Bond 1992, p. 2-3). To the west, the bull trout's current range includes Puget Sound, coastal rivers of British Columbia, Canada, and southeast Alaska (Bond 1992, p. 2-3). East of the Continental Divide bull trout are found in the headwaters of the Saskatchewan River in Alberta and the MacKenzie River system in Alberta and British Columbia (Cavender 1978, p. 165-169; Brewin and Brewin 1997, pp. 209-216). Bull trout are wide spread throughout the Columbia River basin, including its headwaters in Montana and Canada.

4.1.4 Life History

Bull trout exhibit resident and migratory life history strategies throughout much of the current range (Rieman and McIntyre 1993, p. 2). Resident bull trout complete their entire life cycle in the streams where they spawn and rear. Migratory bull trout spawn and rear in streams for one to four years before migrating to either a lake (adfluvial), river (fluvial), or, in certain coastal areas, to saltwater (anadromous) where they reach maturity (Fraley and Shepard 1989, p. 1;

Goetz 1989, pp. 15-16). Resident and migratory forms often occur together and it is suspected that individual bull trout may give rise to offspring exhibiting both resident and migratory behavior (Rieman and McIntyre 1993, p. 2).

Bull trout have more specific habitat requirements than other salmonids (Rieman and McIntyre 1993, p. 4). Watson and Hillman (1997, p. 248) concluded that watersheds must have specific physical characteristics to provide habitat requirements for bull trout to successfully spawn and rear. It was also concluded that these characteristics are not necessarily ubiquitous throughout these watersheds resulting in patchy distributions even in pristine habitats.

Bull trout are found primarily in colder streams, although individual fish are migratory in larger, warmer river systems throughout the range (Fraley and Shepard 1989, pp. 135-137; Rieman and McIntyre 1993, p. 2 and 1995, p. 288; Buchanan and Gregory 1997, pp. 121-122; Rieman et al. 1997, p. 1114). Water temperature above 15°C (59°F) is believed to limit bull trout distribution, which may partially explain the patchy distribution within a watershed (Fraley and Shepard 1989, p. 133; Rieman and McIntyre 1995, pp. 255-296). Spawning areas are often associated with cold water springs, groundwater infiltration, and the coldest streams in a given watershed (Pratt 1992, p. 6; Rieman and McIntyre 1993, p. 7; Rieman et al. 1997, p. 1117). Goetz (1989, pp. 22, 24) suggested optimum water temperatures for rearing of less than 10°C (50°F) and optimum water temperatures for egg incubation of 2 to 4°C (35 to 39°F).

All life history stages of bull trout are associated with complex forms of cover, including large woody debris, undercut banks, boulders, and pools (Goetz 1989, pp. 22-25; Pratt 1992, p. 6; Thomas 1992, pp. 4-5; Rich 1996, pp. 35-38; Sexauer and James 1997, pp. 367-369; Watson and Hillman 1997, pp. 247-249). Jakober (1995, p. 42) observed bull trout overwintering in deep beaver ponds or pools containing large woody debris in the Bitterroot River drainage, Montana, and suggested that suitable winter habitat may be more restrictive than summer habitat. Bull trout prefer relatively stable channel and water flow conditions (Rieman and McIntyre 1993, p. 6). Juvenile and adult bull trout frequently inhabit side channels, stream margins, and pools with suitable cover (Sexauer and James 1997, pp. 368-369).

The size and age of bull trout at maturity depend upon life history strategy. Growth of resident fish is generally slower than migratory fish; resident fish tend to be smaller at maturity and less fecund (Goetz 1989, p. 15). Bull trout normally reach sexual maturity in 4 to 7 years and live as long as 12 years. Bull trout are iteroparous (they spawn more than once in a lifetime), and both repeat- and alternate-year spawning has been reported, although repeat-spawning frequency and post-spawning mortality are not well documented (Leathe and Graham 1982, p. 95; Fraley and Shepard 1989, p. 135; Pratt 1992, p. 8; Rieman and McIntyre 1996, p. 133).

Bull trout typically spawn from August to November during periods of decreasing water temperatures. Migratory bull trout frequently begin spawning migrations as early as April, and have been known to move upstream as far as 250 kilometers (km) (155 miles (mi)) to spawning grounds (Fraley and Shepard 1989, p. 135). Depending on water temperature, incubation is normally 100 to 145 days (Pratt 1992, p.1) and, after hatching, juveniles remain in the substrate. Time from egg deposition to emergence may exceed 200 days. Fry normally emerge from early April through May depending upon water temperatures and increasing stream flows (Pratt 1992, p. 1).

The iteroparous reproductive system of bull trout has important repercussions for the management of this species. Bull trout require two-way passage up and downstream, not only

for repeat spawning, but also for foraging. Most fish ladders, however, were designed specifically for anadromous semelparous (fishes that spawn once and then die, and therefore require only one-way passage upstream) salmonids. Therefore, even dams or other barriers with fish passage facilities may be a factor in isolating bull trout populations if they do not provide a downstream passage route.

Bull trout are opportunistic feeders with food habits primarily a function of size and life history strategy. Resident and juvenile migratory bull trout prey on terrestrial and aquatic insects, macro zooplankton and small fish (Boag 1987, p. 58; Goetz 1989, pp. 33-34; Donald and Alger 1993, pp. 239-243). Adult migratory bull trout are primarily piscivores, known to feed on various fish species (Fraley and Shepard 1989, p. 135; Donald and Alger 1993, p. 242).

4.1.5 Population Dynamics

The draft bull trout Recovery Plan (Fish and Wildlife Service 2002a, pp. 47-48) defined core areas as groups of partially isolated local populations of bull trout with some degree of gene flow occurring between them. Based on this definition, core areas can be considered metapopulations. A metapopulation is an interacting network of local populations with varying frequencies of migration and gene flow among them (Meefe and Carroll 1994, p. 188). In theory, bull trout metapopulations (core areas) can be composed of two or more local populations, but Rieman and Allendorf (2001, p. 763) suggest that for a bull trout metapopulation to function effectively, a minimum 10 local populations are required. Bull trout core areas with fewer than five local populations are at increased risk of local extirpation, core areas with between five and 10 local populations are at intermediate risk, and core areas with more than 10 interconnected local populations are at diminished risk (Fish and Wildlife Service 2002a, pp. 50-51).

The presence of a sufficient number of adult spawners is necessary to ensure persistence of bull trout populations. In order to avoid inbreeding depression, it is estimated that a minimum of 100 spawners are required. Inbreeding can result in increased homozygosity of deleterious recessive alleles which can in turn reduce individual fitness and population viability (Whitesel et al. 2004, p. 36). For persistence in the longer term, adult spawning fish are required in sufficient numbers to reduce the deleterious effects of genetic drift and maintain genetic variation. For bull trout, Rieman and Allendorf (2001, p. 762) estimate that approximately 1,000 spawning adults within any bull trout population are necessary for maintaining genetic variation indefinitely. Many local bull trout populations individually do not support 1,000 spawners, but this threshold may be met by the presence of smaller interconnected local populations within a core area.

For bull trout populations to remain viable (and recover), natural productivity should be sufficient for the populations to replace themselves from generation to generation. A population that consistently fails to replace itself is at an increased risk of extinction. Since estimates of population size are rarely available, the productivity or population growth rate is usually estimated from temporal trends in indices of abundance at a particular life stage. For example, redd counts are often used as an indicator of a spawning adult population. The direction and magnitude of a trend in an index can be used as a surrogate for growth rate.

Survival of bull trout populations is also dependent upon connectivity among local populations. Although bull trout are widely distributed over a large geographic area, they exhibit a patchy distribution even in pristine habitats (Rieman and McIntyre 1993, p. 7). Increased habitat fragmentation reduces the amount of available habitat and increases isolation from other